ECON 278H: Attention and Perception

Daniel Martin (danielmartin@ucsb.edu)

Motivation

Individuals face limitations in their ability to process all relevant information, which creates information frictions that have micro and macroeconomic implications. A growing literature on attention and perception has documented these cognitive constraints and has begun to incorporate them into alternative models of decision-making and strategic behavior. This course will review evidence (from the lab and field) suggesting inattention and imperfect perception, analyze these phenomena with rigorous formal models, and discuss the economic consequences of these departures.

Tentative lecture topics

1) **Subjective perception**
   - Core reading: Caplin, A. and D. Martin (2015). "A Testable Theory of Imperfect Perception." *The Economic Journal*.
   - Deeper dive reading: Caplin, A. and D. Martin (2021). "Comparison of Decisions under Unknown Experiments." *Journal of Political Economy*.
   - Deeper dive reading: Rambachan, A. (2024). "Identifying prediction mistakes in observational data." *The Quarterly Journal of Economics*.
2) **Theoretical and empirical applications**
   - Deeper dive reading: Martin, D. and P. Marx (2022). "A Robust Test of Prejudice for Discrimination Experiments." *Management Science*.
3) **Rational inattention with general costs**
   - Core reading: Caplin, A. and M. Dean (2015). "Revealed Preference, Rational Inattention, and Costly Information Acquisition." *American Economic Review*.
   - Core reading: Caplin, A., D. Martin, P. Marx, A. Morozova, and L. Yu (2025). "Testing Capacity-Constrained Learning."
   - Deeper dive reading: Dean, M. and N. Neligh (2023). "Experimental tests of rational inattention." *Journal of Political Economy*.
4) **Theoretical and empirical applications**
   - Core reading: Caplin, A., D. Martin, and P. Marx (2025). "Modeling Machine Learning: A Cognitive Economic Approach." *Journal of Economic Theory*.
5) **Rational inattention with Shannon costs**
   - Core reading: Maćkowiak, B., F. Matějka, and M. Wiederholt (2023). "Rational inattention: A review." *Journal of Economic Literature*.
   - Deeper dive reading: Matějka, F. and A. McKay (2015). "Rational inattention to discrete choices: A new foundation for the multinomial logit model." *American Economic Review*.
   - Deeper dive reading: Caplin, A., M. Dean, and J. Leahy (2019). "Rational inattention, optimal consideration sets, and stochastic choice." *The Review of Economic Studies*.
6) **Theoretical and empirical applications**
   - Core reading: Almog, D., R. Gauriot, L. Page, and D. Martin (2025). "AI Oversight and Human Mistakes: Evidence from Centre Court."

- Core reading: Almog, D. and D. Martin (2024). "Rational Inattention in Games: Experimental Evidence." *Experimental Economics*.
- Deeper dive reading: Martin, D. (2017). "Strategic pricing with rational inattention to quality." *Games and Economic Behavior*.

Lecture notes

I will aim to send lecture slides to the class before each session.

Text

There is no textbook for this course — we will discuss papers. I will send you a list of relevant papers before each class session, some optional (deeper dive) and some required (core).

How to read papers efficiently

- If a theory paper, start with the building blocks of the model.
- If an experimental paper, start with the experimental design.
- Then read the paper's introduction, and identify the main contribution.
- Given this, locate and understand the most important tables and results.

Questions to ask while reading

A. What is the question the paper attempts to answer?
B. What is the authors' answer to the question?
C. How did the authors arrive at that answer?
D. (Bonus) Why should we care about this question?
E. (Bonus) What does this paper contribute to the literature?

Evaluation

Students are evaluated on several elements:

1. Engagement: Quality of participation in class.
2. Reading: Thoughtful reading of required papers.
3. One of the following:
    a) Paper idea: Paper idea closely related to a class topic.
    b) Referee report: Referee report on an assigned paper.
    c) Presentation: Presentation on an assigned paper.