Economics 336: Analytical Methods for Public Policy (Winter 2024)
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An important practical objective of empirical research is to predict the consequences of alternative public policies. Researchers combine data with assumptions to draw conclusions about policy impacts. The strength and credibility of these conclusions depend on the data and assumptions brought to bear, as well as on the analytical methods used. This course studies basic methodological problems in policy analysis and presents applications.

Prerequisites are courses in microeconomics at or above Economics 310-1 and econometrics at or above Economics 281, preferably Econometrics 381. Instruction includes lectures and class discussion. Examination of methodology and applications occurs throughout the course. Grading is based on multiple short essays/problems (10 points), a midterm briefing paper on an assigned topic in policy analysis (30 points), and a student-initiated final research paper that assesses some aspect of policy research (60 points).

The specifics of this course syllabus are subject to change in the case of unforeseen circumstances. Instructors will notify students of any changes as soon as possible. Students will be responsible for abiding by the changes.

Instruction in this course seeks to promote academic freedom of expression, as discussed in the 2007 report of the AAUP on Freedom in the Classroom: https://www.aaup.org/AAUP/comm/rep/A/class.htm

Texts
C. Manski, *Identification for Prediction and Decision* (IPD), Harvard University Press, 2007 (required)
C. Manski, *Patient Care under Uncertainty World* (PCU), Princeton University Press, 2019 (required)

Tentative Syllabus

Communicating Uncertainty in Policy Analysis (1/3, 1/8)
Manski, C., "Communicating Uncertainty in Policy Analysis," *Proceedings of the National Academy of Sciences*, Vol. 116, No. 16, 2019, pp. 7634-7641.

Predicting Policy Outcomes (1/10, 1/17, 1/22, 1/24)
IPD Chapters 1, 2, 7

Patient Care under Uncertainty (1/29, 1/31, 2/5, 2/7, 2/12, 2/14, 2/19, 2/21, 2/26)
PCU Chapters 1, 2, 3, 4, 5, 6
IPD Chapter 11, 12
applications in journal articles (see next page)

Climate Policy under Uncertainty (2/28, 3/4)
DeCanio, S., C. Manski, and A. Sanstad, "Minimax-Regret Climate Policy with Deep Uncertainty in Climate Modeling and Intergenerational Discounting," *Ecological Economics*, Vol. 201, November 2022, https://doi.org/10.1016/j.ecolecon.2022.107552

Midterm Essay Due: Sunday February 4, 5:00 PM

Final Paper Due: Sunday March 10, 5:00 PM

Tentative Lecture Schedule

The topics to be discussed in the sections will be chosen as the course progresses.

1/3 - introduction to course

1/8 - communicating uncertainty in policy analysis (*PNAS* article)

1/10 - conditional prediction (*IPD* chap. 1)

1/17 - missing outcomes (*IPD* chap. 2)

1/22 - analysis of treatment response (*IPD* chap. 7)

1/24 - analysis of treatment response (*IPD* chap. 7)

1/29 - patient care under uncertainty: introduction, clinical guidelines, personalized medicine (*PCU* chap. 1)

1/31 - clinical guidelines or clinical judgement (*PCU* chap. 1)

2/5 - wishful extrapolation from trials, except hypothesis testing (*PCU* chap. 2)

2/7 - credible use of evidence to inform patient care (*PCU* chap. 3)

2/12 - reasonable care under uncertainty (PCU chap. 4, *IPD* chap. 11)

2/14 - population health perspective on reasonable care (PCU chap. 6, *IPD* chap. 11)

2/19 - diagnosis and treatment of tuberculosis
Cassidy, R. and C. Manski, "Tuberculosis Diagnosis and Treatment under Uncertainty," *Proceedings of the National Academy of Sciences*, Vol. 116, No. 46, 2019, pp. 22990-22997.

2/21 - Using measures of race to make clinical predictions
Manski, C., J. Mullahy, and A. Venkataramani, "Using Measures of Race to Make Clinical Predictions: Decision Making, Patient Health, and Fairness," Proceedings of the National Academy of Sciences, Vol. 120, No. 35, 2023, https://www.pnas.org/doi/10.1073/pnas.2303370120

2/26 - treatment choice with sample data (*PCU* chap. 5, IPD chap.12)
Manski, C. and A. Tetenov, "Statistical Decision Properties of Imprecise Trials Assessing Coronavirus 2019 (COVID-19) Drugs," *Value in Health*, Vol. 24, No. 5, 2021, pp. 641-647.

2/28, 3/4 - climate policy under uncertainty
DeCanio, S., C. Manski, and A. Sanstad, "Minimax-Regret Climate Policy with Deep Uncertainty in Climate Modeling and Intergenerational Discounting," *Ecological Economics*, Vol. 201, November 2022, https://doi.org/10.1016/j.ecolecon.2022.107552

3/6 - wrapup discussion