

Jeff Grogger
Harris School

Spring 2025
University of Chicago

PP 346.1: Advanced Program Evaluation

Section I: MW 9:00-10:20 am, Keller 1022
Section II: MW 10:30-11:50 am, Keller 1022

Instructor: Jeffrey Grogger
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Office hours TBA

Teaching Assistants:

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Discussion sections: Section I: Fridays, 9:00-10:20 am, Keller 1002
Section II: Fridays, 10:30-11:50 am, Keller 1002

Web site: All materials for the class will be posted to its site on Canvas.

Course content: To introduce students to program evaluation, provide an overview of current issues and methods, and provide applied experience with several methods and datasets.

Texts: There are no required texts, but you may find it useful to refer to a standard econometrics text such as *Introductory Econometrics: A Modern Approach*, by Jeffrey Wooldridge. Specific readings for each topic appear below. Other useful references are:

Richard Blundell and Monica Costa Dias. "Alternative Approaches to Evaluation in Empirical Microeconomics," *Journal of Human Resources* 44 (3), 2009, 565-640.

Joshua Angrist and Joern-Steffen Pischke. *Mostly Harmless Econometrics*. Princeton Press.

Grading: Grades will be based on four problem sets and a final exam. The problem sets will count collectively for 80 percent of the grade and the final exam will count for 20 percent.

Problem sets: The problem sets are mostly empirical exercises that have you apply different evaluation techniques to real data by writing real code. This advanced section is

designed primarily for students in the CAPP program and others with similarly strong coding skills. *If you struggled with the empirical exercises during the econometrics sequence, this is not the right class for you.* Program Evaluation is taught every quarter, and different instructors teach it differently.

Problem sets must be submitted electronically following the guidelines posted under the Assignments section of the class Canvas site. Late problem sets will not be accepted. Each assignment will receive equal weight.

Students must do their own work. Read carefully the section on Academic Integrity below.

Final exam. For the final exam, you will read a set of evaluation articles, then critique them according to a set of questions with which you will be provided at the in-person exam. The readings will be posted during the last class of the quarter. The final exam will be on Wednesday, May 28, from 1-3 pm. There will be no make-up sessions. The exact format of the exam will be explained during the final week of class.

More general points:

Communication with TAs and other students

You can use the Ed Discussion board on Canvas to communicate with the TA's and other students. TA's will respond in a reasonable amount of time, but immediate turnaround is not a reasonable expectation.

Posts will be public, for several reasons. First, it is efficient. Singleton questions are rare. If you have a question, probably someone else has the same question. Everyone can benefit from the answer. Another reason is that questions beget questions. If one student sees others posting, he/she is more likely to post him/herself. And more questions are better. Third, part of professional education is learning to make yourself heard, even in situations you may find awkward. So grit your teeth and post your question! The sky will not fall, I promise.

Academic Integrity. Students may consult with others while they work. You may also make use of LLMs in helping to generate your code, since effective use of such tools is increasingly important in today's labor market. However, students must adhere to the following procedures:

- Your problem set must be solely your authorship (written up by yourself, in your own language, including your own code.)
- Your code must have a comment at the top listing the students/TA's/consultants with whom you consulted. It must also list which LLMs were queried, including version numbers.
- Any part of your code that was substantially altered because of your discussion with other students/TA's/consultants should cite others' contributions with names and descriptions in a comment above the block of code where it is applicable.

- Any code generated with the help of an LLM must be documented in comment lines above the relevant block of code, where you must place your prompts, the code generated by those prompts, and a description of the changes you made to the code generated by the LLM.
- Any code based on code that you found online (e.g., on Stack Exchange) must be documented as such. This includes single lines of code and code that you found but then modified to fit your purpose. Documentation must include the URL and the date and time of access.
- Students may not copy other's code, or allow others to copy their code. Students may not copy other's prompts, or allow others to copy their prompts.
- Students are not permitted to introduce any class data sets or documentation into an LLM.
- Students who violate these procedures, or otherwise violate academic honesty policies, will receive a zero for the problem set or exam in question. These problem sets will **NOT** be dropped for the purpose of calculating your grade.
- We will spot check students' code. If your code fails to run, you will get a zero for the assignment.

All University of Chicago students are expected to uphold the highest standards of academic integrity and honesty. Among other things, this means that students shall not represent another's work as their own, use un-allowed materials during exams, or otherwise gain unfair academic advantage. All students suspected of academic dishonesty will be reported to the Harris Dean of Students for investigation and adjudication. The disciplinary process can result in sanctions up to and including suspension or expulsion from the University, in addition to the grade penalty mentioned above. The Harris policy and procedures related to academic integrity can be found at <https://harris.uchicago.edu/gateways/current-students/policies>. The University of Chicago Policy on Academic Honesty & Plagiarism can be found at <https://studentmanual.uchicago.edu/academic-policies/academic-honesty-plagiarism/>

Topics and readings

I. The Evaluation and Selection Problems

Heckman, James J., Robert J. Lalonde and Jeffrey A. Smith, "The Economics and Econometrics of Active Labor Market Programs" in *Handbook of Labor Economics*, Volume 3, eds. Orley Ashenfelter and David Card. Amsterdam: North-Holland Chapter 3, sections 1 through 3.

Smith, Jeffrey. 2000. "A Critical Survey of Empirical Methods for Evaluating Active Labor Market Policies." *Swiss Journal of Economics and Statistics*. 136(3):1-22

Earth Institute. 2010. *Harvests of Development in Rural Africa: The Millennium Villages after Three Years*.

Clemens, Michael A., and Gabriel Demombynes. 2011. "When Does Rigorous Impact Evaluation Make a Difference? The Case of the Millennium Villages." *Journal of Development Effectiveness* 3 (3): 305-339.

II. Treatment Parameters

Blundell and Dias, section II

Heckman, James J., Robert J. Lalonde and Jeffrey A. Smith, "The Economics and Econometrics of Active Labor Market Programs" in *Handbook of Labor Economics*, Volume 3, eds. Orley Ashenfelter and David Card. Amsterdam: North-Holland Chapter 3, sections 1 through 3.

Smith, Jeffrey. 2000. "A Critical Survey of Empirical Methods for Evaluating Active Labor Market Policies." *Swiss Journal of Economics and Statistics*. 136(3):1-22

III. Social Experiments

Blundell and Dias, section III

James Heckman and Jeffrey Smith. "Assessing the Case for Social Experiments" *Journal of Economic Perspectives* (9:2) Spring 1995 85-110.

Finkelstein, A. N., Taubman, S. L., Wright, B. J., Bernstein, M., Gruber, J., Newhouse, J. P., Oregon Health Study Group. (2012). The Oregon Health Insurance Experiment: Evidence From The First Year. *Quarterly Journal of Economics*, 127(August (3)), 1057–1106. <https://doi.org/10.1093/qje/qjs020>. Advance

King, G., Gakidou, E., Imai, K., Lakin, J., Moore, R. T., Nall, C., Llamas, H. H. (2009). Public policy for the poor? A randomised assessment of the Mexican universal health insurance programme. *The Lancet*, 373(9673), 1447–1454. [https://doi.org/10.1016/S0140-6736\(09\)60239-7](https://doi.org/10.1016/S0140-6736(09)60239-7)

IV. Instrumental Variables

Blundell and Dias, section VI

Joshua D. Angrist and Alan B. Krueger. "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments" *Journal of Economic Perspectives*(15:4) Autumn, 2001 69-85.

Joshua Angrist, Guido W. Imbens, and Donald B. Rubin. "Identification of Causal Effects using Instrumental Variables" (with discussion) *Journal of the American*

Statistical Association 91 1996, 444-72.

Aizer, A., & Doyle, J. J. (2017). Juvenile Incarceration, Human Capital, and Future Crime: Evidence From Randomly Assigned Judges, *Quarterly Journal of Economics*, (December), 759–804. <https://doi.org/10.1093/qje/qjv003>

Dobbie, Will, et al. (2018). “The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges.” *American Economic Review* 108, 201-240. DOI: 10.1257/aer.20161503

V. Regression Discontinuity

Guido Imbens and Thomas Lemieux. “Regression Discontinuity Designs: A Guide to Practice” *Journal of Econometrics* 142(2) 2008. 615-635.

McCrary, J. (2008). Manipulation of the running variable in the regression discontinuity design: A density test. *Journal of Econometrics*, 142(2), 698–714.
<https://doi.org/10.1016/j.jeconom.2007.05.005>

Deshpande, M. (2016). Does Welfare Inhibit Success? The Long-Term Effects of Removing Low-Income Youth from the Disability Rolls. *American Economic Review*, 106(11), 3300–3330. <https://doi.org/10.1257/aer.20151129>

Hansen, B. (2015). Punishment and Deterrence: Evidence from Drunk Driving, *American Economic Review* 105, 1581–1617.
<https://www.aeaweb.org/articles?id=10.1257/aer.20130189>

VI. Natural Experiments/Panel Data

Blundell and Dias, section IV

Bruce D. Meyer. “Natural and Quasi-Experiments in Economics,” *JBES* (13:2) April 1995 151-162.

Goodman-Bacon, Andrew. (2021) “Difference-in-Differences with Variation in Treatment Timing.” *Journal of Econometrics*.
<https://doi.org/10.1016/j.jeconom.2021.03.014>

Fadlon, Itzik, and Torben Heien Nielsen. “Family Labor Supply Responses to Severe Health Shocks: Evidence from Danish Administrative Records.” *American Economic Journal: Applied Economics* 2021, 13(3): 1–30. <https://doi.org/10.1257/app.20170604>

Martin Halla, Julia Schmieder, and Andrea Weber. “Job Displacement, Family Dynamics, and Spousal Labor Supply.” *American Economic Journal: Applied Economics* 2020, 12(4): 253–287. <https://doi.org/10.1257/app.20180671>

VII. Matching

Blundell and Dias, section V

Dan Black, Amelia Haviland, Seth Sanders, and Lowell Taylor. “Gender Wage Disparities among the Highly Educated” *Journal of Human Resources* Summer 2008 42(3) 630-59.

Dan Black and Jeffrey Smith. “How Robust is the Evidence on the Effects of College Quality? Evidence from Matching” *Journal of Econometrics* August 2004 121(1-2) 99-124

Desmond and Gershenson (2016). “Housing and Employment Insecurity among the Working Poor.” *Social Problems* 63, 46-67. doi: 10.1093/socpro/spv025

VIII. High-Dimensional Hypothesis Testing

Benjamini, Yoav and Yosef Hochberg. (1995) “Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing.” *Journal of the Royal Statistical Society, Series B*, 57, 289-3000.

Anderson, M. L. (2008). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American Statistical Association*, 103(484), 1481–1495.
<https://doi.org/10.1198/016214508000000841>

Ridgeway, G., & Macdonald, J. M. (2009). Doubly robust internal benchmarking and false discovery rates for detecting racial bias in police stops. *Journal of the American Statistical Association*, 104(486), 661–668. <https://doi.org/10.1198/jasa.2009.0034>

Jacob, B. A., Ludwig, J., Devitt, C., Ferrier, M., Goerge, R., Graf, R., Wu, P. (2015). The Impact Of Housing Assistance On Child Outcomes : Evidence From A Randomized Housing Lottery. *The Quarterly Journal of Economics*, 130(1), 465–506.
<https://doi.org/10.1093/qje/qju030>.Advance

IX. Synthetic Control

Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California’s Tobacco Control Program. *Journal of the American Statistical Association*, 105(490), 493–505.
<https://doi.org/10.1198/jasa.2009.ap08746>

Abadie, A., & Gardeazabal, J. (2003). The Economic Costs of Conflict : A Case Study of the Basque Country The Economic Costs of Conflict : A Case Study of the Basque Country. *The American Economic Review*, 93(1), 113–132.
<https://doi.org/10.1257/000282803321455188>

Grogger, J. (2017). Soda taxes and the prices of sodas and other drinks: Evidence from Mexico. *American Journal of Agricultural Economics*, 99(2), 481–498.
<https://doi.org/10.1093/ajae/aax024>

X. Permutation Inference

Fisher, S. R. A. (1971). *The Design of Experiments*. Hafner Publishing Company, pp. 1-26.

Rosenbaum, Paul R. *Observational Studies*, 2nd edition. New York: Springer-Verlag, 2002, ch. 2

Chetty, Raj, et al. (2009). “Salience and Taxation: Theory and Evidence.” *American Economic Review* 99, 1145-1177.

Cunningham, S., & Shah, M. (2017). Decriminalizing Indoor Prostitution: Implications for Sexual Violence and Public Health. *Review of Economic Studies*, (February), 1–33.
<https://doi.org/10.1093/restud/rdx065>