

Barnard Fall 2020
Prof. Daniel S. Hamermesh
hamermes@eco.utexas.edu
512-350-7364

Class Times and Location: MTuWTh, 1:10pm-2:25pm; **XX**
Office Hours: MW 10am-Noon; TuTh 10am-Noon
Office Location: 1018 Milstein Center

Recitation Section Leader: Dean He hh2502@columbia.edu
Recitation section: TuTh, 4pm-5pm; Via Zoom

ECONOMETRICS (ECON 3018)

PURPOSE

To teach/train you to use the techniques of econometrics (and numerous former students have written back that they have used many of the techniques taught in the course in their work in management and consulting companies, financial institutions and non-profit organizations). This requires some statistical theory, but the main focus will be on applying econometric technique. Econometrics should be the most useful thing you learn as an undergraduate economics major. The course will enable you to formulate and test econometric hypotheses and will cover such specific topics as: Ordinary least-squares regression; problems of heteroskedasticity, multicollinearity and autocorrelation; qualitative independent and dependent variables; panel data; simple time-series analysis. I believe that you will find this to be the most useful economics course that you will take.

PREREQUISITES

An introductory course in statistics, such as ECON 2411, STAT 1111 or STAT1211 is necessary. With the intensive course there is not enough time to review statistics thoroughly in class. So: **PLEASE READ WOOLDRIDGE, APPENDIX B; APPENDIX C, PARTS C-1, C-2, before the first class.**

TEXTBOOK

Introductory Econometrics, Jeff Wooldridge, 7th Edition (but I also list readings from the 6th Edition). Please read assigned chapters/pages. Reading the relevant material BEFORE it is gone over in class is MUCH better than waiting until after it has been presented.

STATISTICAL SOFTWARE

We will be using STATA throughout the course—in lecture, in recitation sections, and on your homework and Replication Project. You will learn how to use it in the TA section. If you are on campus, you can use STATA on any Barnard machine. If you are not on campus, and you do not own STATA, for \$48 you can rent a 6-month license for STATA IC from: www.stata.com, which should be enough for everything in the course. (If you want a one-year license it is \$94, ownership is \$220.) If you are not on campus and have financial difficulties, please contact your Class Dean. Additional help with STATA is available at the Empirical Reasoning Center (Milstein Learning Center). Information is available on their website: <http://erc.barnard.edu/visit>

COURSEWORKS

Course information, required readings, the syllabus, problem sets, STATA logs from lectures, and the paper for possible Replication are posted on Courseworks. Consult the course website regularly!

GRADING

Progress and learning outcomes will be evaluated by:

15% Problem sets. 6 will be assigned, with the lowest score being dropped.

25% 75-minute Midterm Exam, given in class on Wednesday, September 30, covering classes through September 29, and Chapters 1-7 in Wooldridge

20% Replication study, hard copy due October 25.

40% Final exam, Oct. 20-23??.

The midterm is scheduled during class time, and the final exam in the allocated time slot. The only acceptable reason for a make-up exam is your serious illness or a death in the family.

PROBLEM SETS

These are due at the start of class on the date indicated (typically 2 class periods after the problem set is assigned). I will assign problem sets on Tuesday in class (and by email), and they are due on the following Thursday. If you fail to turn in a problem set, that will be the low score that will be dropped from the overall problem-set grade.

Most of the problem sets will consist of 4 or 5 problems. The top score, 10, will be given for an entirely correct set of solutions on the problems. A score from 9 down to 6 will be given for sets of answers with increasing numbers of conceptual and numerical errors. A score from 5 down to 1 will be given for major mistakes on most problems, or for seriously incomplete solutions. 0 if the problem set is not handed in.

You may work together on the homework problem sets, but your write-up must be your own. Copying or paraphrasing another student's work will give both the copier and the "copy-ee" a 0 on that problem set.

REPLICATION PROJECT

You will group with 3 other students to replicate the basic econometrics of a published article and extend it by doing additional work. Please form your group, choose an article from among those listed at the end of this Reading list, and inform the instructor of the group's membership and article chosen no later than Thursday, October 1. There can be no duplication of articles across groups, which is why I list 20 choices at your disposal. Once you choose an article, please contact me and we will figure out a way to get the data to you. (I have already downloaded all the data for each article, so this should be easily doable.)

Grading of the Replication Project will be based on the write-up describing the econometrics of your work, a paper that shows both your replication of no more than three tables in the original article PLUS your own original results.

HONOR CODE

We, the students of Barnard College, resolve to uphold the honor of the College by engaging with integrity in all of our academic pursuits. We affirm that academic integrity is the honorable creation and presentation of our own work. We acknowledge that it is our responsibility to seek clarification of proper forms of collaboration and use of academic resources in all assignments or exams. We consider academic integrity to include the proper use and care for all print, electronic, or other academic resources. We will respect the rights of others to engage in pursuit of learning in order to uphold our commitment to honor. We pledge to do all that is in our power to create a spirit of honesty and honor for its own sake.

STATEMENT FROM THE OFFICE OF DISABILITY SERVICES

"If you are a student with a documented disability and require academic accommodations, you must visit the Office of Disability Services (ODS) for assistance. Students requesting eligible accommodations in their courses will need to first meet with an ODS staff member for an intake meeting. Once registered, students are required to visit ODS each semester to set up new accommodations and learn how to notify faculty. Accommodations are not retroactive, so it is best to register with ODS early each semester to access your accommodations. If you are registered with ODS, please see me to schedule a meeting outside of class in which you can bring me your faculty notification letter and we can discuss your accommodations for this course. Students are not eligible to use their accommodations in this course until they have met with me. ODS is located in Milbank Hall, Room 008."

CLASS SCHEDULE AND READINGS (unless otherwise noted, in Wooldridge, 6th or 7th Edition)

Meeting Dates, Topics and Assignments:

September 8, 9, 10: **Hypothesis Testing—Review; Introduction to Regression**
Appendix C-5, C-6; Chapters 1, 2

September 14, 15: **Multiple Regression: Estimation and Hypothesis Testing**
Chapter 3

September 16, 17: **More Estimation/Hypothesis Tests**
Chapter 4

September 21, 22: **Miscellaneous Issues: Fitting and Prediction**
Chapter 6

September 23, 24, 29: **Qualitative Variables**
Chapter 7. Read Chapter 19 as input into your term project.

September 28—**NO CLASS, RESCHEDULED TO FRIDAY, OCTOBER 2.**

September 30: MIDTERM

October 1: **Finish Qualitative Variables**
Sections 17-1 and 17-2.

October 2, 5, 6, 7: **Heteroskedasticity, Specification and Measurement Error**
Chapters 8, 9.

October 8, 12: **Elements of Panel Data Analysis**
Chapter 13; Linden-Rockoff, *American Economic Review*, 2008, 1103-1117 only.

October 13: **A Bit More on Panel Data; Doing Econometric Studies**
Sections 14-1 and 14-4; Chapter 19 (again); Hamermesh-Parker, *Economics of Education Review*, 2005.

October 14, 15, 19: **Time-Series Estimation**
Chapter 10; Sections 12-1 through 12-3

October 20-23: **FINAL EXAM** (exact date/time to be determined)

ARTICLES THAT MIGHT BE REPLICATED (available on course folder on Courseworks)

- Elizabeth Ananat, "The Wrong Side(s) of the Tracks: The Causal Effects of Racial Segregation on Urban Poverty and Inequality," *Amer. Econ. J.: Applied*, 2011.
- Manuel Bagués, Mauro Sylos-Labini and Natalia Zinovyeva, "Does the Gender Composition of Scientific Committees Matter?" *Amer. Econ. Rev.*, 2017.
- Sascha Becker, and Luigi Pascali, "Religion, Division of Labor, and Conflict: Anti-Semitism in Germany over 600 Years." *Amer. Econ. Rev.*, 2019.
- Alan Beggs and Kathryn Graddy, "Anchoring Effects: Evidence from Art Auctions," *Amer. Econ. Rev.*, 2009.
- Paolo Buonanno and Steveen Raphael, "Incarceration and Incapacitation: Evidence from the 2006 Italian Collective Pardon," *Amer. Econ. Rev.*, 2013.
- Olivier Coibion, Yuriy Gorodnichenko, and Saten Kumar, "How Do Firms Form Their Expectations? New Survey Evidence." *Amer. Econ. Rev.*, 2018.
- Matthias Doepke and Michele Tertilt, "Women's Empowerment, the Gender Gap in Desired Fertility, and Fertility Outcomes in Developing Countries," *Amer. Econ. Rev.*, 2018.
- Jordi Domenech and Francisco Herreros, "Land reform and peasant revolution. Evidence from 1930s Spain," *Explorations in Econ. Hist.*, 2017.
- Stephen Donald and Daniel Hamermesh, "What Is Discrimination? Gender in the American Economic Association, 1935–2004," *Amer. Econ. Rev.*, 2006.
- Stephen Donald and Daniel Hamermesh, "The Effect of College Curriculum on Earnings: An Affinity Identifier for Non-Ignorable Non-Response Bias," *J. Etrcs.*, 2008.
- James Feyrer, Erin Mansur and Bruce Sacerdote, "Geographic Dispersion of Economic Shocks: Evidence from the Fracking Revolution," *Amer. Econ. Rev.*, 2017.
- Daniel Hamermesh, "Incentives, Time Use and BMI: The Roles of Eating, Grazing and Goods," *Econs. of Human Bio.*, 2010.
- Rema Hannan and Leigh Linden, "Discrimination in Grading." *Amer. Econ. J.: Policy*, 2012.
- John Ifcher, and Homa Zarghamee, "Happiness and Time Preference: The Effect of Positive Affect in a Random-Assignment Experiment." *Amer. Econ. Rev.*, 2011.
- David Jaeger and Daniele Paserman, "The Cycle of Violence? An Empirical Analysis of Fatalities in the Palestinian-Israeli Conflict," *Amer. Econ. Rev.*, 2008.
- Arik Levinson, "How Much Energy Do Building Energy Codes Save? Evidence from California Houses," *Amer. Econ. Rev.*, 2016.

- Jason Lindo, Caitlin Myers, Andrea Schlosser and Scott Cunningham, "How Far Is Too Far? New Evidence on Abortion Clinic Closures, Access, and Abortions," *J. Hum. Res.*, 2020.
- L. Rachel Ngai and Barbara Petrongolo, "Gender Gaps and the Rise of the Service Economy," *Amer. Econ. J.: Macro*, 2017.
- Claudia Sahm, Matthew Shapiro and Joel Slemrod, "Check in the Mail or More in the Paycheck: Does the Effectiveness of Fiscal Stimulus Depend on How It Is Delivered?" *Amer. Econ. J.: Policy*, 2012.
- Daniel Tannenbaum, "Does the Disclosure of Gun Ownership Affect Crime? Evidence from New York," *J. Pub. Econs.*, 2020.