Estimating Impacts in Policy Research (P11.2875)  
This is a draft – dates, topics, assignments subject to change  
A final version will be posted on the course BB

This course covers selected analytic and design issues that are relevant to policy research and program evaluation. It applies and extends skills that are developed in other courses that are offered at the Wagner School. For example, the concepts of experimental and quasi-experimental design that are introduced in Program Evaluation and Analysis (P11.2171) are applied in understanding and critiquing research reports, and in analyzing data. Multivariate analytic skills introduced in Statistical Data Analysis: Multiple Regression (P11.2902) are extended to various types of research designs and analytic situations.

Your goals in this course should be to:

- extend your familiarity with methodologic issues in policy research, including study designs, analytic approaches, and ethical issues.

- enrich your professional vocabulary. Learn to proficiently use terms from program evaluation, econometrics and epidemiology.

- get hands-on experience in analyzing and presenting data, including managing data, selecting appropriate analyses, interpreting computer output, and presenting your findings in writing and in tables.

- improve your skills in reading, understanding, and reporting on journal articles.

The course is not a comprehensive or exhaustive review of the field of policy-relevant research or program evaluation. It is not a statistics course, nor is it a course in how to evaluate a program. The focus is on impact analysis (rather than process evaluation, performance monitoring, cost effectiveness analysis, or evaluation synthesis, all of which are covered in other Wagner courses). There is a substantial amount of data analysis both in and out of class. There is also a significant amount of new statistical material presented. All of this is done using real world examples, to solidify the base as you build your career as a practitioner and consumer of the research that informs public policy.
Course prerequisites (neither may be taken concurrently)

1. Program Evaluation and Analysis (P11.2171)
2. Statistical Data Analysis: Multiple Regression (P11.2902)

Skill prerequisites

Stata is used in this course, and I will assume that you are familiar with basic data analysis using that package. In addition, I will assume that you are capable with algebra at the pre-calculus level, are comfortable with algebraic notation, and understand the concept of a function.

Required purchases

The only required purchase/rental for this class is the software program STATA. Before you buy, please consult the course Blackboard. You will also want to use your textbooks from Stat 1 and Stat 2 and your Program Evaluation course.

Most of the course readings are available electronically through the university. A few are hardcopies on reserve in Bobst library.

In-class labs

If you have a laptop computer, please bring it to class on the evenings when we analyze data together. If you don’t have a laptop, find someone who is prepared to share with you.

Additional information

Blackboard (BB) A number of resources have been posted on the course BB. These include the syllabus, scheduling information, information on contacting staff connected with the course, datasets, assignments, article links and other core course documents. There are also links to supplementary materials (primarily in the form of weblinks) that extend some of the topics discussed in class.

As the semester progresses, assignments and teaching resources will be added to the BB. Note that some posted material will be modified as the semester progresses, so you should _not_ download and print everything at the outset. BB will be also be used to communicate urgent matters such as assignment changes or glitches, class cancellations, and changes in office hours. You should check the site frequently; always take a look on the day of class.
Keeping up/ Missed classes. This course moves quickly. There is a lot of work! While the reading is important, there is a fair bit of informal in-class give-and-take. An effort is made to capture class work in handouts, but this is not always feasible. Students who miss a class should consult a partner student for copies of notes and handouts. Inasmuch as is possible, handouts for each week will be posted on BB.

Preparation for class/ Non-graded assignments. There are many non-graded assignments. Most are designed to help you to prepare for class. I will collect some of them (noting them as “complete” and “incomplete/missing”). For in-class discussions, I will cold call on students, drawing on these assignments (as is often done in law schools). Come to class prepared to contribute!

Journal articles. Articles used in the course are taken from journals representing an array of sectors and disciplines. You will find that there is great variation in emphasis, presentation, and statistical approaches across this array. Some articles are dense and complex, and may take hours for you to digest. Keep at it!

Reading journal articles is a skill that you can only learn by doing. I have tried to select articles that are accessible and not excessively technical. In some cases these are oldies-but-goodies. Don’t worry that the research findings may be obsolete. Your goal is to learn to read and think critically. These papers are appropriate.

During class, we will discuss some of the articles in depth. Other articles will only be mentioned in passing. For the final exam in this advanced masters-level course, you will be expected to know all of the assigned articles at the level of an 11-points outline. You will also be expected to have an understanding of the basic tables. To avoid being overwhelmed at final exam time, I suggest that you keep a running file of every journal article that you read, with a sentence or two for each of the 11 points.

Course grades will be based upon:

1. Assignment 1  (15%)  Supplemental insurance and Medicare expenditures
2. Assignment 2  (5%)  Estimates of effect with dichotomous data
3. Assignment 3  (15%)  Impact of a mentoring program in New York City
4. Assignment 4  (15%)  Enterprise zones and employment rates
5. Assignment 5  (10%)  Managing data from multiple sources
6. Final Examination  (25% of grade)
7. Class preparation and participation  (15% of grade)
   ➢ This includes your readiness with non-graded assignments, some of which will be collected.

The Wagner School grading policy will be applied in awarding grades (see BB for details).
TOPICS


To prepare:
- Take a 2 or 3 hours to review your class notes and textbooks from Stat 1, Stat 2, and Program Analysis and Evaluation. Pay special attention to these terms: statistic, parameter, sample, population, estimation, confidence interval (aka “interval estimate”), sampling distribution, standard deviation, standard error, hypothesis test, p-value, OLS regression assumptions, coefficient, unbiased-ness, efficiency, “controlling for,” “holding constant,” impact, counterfactual.


To prepare:
- Take some time to review basic study designs and threats to validity from Program Analysis and Evaluation. Pay special attention to, internal validity, threats to internal validity (but not in great detail), external validity.
  - Non-graded assignment: Worksheet on Newcomb paper (posted on Blackboard).
- Review material on Type I and Type II errors from Stat 1, and then read the Trochim material that is posted on Blackboard.

If you want to read further to understand any of the concepts presented in the first two weeks of class, the Trochim website is an excellent source – see the class Blackboard for the weblink.

Week 3. September 22. In-class lab Preparation for Assignment 1

Week 4. September 29. Cross sectional data. Logic of cross sectional designs. Thinking further about what it means to "adjust for" or "hold constant, Further understanding of these terms: omitted variables bias, selection bias, endogeneity. Discussion of journal articles.
To prepare:
- Read (and think about) the 11 points document
- Non-graded assignment: Complete an “11-points” discussion of the Devaney et al and the Blustein articles (the 11-points document is posted on Blackboard).
- Work on Assignment 1

**Week 5. October 6. Dichotomous outcomes (1): The econometrician’s perspective.**

To prepare:
- Complete these non-graded assignments – make sure that your math skills are up to par by completing these class Blackboard postings. **If you don’t get this, you won’t get what follows**
  - “Review of percent change and percentage point change”
  - “Review of logarithms” – note that you should perform a calculator check; bring your calculator to class.
- Read
  *Stock JH, Watson MW. Introduction to Econometrics, first edition, Chapter 9, “Regression with a binary dependent variable” (on reserve @ Bobst), and.
- Non-graded assignment: Prepare an 11-points discussion of the Munnell article.

**ASSIGNMENT 1 due**

To prepare:
- Re-read Stock and Watson’s Chapter 9 from last week, and review your class notes
- Complete the first non-graded assignment that is posted on Blackboard (“Probit Practice”), and
- Complete the second non-graded assignment that is posted on Blackboard (Fourfold table update Fall 2010), and work the problems on pages 3 & 4, and
- Prepare an 11-points discussion of the Guttmacher et al. article
- Download and preview Assignment 2, and bring questions to class.

Week 7. October 20. Finishing up dichotomous outcomes and non-linearity; Interaction as another form of non-linearity. Subgroup analysis, heterogeneity of treatment effects. Exercises with interactions; discussion of papers; preparation for Assignment 3.

To prepare:
- Read and be ready to summarize the issues from:
  and
- Complete the non-graded assignment on the Schulman and Schwartz papers, on BB.
- Download and print Assignment 3, and bring it to class.

ASSIGNMENT 2 Due
Week 8. October 27. Difference in differences, propensity scores. Logic of D-in-D: Assumptions; tests of assumptions. Ways to enhance plausibility and unbiasedness of estimates, including propensity score matching/regression. Discussion of non-graded assignment; in-class exercises.

- Work on Assignment 3
- Read:
  Albouy D. Program evaluation and the difference in difference estimator. Handout posted on our BB or maybe ___ or__ from Stock and Watson.
  Levitt SD. The case of the critics who missed the point: A reply to Webster et al. Criminology and Public Policy. 2006;5(3):449-460.
  Kenney GM, Long SK, Luque A. Health reform in Massachusetts cut the uninsurance rate among children in half (main paper + appendix; both posted on BB). Health Affairs. 2010;29(6):1242-1247 + appendix pp.1-5. – or maybe not this one.
- Prepare: Non-graded assignment on BB.

Week 9. Nov 3. TBA


To prepare:
- Work on Assignment 3
- Read
  Stock JH, Watson MW. Introduction to Econometrics, first edition, Chapter 8 “Regression with panel data”. (pages 271-295); on reserve in Bobst, and.
  Blustein J, Chan S, Guanalis FC. Depression among caregiving grandparents . HSR: Health Services Research. 2004; 39(6):1672-1689; and
  Geronimus AT, Korenman S. The socioeconomic consequences of teen childbearing reconsidered”. Quarterly Journal of Economics. 1992. 101: 1187 – 1214; and
• Prepare
  an 11 – points discussion of the Geronimus & Korenman paper, and
  a brief paragraph: Why did Professor Blustein recommend this article –what’s
  unique about it?

**Week 10. November 17. Panel data 2 (Practice – Bring laptops).** Characteristics of
panel data. Data management: “wide” and “long” data formats. Analysis with fixed
effects – options in Stata

To prepare:
• Reread from last week:
  *Chapter 8 of S & W, (“Regression with Panel Data”) Pages 271-295.*

**ASSIGNMENT 3 due.**

**November 24 – Thanksgiving – No class.**

**Week 11. December 1. The Regression Discontinuity (RD) and Instrumental
Variables (IV) approaches.** The paradigm for classic RD: examining the data,
analyzing the data. IV as “fuzzy” RD. Assumptions of instrumental variables analyses.

Read:
• Trochim, W. “The regression discontinuity design” followed by “Regression
discontinuity analysis”: in the Research Methods Knowledge Base (URL on
course website), then
• Niu SX, Tienda M. The impact of the Texas top ten percent law on college
enrollment: A regression discontinuity approach. J Policy Analysis and
Management. 2010. 29(1) 84-110.

Complete:
• Worksheet on Niu and Tienda article.

**Week 12. December 8. Experimental approaches to impact estimation.** Guest speaker
TBA. Social experiments: rationale, logistics, and residual threats to validity.

ASSIGNMENT 4 DUE


To prepare, download “Non-graded assignment sheet for ethics section on the class BB”. Then, read:

- Johns Hopkins University. “Lead based paint study”. A fact sheet posted by the university on the School of Medicine website. Our BB includes the link to lots of other material that Hopkins has made available.

Then, complete the non-graded assignment sheet “Non graded assignment for ethics session.”

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Our final exam will be on Saturday December 17th from 10 AM – 12 PM. Location TBA.

Assignment 5 should be handed in to my Puck mailbox (hardcopy) no later than Wednesday December 21st at 7 PM.