Estimating Impacts in Policy Research (P11.2875)

*** Draft – Final version will be available on the first day of class ***

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:

- get hands-on experience in analyzing and presenting data, including managing data, selecting appropriate analyses, interpreting computer output, and summarizing and presenting results. In this course, you will learn to use Stata in data analysis.

- extend your familiarity with methodologic issues in research, including various study designs, measurement problems and analytic approaches;

- apply your skills by reading about and reporting on policy-relevant impact analyses written by others. You will learn what to look for when reading an article, and you will write some of your own research summaries.

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). To that end, 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

I assume that you are capable with algebra at the pre-calculus level, are comfortable with algebraic notation, and understand the concept of a function. I do not assume that you know or can use calculus or linear algebra.

Required purchases

The only required purchase for this class is the software program STATA11. 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 that we are analyzing 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. Also, you will be receiving email via BB, which goes to your NYU mailing account by default. You can arrange forwarding to another account via “Preferences” (upper right hand corner, NYUhome).
**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 ask a partner student for copies of notes and handouts. Inasmuch as is possible, handouts for each week will be posted on BB.

**Non-graded assignments.** There are many non-graded assignments. Most are designed to help you to prepare for class. In discussing them, I will “cold call” on students (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.

**Course grades will be based upon:**

1. Assignment 1 (15%) Supplemental insurance and Medicare expenditures
2. Assignment 2 (10%) 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 Participation (10% of grade)

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


To prepare:
- Take several hours to review your class notes and textbooks from P11.2902 (Multiple Regression) and P11.2171 (Program Analysis and Evaluation)

Week 2. September 16. **Validity in social research.** Causality and validity in social research. Internal validity, external validity, validity in measurement, conclusion validity (aka “statistical power”). Discussion of Newcomb paper.

To prepare:
- Review basic study designs and threats to validity from Program Analysis and Evaluation (P11.2171)
  - 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 23. **Using Stata to estimate impacts.** (Practice – bring laptops). The Stata interface; Stata capabilities. Brief demo, then group work to estimate an impact, preparatory to starting Assignment 1.

To prepare:
- Cover the Stata mastery material on our course BB.
Week 4. September 30. Cross sectional data. Logic of cross sectional designs. Thinking further about what it means to "adjust for" or "hold constant". Discussion of journal articles.

To prepare:
- 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).


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 **
  o “Review of percent change and percentage point change”
  o “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. Munnell A.H. et al. "Mortgage lending in Boston: Interpreting the HMDA data". American Economic Review. 1996; Vol. 86, no. 1, pages 25-53 – paying special attention to the tables, and then:
- Non-graded assignment: Prepare an 11-points discussion of the Munnell article

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.

ASSIGNMENT 1 due


To prepare:
  and
- Download and print Assignment 3, and bring it to class.

ASSIGNMENT 2 due

To prepare:
- Read
  Stock JH, Watson MW. Introduction to Econometrics, first edition, Chapter 8 “Regression with panel data”, (pages 271-295); on reserve in Bobst, and.
- Complete an 11 – points discussion of the Geronimus & Korenman paper.


To prepare:
- Reread from last week:
  Chapter 8 of S & W, (“Regression with Panel Data”) Pages 271-295.
- Suggestion: Finish Assignment 3, which is due next week.


- Read:
  European Commission. Sourcebook on Impact Evaluation: Methods and Techniques: Differences-in-differences, and
  Jacob BA. Accountability, incentives and behavior: the impact of high-stakes testing in the Chicago Public Schools. Journal of Public Economics. 2005; 9: 61–796. (Pages 761-775 are required; the remainder is optional), and
- Then, complete “Non-graded assignment Difference in differences”, which is posted on our class BB.

ASSIGNMENT 3 due.
Week 11. November 18. The Regression Discontinuity (RD) and Instrumental Variables (IV) approaches. The paradigm for classic RD: examining the data, analyzing the data. IV as “fuzzy” RD.

Read:
- Trochim, W. “The regression discontinuity design” followed by “Regression discontinuity analysis”. in the Research Methods Knowledge Base (URL on course website), then

Complete:
- Worksheet on Niu and Tienda article.

November 25 – Thanksgiving – No class.


To prepare:
- TBA

ASSIGNMENT 4 DUE


To prepare:
- TBA


To prepare, download “Non-graded assignment sheet for ethics section on the class BB. Then, read:
824-846; and 851-852; and the exchange that followed.

- 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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Assignment 5 (Data management) due Friday December 17 by the end of the day.

The scheduled final exam date for this class is the evening of Thursday evening, December 23, during the usual class period. If there is sufficient interest, an alternative sitting will be offered Saturday December 18th at 11:30 AM. Logistics TBA.