V53.0895 - Quantitative Analysis of Public Policy
Fall, 2010
MW 9:30-10:45
Friday 9:30-10:45 Lab sessions

Prof. Nathaniel Beck
19 W. 4th St., Rm. 407
nathaniel.beck@nyu.edu

Grader:

Prerequisites: Junior standing, honors eligibility, interest in pursuing either Politics or IR Honors or Alexander Hamilton certificate; NO previous work in statistics is assumed; interest in quantative analysis (and interest in playing with numbers) is assumed (if unsure, consult the instructor by email)

Texts: Kellstedt and Whitten, Fundamentals of Political Science Research (KW)
Morgan and Winship, Counterfactuals and Causal Inference (MW) ?????

This course is different from the typical social science or political science statistics/methods courses. The latter typically focus on statistical inference, one, but only one, component of quantitative analysis. While we will work on inference, our focus will be on how we can use numerical evidence to make interesting statements about public policy; thus much of the focus of the course is on the design of the research and the collection of the data called for by that design.

The focus of the course is on public policy. Thus we will deal with such issues as school choice, the environment and the impact of laws, as well as more "political science" topics such as the impact of voter registration laws on turnout and the role of foreign aid on economic development. Other than the obvious importance of public policy issues, it is easier to understand the basic issues of the course in a public policy context than in a more complicated (and inchoate) political science context; students taking the Honors seminar will be in a good position to apply what they learn in this course to more complicated theoretical issues (or do do more concrete policy analyses).

We will divide up into teams to work on various policy areas. Each student will use that research to conduct their own analysis of one particular question. At times teams will present and/or debate.

Stata: We will use Stata and any student undertaking a quantitative analysis of almost anything will need to use Stata (or something like Stata, the skills are transferrable). To make sure that everyone knows enough Stata, several Friday sessions will be devoted to Stata. Please note that Stata (either in the lab or if you buy, so long as it is Stata 11) is fully documented in a pdf; assignments to the pdf will be made as relevant. All students must pass a PROFIENCY (that is, ungraded) test on Stata; those who do not pass will have to study more and retake the proficiency exam. Students who do not eventually show proficiency (this should NOT be a problem) will not get pass the course.

While many NYU labs (with good after hours access) have Stata (version 11), many students prefer to buy Stata so they can work at home (Stata runs on most platforms). It costs slightly under $200 for a lifetime license (half that for one year, but not a good deal if

you need to use for honors or another project in the future). For ordering deals, see the Stata web site (stata.com). Please note that you need Stata IC.

Instruction in Stata is provided in various Friday lab sessions. The dates of these sessions will be posted on Blackboard (of course). Handouts for how to use Stata will be made available. Problems in the KW text are keyed to Stata.

Class participation: While I sometimes (too often) will lecture, this is a seminar and so class participation is required. (Attendance is pre-requisite for participation.) Students who must miss class should inform the instructor by email.) While class notes are available on the class Blackboard site, these do not substitute for class discussion.

Project: Each student will do a policy analysis individually, though using data collected by the team. This project is due at the end of the semester.

Exercises: Since the course is technical, exercises will be assigned during the semester. These exercises should be emailed to the grader by the due date; late submissions will be penalized.

Grading:

Project: 30%
Exercises (some leading to project): 50%
Participation: 20%

Blackboard - Electronic commumications from students are highly encouraged; communications from the instructor and/or grader will be either via Blackboard or email; students must check Blackboard frequently and have a working email address. It is the student's responsibility to make sure that he or she is informed about assignments, schedule changes and the like.

Weekly Schedule (by Week) - THIS SCHEDULE IS SUBJECT TO CHANGE (USUALLY BY SLOWING DOWN) - at any moment the correct schedule is on Blackboard - what is below is only to give you an idea of the scope of the course and its general timing

Week 1 - Wed Sept. 8 - Introduction to the course, preliminary discussion of groups, preliminary discussion of numbers

Week 1 lab for Stata - getting started - read the Getting Started [GS] manual (for whichever flavor of Stata you use, in class we will see the Mac flavor but most labs have the less desirable Windows flavor, but, fear not, the flavors are pretty similar though the Mac flavor does of course taste better). Read sections 1-4. Please note that some parts of this discuss statistical methods that we have obviously not yet covered. Do not worry about this. Also read the KW document available on Blackboard.

Week 2 - Monday Sept. 13 - Understanding how numbers can be used in understanding public policy; formation of small groups

To facilitate the group formation process, each student MUST send me email by Sunday, Sept. 12 (at noon) with the following information:

Name

Major/Minor
Previous Quant courses (if any)
Previous or current Politics courses
Previous or current other relevant policy courses (including Economics)
(for all courses, provide brief names, not numbers)
General policy interest (the more specific the better)

Wednesday Sept. 15 - The key quantitative skill for understanding everything - Bayes Theorem - handout on Blackboard

Exercise 2 (due Monday Sept. 20) and Week 2 lab - Gathering and inputting data. In your small groups, find data for TWO variables of interest. This could be, say, health spending as a proportion of GDP and life expectancy by country or education spending and average SAT score by year, or any two policy relevant numbers for your group policy.
Then, as individuals, you will enter the data into Stata (by hand, by copying and pasting from a spreadsheet or any other method). Then please show descriptive statistics and a bivariate and univariate graph. The purpose of this exercise is to make sure you can use Stata for more serious work, and also to make sure you have some idea of how to find data on the web. Read Stata, Getting Started Manual, 5-12 and 14-16 (you will not be able to remember it all, do not worry). As before, some terms will be mentioned that you do not understand, such is life in a complicated world.

Week 3 - Monday and Wednesday Sept. 20 and 22 - Utility and Expected Utility and Cost-Benefit Analysis - Handout on Blackboard

Week 3 lab - getting even more comfortable with Stata. By this time you should be pretty familiar with the issues in the Getting Started Manual, and be ready to use Stata for statistical analysis when we learn statistical analysis.

Week 4 - Monday and Wednesday Sept. 27 and 29 - More skills - Discounting and intergenerational fairness; special issues related to human lives

Skills exercise assigned on Sept. 29, due Oct. 6 at 5PM

Week 5 - Monday and Wednesday Oct. 4 and 6 - Assessing Causality - Counterfactuals, Experiments, Quasi-Experiments, Observational Studies, Research Design

For this week through Oct. 20 please read KW 1-4 and handouts on Blackboard (handouts are more advanced than KW)

Week 6 - Wednesday Oct. 13 - Continuation of previous week

Week 7 - Monday and Wednesday Oct. 18 and 20 Continuation of previous week

Exercise on assessing causality assigned on Oct. 20, due Oct. 27 at 5PM

Week 8 - Monday and Wednesday Oct. 25 and 27 - Statistics I - Describing data and measurement - read KW 5 and 6

Week 8 lab - using Stata to describe and graph data

Exercise on describing data assigned, due Nov. 3 at 5 PM

Week 9 - Monday and Wednesday Nov. 1 and 3 Understanding statistics and inference For this week though Nov. 24 read KW 7-12

Week 10 - Monday and Wednesday Nov. 8 and 10 Continuation of previous week

Week 11 - Monday and Wednesday Nov. 15 and 17 Continuation of previous week

Weeks 9-11 lab sessions will go over using Stata to do various things to your data

Week 12 - Monday and Wednesday Nov. 22 and 24 (no Friday session this week)

Conitnuation of previous week ending up by understanding multiple regression and its relationship to assessing causality

Exercise on analyzing your data assigned, due Dec 1 at 5PM

Missing: Forecasting, need more on measurement

Post Thanksgiving - Discussion of quantitative analysis as related to specific policies - presentations by groups (it is envisioned that we will have general discussion of issues of evidence in the various policy areas people have studied, with the relevant students serving as discusison leaders and making short presentations, but it is not envisioned that these will be standard presentations of student papers, where everyone else sits around and listens)

Week 13 - Monday and Wednesday Nov. 29 and Dec. 1

Week 14 - Monday and Wednesday Dec. 6 and 8

Week 15 - Monday and Wednesday Dec. 13 and 15