Overview

Whether they should or they shouldn’t, numbers, data and quantitative methods matter in policy and in policy analysis. Policy and political analysts use numbers treated with quantitative methods in evidence-based research about whether policy interventions are successful. Policymakers use numbers to support (sometimes normative) arguments about whether government should (or should not) provide particular services or engage in policy change and reforms. This is the second course in a two-course sequence (Module 2 and Module 3) designed to teach you the quantitative methods that you need for a career in public policy and also to be able to read publications using these methods. By this we mean the application of statistical methods to problems in political science and public policy.

Description

Building on the first course which covered basic concepts, notions and introduction to regression based reasonings, this second module provides a survey of more advanced empirical tools for political science and public policy research. The focus is on statistical methods for causal inference, i.e. methods designed to address research questions that concern the impact of some potential cause (an intervention, a change in institutions, economic conditions, or policies) on some outcome (vote choice, income, election results, crime rates, etc).

We cover a variety of causal inference designs, including quasi-experiments, advanced regression, panel methods (fixed and random effects), difference-in-differences, instrumental variable estimation, regression discontinuity designs, quantile regression. We will analyze the strengths and weaknesses of these methods. Applications are drawn from various fields including political science, public policy, economics, and sociology.

We begin by discussing the strengths and limitations of multiple regression analysis and the relationship between regression and causal modeling. We then develop a sequence of extensions and alternatives, including: regression discontinuity, difference-in-differences, panel data, instrumental variables. The course will conclude with an introduction to some limited dependent variables techniques that are now common in political and policy analysis due to the categorical nature of many phenomena treated by political and policy analysis (binary and ordinal logit analysis).

We will learn both the techniques and how to apply them using data sets. Skills students will acquire in this course include: the capacity to reason causally and empirically, the ability critically to assess empirical work, knowledge of advanced quantitative tools, and experience in working with data sets.

Prerequisites

Background knowledge of multiple regression models, such as the Basics of Quantitative Methods for Public Policy Analysis course offered in Module 2, or the equivalent. As the course will use Stata as the software, a background in using this software is helpful, but not required. Lab sessions will include replication of some published papers that will permit participant to acquire practical skills for working with empirical data.
Nota bene: *** indicates a very important reading; ** an important one
Most of the readings will be made available through the web of summer school.
Students does not need to buy a book, unless some introduction to basic statistics.

Day 1 - Difference in Differences: natural experiments for exogenous treatment

Required readings


Supplementary readings


Day 2 - Instrumental Variables

Required readings


Supplementary readings


Michael Foster. (2000) “Is more better than less? An analysis of children’s mental health
Day 3 - Regression discontinuity designs


Supplementary readings


Day 4 - Analyzing categorical policy preferences and utilities: binomial logistic regression


Day 5 - Analyzing ordered policy preferences and utilities: latent preferences measured by ordinal and multinomial logits

Supplementary readings

Course Schedule

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Please, check detailed scheduled at IPSA-USP Summer School website:  
http://summerschool.fflch.usp.br/schedule/detailed-schedule