LPO 9952: Practicum

Vanderbilt University

Human and Organizational Development

Course Number HOD 9952

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Introduction

This course is the second of a three semester series of courses designed to introduce you to the practice of research, particularly the applied side of quantitative research. The goal of this course to help you to prepare a paper that can be presented at a major research conference and, hopefully, submitted to a journal for publication. This semester, we will focus on the analysis of the data that you compiled last semester. Prior to undertaking this analysis, you will have a chance to refine your research question, and you will be asked to compile a brief review of the literature in your area. Once this is complete, we will begin analyzing the data in your dataset. This will culminate in the final assignment—a replication file which will include all of the data and a program that provides publication-ready tables and figures. Your paper to be finished in May will be based on this analysis. Along the way, you will develop skills that will be helpful in future work using any kind of data. This class has a strong emphasis on using programming skills to aid in the replication of work and to simplify complex analyses.

Grading

Evaluation for the course will be based on the following factors:

Assignments: 33%

There will be a total of thirteen assignments, which will be graded. Late assignments will not be accepted. These assignments will account for a third of your grade. Collaboration on assignments is fine, however, many of the assignments will ask you to work with variables and datasets of your own choosing. Ten of these assignments will count toward your grade. The lowest scoring assignment will be removed.

Literature Review: 33% I will ask you to compile a brief (no more than five page) literature review on your chosen subject. This literature review, along with a revised research question, will be due midnight, February 11.

Replication File: 34%

A replication file containing all of the data (or links to the data) for your analysis, a codebook and your Stata program to analyze this data will be due by midnight on April 27. This assignment will be evaluated based on the following factors:

- The quality of the underlying analysis
- How well the replication file produces publication-ready results, including tables and graphics
- The clarity of the accompanying text in describing the analysis in the replication file

Software

Stata will again be the order of the day for this semester for statistical analysis.

Texts

The standard regression textbook for this department is:

Wooldridge, J. M. (2016). Introductory Econometrics: A Modern Approach. Boston, MA: Cengage Learning, 6th edition.

You should have a copy of this book– 5th edition would also be fine.

A good online resource for regression with Stata is:

Chen, X., Ender, P., Mitchell, M. and Wells, C. (2003). Regression with Stata, from http://www.ats.ucla.edu/stat/stata/webbooks/reg/default.htm .

In addition, the following texts are recommended but not required:

Mitchell, M. N. (2012) A visual guide to Stata graphics. College Stations, TX: Stata Press, 3rd edition.

Baum, C. F. (2009). An introduction to Stata programming (Vol. 2). College Station: Stata Press.

Long, J. S. (2009). The workflow of data analysis using Stata. College Station: Stata Press.

Long, J.S. and Freese, J. (2006) Regression Models for Cateogrical Dependent Variables Using Stata. College Station: Stata Press

All readings listed below are recommended but not required.

Schedule

Class meetings will teach specific skills that are helpful for data analysts as they seek to answer questions. Class meetings will combine some instruction with hands on practice of the skill for that week.

Students are responsible for their own projects, and I expect that you will make progress toward the final assignment throughout the semester. Office hours and/or appointments are an excellent time to discuss the direction of your project and to get feedback on completed work.

Tuesday, January 9 The Logic of Conditional Means; review of programming skills

Readings

Baum, Chapters 1-3

Mitchell, Chapter 3

Tuesday, January 16 Linear estimators

Readings

Baum, Chapter 4

Assignments

Assignment 1 due Sunday, January 14

Tuesday, January 23 OLS Regression in Stata

Readings

Chen et al chapter 1

Long & Freese, Chapter 3

Assignments

Assignment 2 due Sunday, January 21

Tuesday, January 30 Properties of OLS estimator

Readings

Chen et al chapter 1 [http://www.ats.ucla.edu/stat/stata/webbooks/reg/chapter1/statareg1.htm]

Adkins, L. & Gade, M. (2012) "Monte Carlo Experiments Using Stata: A Primer with Examples."[http://www.learneconometrics.com/pdf/MCstata/MCstata.pdf]

Assignments

Assignment 3 due Sunday, January 28

Tuesday, February 6 Inference with OLS, hypothesis testing (sigh)

Readings

Long, Chapter 7

Baum, Chapter 5

Estout documentation: [http://repec.org/bocode/e/estout/documentation.html]

Outreg documentation: [http://repec.org/bocode/o/outreg2]

Assignments

Assignment 4 due Sunday, February 4

Tuesday, February 13 Functional Form, model specification

Readings

Chen et al Chapter 2: [http://www.ats.ucla.edu/stat/stata/webbooks/reg/chapter2/statareg2.htm]

Kennedy, P. E. (2002). Sinning in the basement: What are the rules? The ten commandments of applied econometrics. Journal of Economic Surveys, 16(4), 569-589. Online

Assignments

Assignment 5 due Sunday, February 11

Literature Review due Sunday, February 11

Tuesday, February 20 Binary variables, interactions

Readings

Chen et al, Chapter 3

UCLA IDRE,"How can I use the margins command to understand multiple interactions in regression and Anova?" Online

Assignments

Assignment 6 due Sunday, February 18

Tuesday, February 27 Interactions, marginal effects

Readings

UCLA IDRE "How can I explain a continuous by continuous interaction?" [http://www.ats.ucla.edu/stat/stata/faq/conconb12.htm]

Assignments

Assignment 7 due Sunday, February 25

Tuesday, March 6 Spring Break

Tuesday, March 13 Replication

Readings

Long, Chapter 7

Hammermesh, D. (2007) Replication in Economics. NBER Working Papers 13026.

Assignments

Assignment 8 due Sunday, March 11

Tuesday, March 20 Non-spherical errors

Readings

Cox, Nicholas J. "Speaking Stata: Graphing model diagnostics." Stata Journal 4.4 (2004): 449-475.

Assignments

Assignment 9 due Sunday, March 18

Tuesday, March 27 Limited Dependent Variables

Readings

Long & Freese, Chapter 4

Williams, R. (2012). Using the margins command to estimate and interpret adjusted predictions and marginal effects. Stata Journal, 12(2), 308.

Assignments

Assignment 10 due Sunday, March 25

Tuesday, April 3 Panel Data

Readings

McCaffrey, D. F., Lockwood, J. R., Mihaly, K., & Sass, T. R. (2012). A review of Stata commands for fixed-effects estimation in normal linear models. Stata Journal, 12(3), 406.

Assignments

Assignment 11 due Sunday, April 1

Tuesday, April 10 Advanced Graphics

Readings

Jann, B. (2013). Plotting regression coefficients and other estimates in Stata. University of Bern Social Sciences Working Papers, 1. (Online)[ftp://ftp.repec.org/opt/ReDIF/RePEc/bss/files/wp1/jann-2013-coefplot.pdf]

Gelman, A., Pasarica, C., & Dodhia, R. (2002). Let's practice what we preach: turning tables into graphs. The American Statistician, 56(2), 121-130. (Online)[http://www.tandfonline.com/doi/abs/10.1198/000313002317572790]

Assignments

Assignment 12 due Sunday, April 8

Tuesday, April 17 Reporting Complex Results

Readings

Gallup, J. L. (2012). A programmer's command to build formatted statistical tables. Stata Journal, 12(4), 655-673. (Online)[http://go.galegroup.com.proxy.library.vanderbilt.edu/ps/i.do?ty=as&v=2.1&u=tel_a_vanderbilt&it=DIourl&s=RELEVANCE&p=AONE&qt=SN~1536-867X~~VO12SP655~~IU4&lm=DA120120000&sw=w&authCoun

Assignments

Assignment 13 due Sunday, April 15