

Applied Microeconometrics

Module 2, 2017-2018

Gunes Gokmen
New Economic School
ggokmen@nes.ru

Course information

Course Website: tba

Instructor's Office Hours: By appointment

Class Time: tba

Room Number: tba

TAs: tba

Course description

The goal of this course is to familiarize students with a range of techniques used in applied microeconometrics, with the final aim of conducting empirical research. The emphasis of the course will be on practical issues that one faces while working with data and using various econometric techniques rather than theoretical underpinnings.

By the end of this course students should have a working knowledge of econometric tools helpful for understanding current empirical literature in economics, have an understanding of how theoretical concepts are treated in applied econometric practices, and have computational skills and familiarity with econometric software.

Course requirements, grading, and attendance policies

It is assumed that students have an understanding of the basic econometric theory, at least at the level covered in Wooldridge's introductory textbook.

Final grade will be based on assignments (50%), and a final exam (50%). Students will be expected to complete empirical assignments using Stata software. Submission of problem sets after the due deadline is heavily discounted. I will not take attendance; however, being absent will prevent you from class participation, and this might have an impact on your final grade.

Course contents

1. Research Design. The Quest for Causality. Can We Trust the CIA (Conditional Independence Assumption)? [AP2009 Chapters 1, 2, 3], [CT2005 Chapters 2, 25]
2. Selection on Observables. Matching and Propensity Score Estimators. [AP2009 Chapter 3], [CT2005 Chapter 25], [W2002 Chapter 18]
3. Instrumental Variables. [AP2009 Chapter 4], [CT2005 Chapters 4, 25], [W2002 Chapters 5, 18]
4. Econometrics of Panel data. Fixed effects estimation. Random effects model. Difference-in-Difference. Clustering. [AP2009 Chapters 5, 8], [CT2005 Chapters 21, 22, 23]

5. Regression Discontinuity Design. [AP2009 Chapter 6], [CT2005 Chapter 25]
 6. Quantile Regression. [AP2009 Chapter 7]
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Description of course methodology

Although we will touch upon some theoretical underpinnings and basic econometric assumptions while studying a topic, the focus will be on applications and on how researchers might utilize a particular technique in empirical research. Students will also improve their computational skills and familiarity with econometric software through take-home assignments.

Course materials

Required textbooks and materials

- Angrist, Josh and Pischke, Jörn-Steffen (2009). Mostly Harmless Econometrics, Princeton University Press. [AP2009]
- Cameron, Colin A. and Trivedi, Pravin K. (2005). Microeconometrics: Methods and Applications, Cambridge University Press. [CT2005]
- Wooldridge, Jeffrey (2002). Econometric Analysis of Cross Section and Panel Data, MIT Press. [W2002]

Additional materials

- Cameron, Colin A. and Trivedi, Pravin K (2009). Microeconometrics Using Stata, Stata Press. [CT2009]
- Kennedy, P. (2001). A Guide to Econometrics. 4th Edition, MIT Press. [K2001]
- Lee, Myoung-jae (2005). Micro-Econometrics for Policy, Program, and Treatment Effects, Oxford University Press. [L2005]

Sample tasks for course evaluation

Example 1. This is an example of what students might be expected to produce on an exam:

Assume you are asked to consider paper “Y” (you are allowed to consult the paper),

- i. What is the main research question in the paper? Is it important/interesting and why?
- ii. What are the main findings of the paper?
- iii. What is the type of data used in the paper?
- iv. Consider Table 4, write down the regression specification that you could run to uncover the dif-in-dif estimate.
- v. How would the authors interpret this estimate? Is it economically large?
- vi. What is the reason for including control variables X into specification (1)?
- vii. What is the identifying assumption behind this estimation strategy?
- viii. Provide some critical and constructive comments on the paper, not discussed above or in the paper.

Example 2. This is an example of what students might be expected to produce for a problem set:

Suppose that you are provided with the necessary data set and the context of the question at hand. With the givens, you are asked to write a short-paper using your results and provide,

- i) an abstract,
- ii) details of the empirical strategy mentioning the underlying assumptions behind it,
- iii) results with coefficient interpretation and nicely organized tables,

- iv) further robustness checks and discussion,
 - v) conclusion (and references, if citing anything).
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Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.