Econ 401/604 - Applied Econometrics
Sabancı University, Faculty of Arts and Social Sciences

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Office/Phone: FASS 1047 / 9344
Office Hours: by email appointment

Lectures: Monday 11:40 - 12:30 -- online
Tuesday 11:40 - 13:30-- FASS G056 and online

Zoom link for online classes:
https://sabanciuniv.zoom.us/j/96977213085

Course Overview

The purpose of this course is to familiarize students with state of the art econometric methods used in current research for empirical analysis of micro data. The course will underline the challenges in inferring causality in social scientific research and focus on credible identification of causal parameters of interest. The emphasis will be on applications of the empirical modeling tools to real world problems through discussions of several policy relevant topics.

Prerequisites

Econ 301 – Econometrics

Study Materials

Course discussions and assigned papers for each topic are the core reading material. There is no required textbook for the course. Students are referred to the following optional texts that cover some of the materials that will be discussed in class.

Colin Cameron and Pravin K. Trivedi, *Microeconometrics: Methods and Applications*, 2005, Cambridge University Press

Jeffrey Wooldridge, *Introductory Econometrics,* Thomson, Third or fourth edition

Jeffrey Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2002

Joshua D. Angrist and Jörn-Steffen Pischke, *Mostly Harmless Econometrics*, Princeton University Press, 2009, Princeton and Oxford.

Requirements and Grading

The course involves in class discussions and presentations. Therefore full participation to class activities is expected.

The course will cover papers that discuss the empirical methods and their applications. Students will be expected to read the assigned papers before class, write critical reviews, and get involved in the discussions.

The evaluation for the course will be based on the tasks associated with weekly readings, applied exercises in Stata, and a research paper. The details for these tasks are provided below following the course outline.

For Stata software resources: https://www.stata.com/links/resources-for-learning-stata/

Grading: Participation in discussions (15%), paper presentations (15%), critical review and applied exercises (30%), research paper (40%).

Note that course content, requirements and policies are subject to change at the discretion of the instructor.

Teaching format:

- The course will be taught in a hybrid format with in-class and online hours as listed above.
- The online lectures will only be delivered through Zoom while in-class lectures will be simultaneously delivered in class and through Zoom.
- The online participants should keep their microphones off during the lectures and ask their questions through Zoom chat.
- All lectures will be recorded and shared on SuCourse+.

Rules of Conduct

The definition for scholastic dishonesty is given in the rules and regulations of the Sabancı University. In the case of scholastic dishonesty, no credits will be given for that particular work. Cheating during written work will result in an F for the course. All incidents of scholastic dishonesty will be reported to FASS for disciplinary action.

Course Outline

Selected topics from the following list will be covered. The readings for the covered topics will be assigned throughout the term.

I. Causality
II. Randomized experiments
III. Selection on observables
    a. Regression
    b. Dummy variables/interactions
    c. Quantile regression
    d. Matching
    e. Propensity score methods
IV. Selection on unobservables
    a. Linear panel Data Models – Fixed effects and difference-in-differences
    b. IV methods: IV estimator /2SLS and Weak Instruments
    c. Regression Discontinuity Methods
V. Weighting and cluster robust standard errors

Details of courses requirements

There are two major components:

First, students will do weekly readings, write a critical review and carry out several applied exercises in Stata using micro data throughout the term.

(i) All students are expected to read the papers being discussed in class. The day before paper discussion (by 10:00 pm) students will send one question about each paper assigned for that week. The question may be about the methodology or the topic the paper addresses. This will give students an incentive to read and think about the paper in advance.

(ii) Each week, one student will be the discussion leader who will be responsible from presenting that week's paper(s) and monitoring the discussion based on the questions sent the day before. Depending on the final number of students in class the presentations may be done in teams of two. See the end of the course outline for suggested structure for the presentations.

(iii) Students will be assigned an article for which they are going to write a critical evaluation from the perspective of identification of parameters of interest (rather than just summarizing papers' arguments). The report will be short (max 2 pages in length, 12 point font, double spaced), due before discussion of the paper in class. Late reports will not be accepted.

(iv) Applied exercises will introduce some estimators and how they are implemented in Stata using real data. Students will carry out the estimation and interpret their findings. For the estimation students can work together but each student will turn in their own version of the assignment (answers to the questions and the Stata log file).

Second, the students will write a research paper on a particular applied topic that will be announced.

(i) The paper should include an analytic literature survey that evaluates and synthesizes the literature and draws conclusions about the size and sign of the parameter of interest. It should not be a raw summary of papers.

(ii) The research paper should state the research question and its relationship to the existing literature.

(iii) The paper is expected to use micro data in the analysis and discuss the issues surrounding the credible identification of parameters of interest.

The following dates will guide the paper-writing process:

1. The 9th week of classes – The review of international literature and (if relevant) the Turkish literature on the subject, the institutional context (max 4 page summary- excluding the reference list, 12 point font, 1.5 lines spacing)

4. The 10th week of classes– Statement of the research question you will address (max 1 page-excluding any reference list, 12 point font, 1.5 lines spacing)

5. **Jan 9, 2021- 10 pm** - Submit the final copy (The text of the final paper may be up to a maximum of 5 pages. The total length of the paper including the text, figures, tables and references cannot exceed 10 pages - 12 point font and 1.5 lines spacing including the tables).

You should provide the titles and full references to the articles and other sources of information in the reviews and the final research paper.

There will be a penalty of 20 points for each day the final copy is late. All papers should be submitted by email as Word or PDF files.

Suggested structure of presentations

The presentations of assigned papers will be limited to 40 minutes. You may want to structure your presentation along the following lines:

Background:	Why is the topic important? What do we already know? What are the limitations of previous work? (5 minutes)
Methods:	Which econometrics methods and data are used? What is the econometric model? (5-10 minutes)
Results:	What are the main findings? (5-10 minutes)
Discussion:	Critical discussion of the identification strategy. Is it convincing? Are improvements possible? (15 minutes)
Conclusion:	What have we learnt from this study? (5 minutes)