LER 590X Macro Research Methods
University of Illinois at Urbana-Champaign
Spring 2020

Time: Tuesdays, 9:00 AM – 11:50 AM
Location: TBA
Instructor: Jiwook Jung, Associate Professor
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Course Description
This course introduces students to a set of research methods for macro-organizational analysis, including event history analysis, longitudinal data analysis, multi-level modeling, and quasi-experimental research designs. While we will primarily discuss fundamental concepts and assumptions of those methods, a more important goal of the course is to help students become enlightened users of macro research methods and develop their own “toolkits” for future research. Through lectures on various methods, discussion sessions about exemplary studies, and in-class exercises using actual data, I intend to offer multiple chances for students to learn how to deal with thorny issues that will arise in macro-organizational research. Special emphasis will be given to the difficulties in making causal claims. In addition, we will cover most recent developments in the field of macro-organizational research, such as the increasing use of administrative data.

Course Materials
There is no required textbook for this course. I selected relevant readings from various sources and expect students to read all required articles and book chapters every week. Some of the readings are chapters from well-known textbooks to help students’ conceptual understanding of each research method or analytical approach. (For the textbooks I selected, see the list below.) The remaining readings are composed of classical studies that used methods of our interest and recent studies that further developed the methods. All of the readings are available through the course website.
A list of textbooks used for this course:


**Course Requirements**

*One-page memo*

Every week, students are required to submit a one-page, single-spaced, memo about research papers (hence excluding chapters from statistical textbooks) assigned for the week’s class. Important: Do not include a summary of each paper. Instead, the memo should focus on methodological issues students noticed from the papers. In the memo, I expect to see a clear statement of key research questions of each paper and a thoughtful discussion of whether the authors adopted proper analytical approaches. Constructive criticisms will be highly regarded.

*Replication Workshops*

I plan to organize four replication workshops throughout the semester. The purpose of these workshops is to help students get a direct exposure to actual data and the process of data management and analysis. For each workshop, I will bring a published paper for replication and provide the data used in the paper. Students have a week to replicate the analysis illustrated in the paper. Rather than merely replicating the published results, I encourage students to identify data and methodological issues embedded in the paper. Even better if provide constructive solutions. Through these efforts, students can learn the most current norms and standards required for publishable papers. Students are required a two-page report that describes how they did the replication and what they found, with STATA commands and outputs in the appendix. During the workshop, students will make a short presentation about their replication results.

*Final Paper*

For a final paper, students are welcome to work on any topic of their interest, but they are required to use one or more of the methodological tools they learned from this course. Ideally,
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students come up with their own research question and test them analyzing their own data. Or, students may use the data offered for replication workshops and develop one of the results into a paper topic with further analysis. The outcome does not have to be a fully developed paper. But there must be a theoretically meaningful research question, which have potential to be developed into a full research article. More importantly, students should identify relevant data and statistical tools for their chosen research question. Student presentations are scheduled on April 28 (Week 15). The paper is due on May 5.

Course Schedule

Week 1 (January 21): Course Introduction and Planning

- Course planning
- Review of linear and logistic regression
- In-class exercise: basic Stata commands
- Limitations of cross-sectional analysis in macro-organizational research

Week 2 (January 28): Regression Analysis Using Panel Data

- Panel data versus cross-sectional data
- Lag structures
- Robust standard errors
- Fixed-effects and random-effects
- Causal inference

Readings:

Angrist and Pischke, pp. 221-7 and 243-6.

Allison, Chapters 1 and 2


Week 3 (February 4): Replication Workshop I

- Replication of Jung (2016)

Readings:


**Week 4 (February 11): Event History Analysis I**

- Basic concepts (e.g., hazard rates)
- Data structure
- Discrete-time analysis

Readings:

Singer and Willett, Chapters 9 (optional), 10, and 11


**Week 5 (February 18): Event History Analysis II**

- Competing risks
- Handling of repeated events
- Cox Regression
- Recent examples

Readings:

Singer and Willett, Chapters 12, 13 (optional), and 14


Week 6 (February 25): Replication Workshop II

- Replication of Jung (2014)

Readings:


Week 7 (March 3): Multi-Level Analysis

- Basic concepts
- Growth Curve
- Random intercepts and coefficients

Readings:

Gelman & Hill, Chapters 11 (optional), 12, and 13


Week 8 (March 10): Multi-Level Analysis and Linked Employee-Employer Data (LEED)

- Why administrative data?
- Strengths and weaknesses of administrative data

Readings:


Jung, Jiwook, Eunmi Mun, and Zoltán Lippényi. Unpublished manuscript.

Week 11 (March 31): Counterfactual Framework and Matching

- Counterfactual framework
- Propensity score matching

Readings

Morgan and Winship, Chapters 1 (optional), 2, and 4


**Week 12 (April 7): Instrumental Variables**

- Basic assumptions and concepts
- Tests for valid instruments
- Examples

Readings:

Angrist and Pischke, pp. 113-47.


**Week 13 (April 14): Difference in Differences**

- Basic assumptions and concepts
- Capturing the effect of policy changes using D-in-D

Readings:

Angrist and Pischke, pp. 227-43.


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Week 14 (April 21): Replication Workshop IV

- Replication of Mun and Jung (2018)

Readings:


Week 15 (April 28): Student Presentations

Week 16 (May 5): Review of the Course and Course Evaluation