

National Chung Cheng University
Graduate Institute of International Economics
Empirical Microeconomics, Fall 2025
Instructor: Meng-Chi Tang

The goal of this course is to show students how to do empirical microeconomics research. We will use STATA to do data management and perform microeconometrics analysis. We will also discuss microeconometric tools that often used in empirical works, including difference-in-difference, instrumental variables, panel data methods and non-linear regressions. Recent advances on causal inference methods, such as treatment effect estimation, event study, staggered intervention, regression discontinuity design, local average treatment effect and synthetic control method will also be included. Selected papers will be discussed and replicated in the class such that students can learn how to complete empirical microeconomics research from the beginning to the end. Students are required to complete their own projects in the end of the semester, preferably a prototype for their theses or papers that fulfill the graduation requirement.

Data

We will using the following datasets as examples throughout the course:

- Major League Baseball:
Players and teams data: <http://www.seanlahman.com/baseball-archive/statistics/>
Play-by-play data: <https://www.retrosheet.org/>
- National Health Insurance Research Database: [http://nhird.nhri.org.tw/date\\$02.html](http://nhird.nhri.org.tw/date$02.html)
- Taiwan Panel Study of Family Dynamics: <http://psfd.sinica.edu.tw/web/>
- Medical Expenditure Panel Survey: <https://meps.ahrq.gov/mepsweb/>

The MLB data will be used mainly for practicing data management in the first part of the course. The other datasets will be used as examples to display how empirical works using data from Taiwan and the US were done. We will also use data covered in Wooldridge (2015) or the papers discussed in the class. Students are also encouraged to find their own datasets to be discussed in the class.

Suggested Textbooks

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

Angrist, Joshua D. and Pischke, Jorn-Steffen, *Mastering 'Metrics: The Path from Cause to Effect*, Princeton University Press, 2014.

Cameron, A. Colin and Trivedi, Pravin K., *Microeconometrics*, Cambridge University Press, 2005.

Cameron, A. Colin and Trivedi, Pravin K., *Microeconometrics Using Stata*, Revised Edition, Stata Press, 2010.

Cunningham, Scott, *Causal Inference: The Mixtape*, <https://mixtape.scunning.com/>

Wooldridge, Jeffrey M., *Econometric Analysis of Cross Section and Panel Data*, 2e, the MIT Press, 2010.

Wooldridge, Jeffrey M., *Introductory Econometrics*, South-Western College Publishing, 6e, 2015.

Wooldridge, Jeffrey M., *Two-Way Fixed Effects, the Two-Way Mundlak Regression, and Difference-in-Differences Estimators*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3906345

Office Hour

Monday and Wednesday 13:00-14:00 at Room 524, College of Management. You can also find me via ecdmct@ccu.edu.tw.

Homework, Quiz and Exams

Homework and in-class quiz will be assigned every week. It will be some applications and extensions related to what we go through in the class. Midterms and final will be take-home exams distributed in the seventh, twelfth and final week of this semester. They will be a step-by-step guidance asking you to complete an empirical project. The first midterm will stress on data management, while the second and third one will focus on doing empirical microeconomics research with the methods taught in the class.

Grades

Your course grade will be determined by the scores of your homework, a midterm, oral presentation and a research proposal. The due dates and weights to each assignment are

Requirement (total points)	Due Date
Homework/Quiz (25)	Every week
Take-home Midterm Exam I (25)	October 1-15
Take-home Midterm Exam II (25)	November 19-December 3
Take-home Final (25)	December 24- January 7