

Econometrics of Policy Evaluation: Overview

Cristian Huse

“Lucky is he who has been able to understand the causes of things.”

Virgil (not van Dijk)

- This course has two main objectives:
 - ① Provide a brief **introduction to the statistical software R**
 - ② Present **empirical (econometric) methods** used in the evaluation of policies, e.g., in Environmental and Energy Economics
 - ③ Provide an illustration of how those methods are applied
- To do so, it will be organized in the following parts:
 - ① **Introduction to R**
 - ② **Standard empirical methods**
 - Causality, Randomization, RD, DD, Matching, Instrumental Variables
 - ③ **Advanced empirical methods** (time allowing)
 - RD in time, Alternative DD designs, Synthetic control methods
- Given the above and the way the course will present applications, an interesting by-product of this course is that it can help you getting started with a thesis topic
 - driving restrictions in Germany and how they affect air pollution, car fleet, health outcomes, educational performance
 - effect of the COVID pandemic (X) on Y

- **Cristian Huse**

- Room A5 0-015
- Office hours by appointment

- **Research areas**

- Applied Econometrics, Applied Microeconomics, Environmental & Energy Economics, Industrial Organization

- **Research topics**

- Markets: transportation (e.g., cars, fuels), durables (e.g., refrigerators)
- Program evaluation: market impacts, costs etc
- [Webpage](#)

- **Other teaching**

- Environmental Economics & Policy
- Industrial Organization
- Econometrics
- ...

Main References

- **Introduction to R**

- Several references listed and linked in the course documents

- **Empirical methods**

- Gertler et al (2016). Impact Evaluation in Practice, 2nd. Edition. Washington, DC: Inter-American Development Bank and World Bank
- Gertler et al (2016). Impact Evaluation in Practice, 2nd. Edition, Technical Companion (Version 1.0). Washington, DC: Inter-American Development Bank and World Bank.
 - Tools (“how to run a regression”)
 - Used for training of policy-makers worldwide
- Additional reading: Huntington-Klein, N. (2022). The Effect: An Introduction to Research Design and Causality. Routledge. Webpage

- **Applications**

- Several papers and reports

- Teaching will be **hybrid**, i.e.,
 - **Asynchronous component:** course material will be made available one week in advance, ideally in slides and recorded lectures – you will use it to prepare for the weekly session in the subsequent week
 - **Synchronous component:** weekly “*live session*” whereby we will essentially flip the classroom
- What does it mean in practice?
 - We expect you to go through the slides, recordings, lab sessions in advance on a weekly basis
 - Please post your questions up to 24 hours before the lecture on the forum
 - The live sessions will be used to answer you questions and for discussion

- We aim to have one folder per week (date in YYYY-MM-DD format)
- We aim to post the material for each week one week in advance
- A week will typically start with a topic (e.g., Causality) with associated pdf (slides) and webm files (video with explanation of slides)
- A topic may have a lab session associated to it, typically in Rmd and/or R format. Often, a lab session will also be recorded
- A topic may also have a problem set associated to it. Answers may or may not be recorded, but a solution will be provided

- This is a demanding but also very exciting course
 - You will learn new methods, be able to think about real-life questions, and acquire real-life skills
- The area has also been recognized with a “Nobel Prize in Economics” by researchers who contributed to its development
- The tools covered here are used by academics and professionals in many different areas
 - Maybe you will also use it if you write an empirical thesis

Final remark

- **Make sure to read the syllabus**
 - It often happens that we receive basic questions about the course which are available on the syllabus in the final weeks of term (or after the end of the lectures), e.g., *“how do I calculate my grade?”*