

Causality and Programme Evaluation

Course Motivation: The current rise of statistical methods designed for programme evaluation in empirical economics led two of the most prominent advocates of this development, Joshua Angrist and Steffen Pischke, in 2010 to the following statement: *Empirical microeconomics has experienced a credibility revolution, with a consequent increase in policy relevance and scientific impact.* Despite the great importance of descriptive data analysis of the economy in many cases the ultimate goal of an empirical researcher in economics as well as in other social science is to answer **causal questions**: Does a minimum wage introduce unemployment? Does education positively affect socio-economic outcomes?

In the 70's and 80's of the last century structural (micro-)econometric methods derived from economic models, though technically often demanding, failed to lead to credible inference and remained inconclusive concerning many policy relevant questions. Researcher in applied economics then turned to a more statistical perspective, using randomization or quasi-randomization via **natural experiments** to answer causal questions. This increased the demands for the research design but considerably lowered the technical difficulties in the estimation procedures. Angrist and Pischke consequently called their already standard textbook *Mostly harmless econometrics*.

Why this course then? Because the topic is *not* completely harmless. Not even in the book, which has been stated by many reviewers notwithstanding its great success and value. Neither is *Mostly harmless econometrics*, in contrast to its *quirky* style, an easy read nor is the programme evaluation literature technically non-demanding.

The course is intended to be a Master/Ph.D. level course and aims to familiarize students with the recent literature on causal inference in general and specifically with the programme evaluation literature. This means the gain of a deeper understanding of the identification and estimation of **treatment effects** as well as the knowledge of the latest methodical developments. At the end of the course students should be able to do research at the current research standard and distinguish subtle differences in empirical identification strategies for causal inference. The focus will lie on using the so-called potential outcomes framework for causal analysis as a general concept, and examine identification and estimation of treatment effects under various types of assumptions.

At the end of the course students are asked to submit a **term paper** applying methods covered during the semester. All students submitting a term paper last year could use this as the starting point for further research. Students willing to write an applied master thesis at the chair of health economics are especially encouraged to participate in the course as it will provide them with a solid foundation for their empirical work.

Practical Information:

Lectures: Monday 10-12 a.m. (Venue: Altendorfer Straße A-001)

Exercises: Wednesday 2-4 p.m. (Venue: Altendorfer Straße A-114)

Starting: 09.04.2018