

# Estimating Causal Effects in Economics

Lecturers:	Dr. Sebastian Braun ( <a href="mailto:sebastian.braun@ifw-kiel.de">sebastian.braun@ifw-kiel.de</a> ) Dr. Toman Omar Mahmoud ( <a href="mailto:toman.mahmoud@ifw-kiel.de">toman.mahmoud@ifw-kiel.de</a> )
Time and place:	Tuesday, 8:15-9:45, WSP7 - R.313  The first lecture will take place on 28 October 2014, the last on 3 February 2015
Details:	2 SWS, 4 credit points („Leistungspunkte“), Master, Quantitativer Spezialisierungsbereich
Exercise session:	An optional PC tutorial will take place every second Monday 8:15-9:45, WSP7 - R.416a/b. The tutorial will start on 10 November and will be taught by Tobias Stöhr ( <a href="mailto:tobias.stoehr@ifw-kiel.de">tobias.stoehr@ifw-kiel.de</a> ). Tobias will also offer an additional Stata tutorial on 3 November. We strongly encourage you to attend the tutorial to master the understanding and application of the different methods covered in the lecture.
Exam:	Written exam
Prerequisite:	Intermediate Econometrics

## Overview

The purpose of this course is to expose Master and Ph.D. students to the concept of causality and to explain under which assumptions causal effects can be identified. The course will introduce students to the core methods in today's micro-econometric toolkit and explain how these methods can be applied to estimate causal effects. The course will have a strong focus on applications and will emphasise problems that applied econometricians encounter in practice. Empirical examples will deal mainly with questions in economic history, labour and development economics. The exercise session will discuss and replicate important empirical studies in the field and will provide students with the opportunity to apply empirical methods hands-on (using STATA).

## Course outline

1. The problem of causality
2. Experimental methods: Randomized control trials
3. Non-experimental methods:
  - a. Selection on observables and regression specification
  - b. Differences-in-differences and panel data
  - c. Regression discontinuity
  - d. IV estimation
4. Various topics: Power calculations, non-standard standard errors, quantile regressions

## Literature

Lecture slides can be downloaded here:

[https://www.ifw-members.ifw-kiel.de/hp/toman\\_mahmoud\\_ifw\\_kiel\\_de](https://www.ifw-members.ifw-kiel.de/hp/toman_mahmoud_ifw_kiel_de)

The main textbook for the course is:

Angrist, J.D., and J.S. Pischke (2009). *Mostly Harmless Econometrics*. Princeton University Press.

For more intuitive background readings, we recommend:

Morgan, S.L., and C. Winshop (2007). *Counterfactuals and Causal Inference: Methods and Principles*. Cambridge University Press.

Khandker, S.R., G.B. Koolwal and H.A. Samad (2010). *Handbook on Impact Evaluation – Quantitative Methods and Practices*. The World Bank, Washington DC. Downloadable [here](#).

Gertler, P.J., et al. (2011). *Impact Evaluation in Practice*. The World Bank, Washington DC. Downloadable [here](#).

This book to be published in December 2014 may also be a useful reference: Angrist, J.D., and J.S. Pischke (2014). *Mastering ‘Metrics: The Path from Cause to Effect*. Princeton University Press.

Helpful additional readings are:

Angrist, J.D., and J.S. Pischke (2010). The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics. *Journal of Economic Perspectives*, 24(2): 3-30.

Imbens, G.W. and J.M. Wooldridge (2009). Recent Developments in the Econometrics of Program Evaluation. *Journal of Economic Literature*, 47(1): 5-86.

Ravallion, M. (2008). Evaluating Anti-Poverty Programs. In: Evenson, R.E., and T.P. Schultz (Eds.), *Handbook of Development Economics Vol. 4*. Elsevier.

Cameron, C.A., and P.K. Trivedi (2005). *Microeconometrics: Methods and Applications*. Cambridge University Press.

You may also be interested in following this block on impact evaluation: <http://blogs.worldbank.org/impactevaluations/>

We will also discuss a number of journal articles, which we will make available in due course.