

**“Quantitative Methods”**  
Master of Business Research (MBR)  
WS 2021/22  
Prof. Dr. Samuel Mühlemann

**Lectures (Computer Pool)**

- Jan 28<sup>th</sup>, 10:00 -17:00, Room III
- Feb 4<sup>th</sup>, 10:00 -17:00, Room III
- Feb 8<sup>th</sup>, 10:00 -17:00, luk-pool
- Feb 11<sup>th</sup>, 10:00 -17:00, Room III

**Course description**

The course serves to make students familiar with basic statistical methodologies and econometric methods that are applied nowadays throughout all research areas in business administration and economics. The course follows a “hands-on” principle throughout, i.e. all statistical methods will be illustrated and trained by practical applications using the statistical software package Stata.

The core methods and issues covered by the course comprise:

1. Fundamentals of regression analysis: least squares, maximum likelihood, and generalized method of moments, statistical Inference
2. OLS: properties, assumptions, consequences of assumption violations, robust estimation
3. Endogeneity: consequences in the OLS framework, instrumental variables and two-stage estimation, quality of instruments
4. Limited dependent variables: binary dependent variables (linear probability models, Logit/Probit estimation)
5. Panel data: properties, difference-in-differences, fixed-effects estimation

**Lecture notes**

Lecture notes and data files can be downloaded from Moodle prior to class. For your personal benefit, please familiarize yourself with Stata before the first lecture (a short tutorial is available on the course website). A very helpful and extensive resource to use Stata is the book by Cameron and Trivedi (2010).

Course website: <https://moodle.lmu.de/course/view.php?id=11732>

Moodle enrolment key: **QM2021@lmu**

**Examination**

You will have to carry out an empirical exercise. Processing time will be six weeks. The details about the homework assignment will be communicated during the course in February 2021.

**Prerequisites**

This course can only be attended by doctoral students (MBR programme). You will need to use Stata for your homework assignment. Therefore, each student needs to have access to a computer and a Stata license.

**Literature**

Angrist, J. D., & Pischke, J. S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.

Cunningham, S. (2021). *Causal Inference: The Mixtape*, Yale University Press.

Cameron, A. C., & Trivedi, P. K. (2010). *Microeconometrics using Stata*, revised edition. StataCorp LP.

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

Singer, J. D., Willett, J. B., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford University Press.

Stock, J. H. & Watson, M.W. (2019). *Introduction to Econometrics*, 4<sup>th</sup> Edition. Pearson.