

Econometric Methods - Part I, WS 2016/17

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Lectures: Fridays 9:00-12:30, Dulles Room at DIW, starting on 21 October 2016
TA sessions: Mondays 9:00-11:00, Dulles Room at DIW, starting on 24 October 2016

1. The Classical Linear Regression Model
 - a) Ordinary Least Squares (OLS) Estimation
 - b) Maximum Likelihood (ML) Estimation
 - c) Hypothesis Testing
 - d) Generalized Least Squares (GLS) Estimation
2. Asymptotic Theory
 - a) Stochastic Convergence Concepts
 - b) Laws of Large Numbers (LLN) and Central Limit Theorems (CLT)
 - c) Asymptotic Properties of OLS
 - d) Asymptotic Properties of ML
 - e) Asymptotic Properties of GLS
3. Single Equation Generalized Method of Moments (GMM)
 - a) Instrumental Variables (IV) Estimation
 - b) Method of Moments (MM) Estimation
 - c) GMM Estimation
 - d) Asymptotic Properties of GMM
 - e) Related Tests
4. Multiple Equation Generalized Method of Moments (GMM)
 - a) Simultaneous Equations
 - b) GMM Estimation
 - c) Uses of Multiple Equation GMM
5. Panel Data
 - a) Random Effects
 - b) Fixed Effects

6. Optional Topics

- a) Discrete Choice Models
- b) Limited Dependent Variables
- c) Duration Models

Literature: Hamilton (1994), Judge, Hill, Griffiths, Lütkepohl and Lee (1988), Hayashi (2000).

References

Hamilton, J. D. (1994). *Time Series Analysis (Appendix)*, Vol. 2, Princeton university press Princeton.

Hayashi, F. (2000). *Econometrics. 2000, Princeton University Press. Section 1: 60–69.*

Judge, G. G., Hill, R. C., Griffiths, W., Lütkepohl, H. and Lee, T.-C. (1988). *Introduction to the Theory and Practice of Econometrics (Appendix)*, New York New York John Wiley and Sons 1982.

Course Requirements

The grading is based on the assignments (20%) and an exam (80%) at the end of the term. Each part of the course is given a 50% weight of the total grade.