

Microeconometrics

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β version (continuously updated)

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Please make sure to check this document regularly

1. GOALS AND PREREQUISITES

In this course we will cover advanced econometric techniques, in particular the modeling of different types of outcome variables, panel data estimation, quantile regression, and survival analysis. It is a complementary course to the KS *Treatment Evaluation* (formally Econometrics II), where you learn treatment evaluation techniques.

Students should have intermediate knowledge in econometrics and statistics (in particular probability theory) at the level of KS *Intermediate Econometrics* (formerly Econometrics I). Furthermore, students should be familiar with statistical software programming (I use STATA in this course, but are free to use any other language such as R as well). Since last semester, the KS *Programming, Data Management and Visualization* is compulsory for Master students — in case you have not taken the course yet, you can find the material here: <http://www.econ.jku.at/t3/staff/ahammer/teaching/pdmv/syllabus.pdf>.

2. REPLICATION PROJECT

The goal of this course is to prepare students for a replication project, where the main econometric results of an applied academic paper will be replicated using statistical software, presented to your fellow students, and be summarized in a seminar paper.

This semester you are free to choose a paper for the replication project yourself. Preferably, it should be published in one of the top-5 economics journals. Note that the *American Economic Review* and the *Journal of the Political Economy* have compulsory data publication requirements, so it should be easy to find an interesting paper there. You may also check the other top-5's (*Econometrica*, *Review of Economics and Statistics*, *Quarterly Journal of Economics*), as authors often voluntarily publish their data there as well. The *American Economic Journals* are also worth a look, as they have compulsory data publication requirements as well. Please send me a suggestion for the paper you want to present as soon as possible. If you cannot find a paper yourself, please contact me.

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Table 1: Replication paper assignments

Student	Paper	Year, Journal	Notes	Link
Artner	Esteban et al.	2012, AER	focus on baseline, additional robustness	Paper
Glaser	Lim et al.	2015, AEJ:App		Paper
Kapeller	Angrist et al.	2006, AER	not the non-parametric bounds	Paper
Karner	Treisman	2016, AER P&P [†]		Paper
Rumerstorfer	Di Tella et al.	2013, JPE	find alternative for OLS, compare with IV	Paper
Strasser	Luca et al.	2015, AER P&P [†]	estimate different binary response models	Paper
Wiesinger	Esteban et al.	2015, JPE	not the theoretical model	Paper

[†] Careful, the AER P&P is *not* peer-reviewed! I therefore expect a careful critique of the empirical methods used and additional robustness checks that are not already in the paper.

Importantly, the paper’s main results should be based on one of the methods which we will cover in this course (see the next section). If side results (such as robustness checks) employ other methods, that’s fine, you will not be required to replicate them. As many applied micro papers nowadays use treatment evaluation techniques that are not covered in this course, you may also look for (1) older papers or (2) experimental papers. Again, if you have troubles finding a paper, contact me a.s.a.p.!

The presentations will take place on **Friday, July 12, 10:15–17:00** in room K 127A. The seminar paper should be turned in after the summer holidays.

3. TOPICS

This is a coarse list of all topics we will cover this semester. Topics may change as we go along. If you are interested in additional contents (e.g., for your thesis), please let me know as soon as possible — there may be time to cover them.

(A) Non-continuous outcomes I

Binary, ordinal, and nominal outcomes

- Wooldridge (2010), 13.1–13.4, 15.1–15.7, 16
- Lecture slides [Link](#)
- Ai & Norton (2003) [Link](#)
- Boes & Winkelmann (2006) [Link](#)

(B) Non-continuous outcomes II

Censored, count, and truncated outcomes; Heckman selection model

- Wooldridge (2010), 17.1–17.7, 18.1–18.3, 19.1–19.8
- Lecture slides [Link](#)
- Heckman (1979) [Link](#)

(C) Panel data

Random and fixed effects, panel estimation with limited dependent variables
maybe also: GLS, fGLS, dynamic panels, GMM

- Wooldridge (2010), 10, *optional*: 11.1–11.6, 15.8, 16.2.4, 16.3.4, 17.8, 18.7
- Fabian Waldinger lecture slides [Link](#)

- Laura Magazzini lecture slides [Link](#)
- Ahammer & Schober (2017) [Link](#)

(D) **Survival analysis**

- Wooldridge (2010), 22
- Cleves et al. (2010), 1, 2, 3, 4, 8.1–8.2, 9.1–9.4, 11, 12
- Steven Jenkins: Survival Analysis with Stata [Link](#)

(E) **Quantile regression**

- Wooldridge (2010), 12.10
- Cameron & Trivedi (2005), 4.6

4. SCHEDULE

The course is held in biweekly meetings à 1.25 hours with 30 minutes break in-between, a detailed schedule can be found in Table 2.

Table 2: Course schedule (will be updated regularly, check back here)

W	Date	Time	Venue	Topic
0	Fr, 08.03.2019	13:45–14:15	K 153C	Introduction
1	Fr, 22.03.2019	13:45–16:45	K 153C	Module A
2	Fr, 05.04.2019	13:45–16:45	K 153C	Module B
3	Fr, 03.05.2019	13:45–16:45	K 153C	Module C
4	Fr, 17.05.2019	13:45–16:45	K 153C	<i>canceled</i>
5	Fr, 14.06.2019	13:45–16:45	K 153C	Module D
6	Fr, 28.06.2019	13:45–16:45	K 153C	Module E
	Fr, 12.07.2019	10:15–17:00	K 127A	<i>Presentations</i>

5. LITERATURE

The main references for this course are

Jeffrey M. Wooldridge (2010), *Econometric Analysis of Cross Section and Panel Data*, Second Edition, MIT Press.

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

Mario Cleves, William W. Gould, Roberto G. Gutierrez, Yulia V. Marchenko (2010), *An Introduction to Survival Analysis Using Stata*, Third Edition, Stata Press.

Table 3: Presentation schedule Friday, July 12 (K 127A)

Karner	10.15–10.45
Glaser	10.45–11.15
10 minutes break	
Wiesinger	11.25–11.55
Maisriemler	11.55–12.25
35 minutes break	
Strasser	13.00–13.30
Kapeller	13.30–14.00
10 minutes break	
Artner	14.10–14.40
Rumersdorfer	14.40–15.10