Seminar in (Micro-)Econometrics

Description

The objective of the seminar is to provide you with experience in conducting your own econometric or empirical project. The seminar builds the basis for your further econometric/empirical research in the context of the Master thesis as well as your further professional career. The list below contains a range of methodological and applied projects from which you may choose one. You may also use the list as a starting point to develop your own topic (in agreement with us). The projects extend and/or apply knowledge on the statistical and econometric methods covered in 'Microeconometrics' and 'Topics in Microeconometrics'.

Target Audience and Prerequisites

The seminar is intended for Master students who have attended at least one of the courses 'Microeconometrics' and 'Topics in Microeconometrics' at the Master level. The ability and willingness to work with Stata and potentially other statistical software are essential.

Assessment

Participation in the seminar involves the following milestones:

1. Preparing a written outline of the term paper (1-2 pages) and discussing it with our team
2. Writing the term paper (10-15 pages)
3. Presenting the term paper (30 minutes)
4. Discussing another term paper (10 minutes)

A successful participation requires completing all four milestones within the time frame indicated below. The grade will be based on the term paper (50%) as well as the presentation of the own project (30%) and the discussion of somebody else's project (20%).

Time Schedule

An introductory meeting will take place on Tuesday, April 1st, at 14:00 o'clock in seminar room S 05. To register for a topic, select your preferred topic via the booking tool in ILIAS and send a short message to Prof. Osikominu explaining why you selected the topic.

Term Week	Date and Place	Activity
Break/week 1	until Apr 05	Choice of a topic
Week 1	Apr 1st, 14:00, S 05	Introductory meeting
Week 2	until Apr 11, by email	Outline due
Week 2-4	By appointment	Discussion of outline
Week 10	Jun 06, 12:00, by email	Term paper due
Week 12	tbd	Workshop with presentations and discussions

List of Topics

1. Abortion Policies in (Western) Europe and Their Effects on Abortions and Fertility

   - Angrist, Joshua D. and Jörn-Steffen Pischke (2009). Mostly Harmless Econometrics: An Empiricist's Companion, Princeton und Oxford: Princeton University Press, Chapter 5.
   - Levine, Paul B. and D. Staiger (2004). Abortion Policy and Fertility Outcomes: the Eastern European Experience, *The Journal of Law and Economics*, 47(1), 223-243, DOI: `https://doi.org/10.1086/380475`.
   - Roth, Jonathan, Pedro H.C. Sant'Anna, Alyssa Bilinski, and John Poe (2023). What's trending in difference-in-differences? A synthesis of the recent econometrics literature, *Journal of Econometrics*, 235, 2218-2244, DOI: `https://doi.org/10.1016/j.jeconom.2023.03.008`.

2. Heat Stroke Warnings and Health Outcomes

   - Saberian, S., A. Heyes, and N. Rivers (2017). Alerts work! Air quality warnings and cycling, *Resource and Energy Economics*, 49, 165-185, DOI: `https://doi.org/10.1016/j.reseneeco.2017.05.004`.
   - Iizuka, T., K. Nishiyama, B. Chen, and K. Eggleston (2021). False alarm? Estimating the marginal value of health signals, *Journal of Public Economics*, 195, 104368, DOI: `https://doi.org/10.1016/j.jpubeco.2021.104368`.

- Cattaneo, Matias D., Rocio Titiunik, and Gonzalo Vazquez-Bare (2020). The Regression Discontinuity Design, in: Luigi Curini and Robert J. Franzese (eds.), *Handbook of Research Methods in Political Science and International Relations*, Sage Publications, ch. 44, 835-857, download from `https://mdcattaneo.github.io/papers/Cattaneo-Titiunik-VazquezBare_2020_Sage.pdf`.

3. Determinants of Reservation Wages and Gender Differences

   - Caliendo, Marco, Wang-Sheng Lee, and Robert Mahlstedt (2017). "The Gender Wage Gap and the Role of Reservation Wages: New Evidence for Unemployed Workers", *Journal of Economic Behavior and Organisation*, 136, 161-173, DOI: `https://doi.org/10.1016/j.jebo.2017.02.011`.
   - Fortin, Nicole, Thomas Lemieux, and Sergio Firpo (2011). "Decomposition Methods in Economics", in: O. Ashenfelter and D. Card (eds.), *Handbook of Labor Economics*, Vol. 4A, Amsterdam: Elsevier Science, ch. 1, 1-102, DOI: `https://doi.org/10.1016/S0169-7218(11)00407-2`.
   - Marina Bonaccolto-Töpfer, Sascha Satlukal (2024). "Gender differences in reservation wages: New evidence for Germany", *Labour Economics*, 91, 102649, DOI: `https://doi.org/10.1016/j.labeco.2024.102649`.

4. Finite Sample Performance of Lasso-Based Inference Methods

   - Belloni, Alexandre, Victor Chernozhukov, and Christian Hansen (2014). High-Dimensional Methods and Inference on Structural and Treatment Effects, *Journal of Economic Perspectives*, 28(2), 29-50, DOI: `https://doi.org/10.1257/jep.28.2.29`.
   - Leeb, Hannes and Benedikt M. Pötscher (2005). Model Selection and Inference: Facts and Fiction, *Econometric Theory*, 21(1), 21-59, DOI: `https://doi.org/10.1017/S0266466605050036`.
   - Wüthrich, Kaspar and Ying Zhu (2021). Omitted Variable Bias of Lasso-Based Inference Methods: A Finite Sample Analysis, *Review of Economics and Statistics*, 105(4), 982-997, DOI: `https://doi.org/10.1162/rest_a_01128`

5. Causal Inference on Average Treatment Effects with Double/Debiased Machine Learning

   - Chernozhukov, Victor, Denis Chetverikov, Mert Demirer, Esther Duflo, Christian Hansen, Whitney Newey, and James Robins (2018). Double/Debiased Machine Learning for Treatment and Structural Parameters, *Econometrics Journal*, 21(1), C1-C68, DOI: `doi.org/10.1111/ectj.12097`.

- Ahrens, Achim, Christian B. Hansen, Mark E. Schaffer, and Thomas Wiemann (2025). Model Averaging and Double Machine Learning, *Journal of Applied Econometrics*, forthcoming, DOI: https://doi.org/10.1002/jae.3103.

6. Inference on Treatment Effect Heterogeneity Using Tree-Based Methods

   - Athey, Susan, Julie Tibshirani, and Stefan Wager (2019). Generalized Random Forests, *The Annals of Statistics*, 47(2), 1148-1178, DOI: https://doi.org/10.1214/18-AOS1709.
   - Chernozhukov, Victor, Christian Hansen, Nathan Kallus, Martin Spindler, Vasilis Syrgkanis (2024). Applied Causal Inference Powered by ML and AI, ch. 14, download from: https://arxiv.org/abs/2403.02467 or https://causalml-book.org/.

7. Difference-in-Differences with a Continuous Treatment and Variation in Treatment Timing

   - Callaway, Brantly, Andrew Goodman-Bacon, and Pedro H.C. Sant'Anna (2024). Difference-in-Differences with a Continuous Treatment, NBER Working Paper No. 32117, National Bureau of Economic Research, Cambridge (MA).
   - Callaway, Brantly, Andrew Goodman-Bacon, and Pedro H.C. Sant'Anna (2024). Event Studies with a Continuous Treatment, *AEA Papers and Proceedings* 114, 601-605, DOI: https://doi.org/10.1257/pandp.20241047.

8. Difference-in-Differences with Interactive Fixed Effects

   - Callaway, Brantly, and Sonia Karami (2023). Treatment effects in interactive fixed effects models with a small number of time periods, *Journal of Econometrics*, 233(1), 184-208, DOI: https://doi.org/10.1016/j.jeconom.2022.02.001.
   - Roth, Jonathan, Pedro H.C. Sant'Anna, Alyssa Bilinski, and John Poe (2023). What's trending in difference-in-differences? A synthesis of the recent econometrics literature, *Journal of Econometrics*, 235(2), 2218-2244, DOI: https://doi.org/10.1016/j.jeconom.2023.03.008.

Additional Readings

Angrist, Joshua D. and Jörn-Steffen Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton and Oxford: Princeton University Press.

Blossfeld, Hans-Peter, Hans-Günther Roßbach, and Jutta von Maurice, eds. (2011). "Education as a Lifelong Process: The German National Educational Panel Study (NEPS)", *Zeitschrift für Erziehungswissenschaft*, 14, Special Issue.

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

Cameron, A. Colin und Pravin K. Trivedi (2022). *Microeconometrics Using Stata*, College Station (TX): Stata Press, second edition.

Greene, William H. (2011). *Econometric Analysis*, Upper Saddle River (NJ): Prentice Hall, seventh edition.

Kitzes, Justin (2018). "The Basic Reproducible Workflow Template", in: Justin Kitzes, Daniel Turek, and Fatma Deniz (eds.), *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. Oakland, CA: University of California Press, ch. 3. Online version available at:
`http://www.practicereproducibleresearch.org/core-chapters/3-basic.html`

Kohler, Ulrich and Frauke Kreuter (2012). *Data Analysis Using Stata*, College Station (TX): Stata Press, second edition.

McCloskey, Deirdre N. (2000). *Economical Writing*, Long Grove (IL): Waveland Press, second edition.

Theisen, Manuel R. (2013). *Wissenschaftliches Arbeiten*, München: Verlag Vahlen, 16th edition.

Wagner, Gert G., Joachim R. Frick, and Jürgen Schupp (2007). "The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements", *Schmollers Jahrbuch*, 127(1), 139-169.

Wagner, Gert G., Jan Göbel, Peter Krause, Rainer Pischner, and Ingo Sieber (2008). "Das Sozio-oekonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohortenstudie für Deutschland – Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender)", *AStA Wirtschafts- und Sozialstatistisches Archiv*, 2(4), 301-328.

Wooldridge, Jeffrey M. (2010): *Econometric Analysis of Cross Section and Panel Data*, Cambridge (MA): MIT Press, second edition.

Wooldridge, Jeffrey M. (2020). *Introductory Econometrics: A Modern Approach*, Boston (MA): Cengage Learning, seventh edition.