

Applied Econometrics
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Helmut Farbmacher

Academic Positions

since 08/2021 Professor (W3) of Applied Econometrics,
TUM School of Management, Technical University of Munich.

2011 - 07/2021 Head of Research Unit “Health Econometrics”, Senior Researcher,
Munich Center for the Economics of Aging, Max Planck Society.

10/18 - 03/2019 Stand-In Professor (W3)
“Economics, esp. Empirical Economic Research”,
Department of Economics, University of Munich.

08/17 - 07/2018 Stand-In Professor (W3) “Microeconometrics”,
Department of Economics, University of Mannheim.

04 - 06/2013 Visiting Research Fellow, Department of Economics,
University of Bristol.

2007 - 2011 Research and Teaching Assistant, Seminar for Empirical Research,
Department of Economics, University of Munich.

Academic Education and Degrees

May 2012 PhD (Dr. oec. publ.; summa cum laude), University of Munich,
Thesis Title: Financial Incentives and Behavior.
Four Essays in Applied Health and Labor Economics.

2007 - 2012 Munich Graduate School of Economics
(Supervisor: Joachim Winter).

January 2007 Diploma (Economics), University of Munich.

Research Interests

Statistical Learning and Data Science; Machine Learning and Artificial Intelligence;
Causal Inference; Health, Labour and Experimental Economics

Papers in Refereed Journals

Farbmacher H., Huber M., Lafférs L., Langen H., Spindler M. “Causal Mediation Analysis with Double Machine Learning”, *Econometrics Journal*, forthcoming,
[doi: https://doi.org/10.1093/ectj/utac003](https://doi.org/10.1093/ectj/utac003).

- Farbmacher H., Löw L., Spindler M. (2021) “An Explainable Attention Network for Fraud Detection in Claims Management”, *Journal of Econometrics*, forthcoming, doi: [10.1016/j.jeconom.2020.05.021](https://doi.org/10.1016/j.jeconom.2020.05.021)
- Farbmacher H., Guber R., Klaassen S. (2021) “Instrument Validity Tests with Causal Forests”, *Journal of Business and Economic Statistics*, forthcoming, doi: [10.1080/07350015.2020.1847122](https://doi.org/10.1080/07350015.2020.1847122)
- Farbmacher H., Kögel H., Spindler M. (2021) “Heterogeneous Effects of Poverty on Attention”, *Labour Economics*, 71, 102028, doi: [10.1016/j.labeco.2021.102028](https://doi.org/10.1016/j.labeco.2021.102028)
- Farbmacher H., Kögel H., Hartmann M. (2021) “Financial Security and Health: Evidence from the Food Stamp Program”, *American Journal of Health Economics*, forthcoming, doi: <https://doi.org/10.1086/717811>.
- Farbmacher H., Bun M., Poldermans R. (2020) “Finite Sample Properties of the GMM Anderson-Rubin Test”, *Econometric Reviews*, 39(10), 1042–1056, doi: [10.1080/07474938.2020.1761149](https://doi.org/10.1080/07474938.2020.1761149)
- Farbmacher H., Bucher-Koenen T., Guber R., Vikstroem J. (2020) “Double Trouble: The Burden of Child Rearing and Working on Maternal Mortality.” *Demography*, 57, 559–576, doi: [10.1007/s13524-020-00868-6](https://doi.org/10.1007/s13524-020-00868-6)
- Farbmacher H., Windmeijer F., Davies N.M., Davey Smith G. (2019) “On the Use of the Lasso for Instrumental Variables Estimation with Some Invalid Instruments.” *Journal of the American Statistical Association*, 114(527), 1339–1350, doi: [10.1080/01621459.2018.1498346](https://doi.org/10.1080/01621459.2018.1498346)
- Farbmacher H., Guber R., Vikstroem J. (2018) “Increasing the Credibility of the Twin Birth Instrument.” *Journal of Applied Econometrics*, 33(3), 457–472, doi: [10.1002/jae.2616](https://doi.org/10.1002/jae.2616)
- Farbmacher H., Bach P., Spindler M. (2018) “Semiparametric Count Data Modeling with an Application to Health Service Demand.” *Econometrics and Statistics*, 8, 125–140, doi: [10.1016/j.ecosta.2017.08.004](https://doi.org/10.1016/j.ecosta.2017.08.004)
- Farbmacher H., Ihle P., Schubert I., Winter J., Wuppermann A. (2017) “Heterogeneous Effects of a Nonlinear Price Schedule for Outpatient Care.” *Health Economics*, 26(10), 1234–1248, doi: [10.1002/hec.3395](https://doi.org/10.1002/hec.3395)
- Farbmacher H., Kögel H. (2017) “Testing under a Special Form of Heteroskedasticity.” *Applied Economics Letters*, 24(4), 264–268, doi: [10.1080/13504851.2016.1181827](https://doi.org/10.1080/13504851.2016.1181827)
- Farbmacher H., Burgess S., Davies N.M., Davey Smith G., Scholder S.v.H.K., Windmeijer F. (2015) “The Many Weak Instrument Problem and Mendelian Randomization.” *Statistics in Medicine*, 34(3), 454–468, doi: [10.1002/sim.6358](https://doi.org/10.1002/sim.6358)
- Farbmacher H. (2013) “Extensions of Hurdle Models for Overdispersed Count Data.” *Health Economics*, 22(11), 1398–1404, doi: [10.1002/hec.2892](https://doi.org/10.1002/hec.2892)
- Farbmacher H., Winter J. (2013) “Per-period Co-payments and the Demand for Health Care: Evidence from Survey and Claims Data.” *Health Economics*, 22(9), 1111–1123, doi: [10.1002/hec.2955](https://doi.org/10.1002/hec.2955)

Farbmacher H. (2012) “GMM with Many Weak Moment Conditions: Replication and Application of Newey and Windmeijer (2009).” *Journal of Applied Econometrics*, 27(2), 343–346, doi: [10.1002/jae.1277](https://doi.org/10.1002/jae.1277)

Farbmacher H. (2011) “Estimation of Hurdle Models for Overdispersed Count Data.” *Stata Journal*, 11(1), 82–94, doi: [10.1177/1536867X1101100105](https://doi.org/10.1177/1536867X1101100105)

Work in Progress

Farbmacher H., Bordt S., Kögel H. “Estimating Grouped Patterns of Heterogeneity in Repeated Public Goods Experiments”, revise and resubmit at *Journal of Econometrics*.

Farbmacher H., Tauchmann H. “Linear Fixed-Effects Estimation with Non-Repeated Outcomes”, FAU Discussion Papers in Economics, 03/2021.

Farbmacher H. “Selection Models with Data-Driven Exclusion Restrictions”.

Programs and Code

Preferred Languages: R, Python, Stata/Mata

Recent projects are stored on github: <https://github.com/farbmacher>

For instance:

- ★ In Stata – `heckman_lasso` – Adaptive post-Lasso Heckman Regression, 2021.
- ★ In R – `LATEtest` – Local Instrument Validity Tests with Causal Forests, 2020.
- ★ In Stata – `sivreg` – (Adaptive) Lasso with Some Invalid Instruments, 2017.

Awards and Grants

Research grant (151,300€), German Research Foundation (DFG), principal investigator: “Learning from high-dimensional, heterogeneous data: Machine learning methods in econometrics”, 2021–2023.

Otto Hahn Medal of the Max Planck Society, 2014.

Travel grant from Fritz Thyssen Stiftung for research stay at the University of Bristol, 2013.

Refereeing

Advances in Statistical Analysis; Alexander von Humboldt Foundation, Applied Economics; B.E. Journal of Economic Analysis and Policy; Communications in Statistics-Simulation and Computation; Health Economics; Journal of Air Transport Management; Journal of Economic Behavior and Organization; Journal of Aging and Social Policy; Journal of Health Economics; Journal of Labour Market Research; Journal of Population Economics; Empirical Economics; Fiscal Studies; Omega; Review of Law & Economics; Stata Journal; Tourism Management.

Teaching Experience

University of Mannheim:

- ★ Regression Shrinkage Methods (M.Sc. level), seminar, Spring Term 2018.
- ★ Topics in Empirical Economics (M.Sc. level), lecture and tutorial, Spring Term 2018.
- ★ Educational Economics (B.Sc. level), seminar, Spring Term 2018.
- ★ Applied Econometrics (M.Sc. level), lecture and tutorial, Fall Term 2017.
- ★ Topics in Empirical Economics (M.Sc. level), lecture and tutorial, Fall Term 2017.
- ★ Applied Health Economics (B.Sc. level), seminar, Fall Term 2017.

University of Munich:

- ★ Econometrics - Advanced Methods (PhD & M.Sc. level), lecture and tutorial, Winter Term 2018/19.
- ★ Applied Health Economics (B.Sc. level), seminar, Winter Term 2018/19.
- ★ Advanced Topics in Econometrics (PhD & M.Sc. level), lecture and tutorial, Winter Term 2014/15.
- ★ Applied Health Economics (M.Sc. level), lecture and tutorial, Summer Term 2014.
- ★ Microeconometrics (PhD & M.Sc. level), tutorial, Summer Term 2011.
- ★ Advanced Econometrics (PhD & M.Sc. level), tutorial, Winter Term 2010/11.
- ★ Empirische Wirtschaftspolitik (B.Sc. level), tutorial, Winter Term 2009/10 & Winter Term 2008/09.
- ★ Empirische Ökonomie (B.Sc. level), tutorial, Summer Term 2008.

University of Augsburg:

- ★ Causal Inference in the Social Sciences (M.Sc. level), lecture, Winter Term 2015/16 & Winter Term 2016/17.

Supervision of seminars, Bachelor-, Master- and PhD theses in Economics and Statistics.

Conference Organization

Organization of the Causal Inference session at the DAGStat conference, Hamburg, 2022.

Organization of the conference “Machine Learning in Economics and Econometrics”, Munich, May 29-30, 2018.

Presentations at Conferences

Annual Conference of the Strategic Management Society: virtually, 2021;

Machine Learning in Labor, Education, and Health Economics: virtually, 2020;

Workshop on Causal Machine Learning: St. Gallen, 2020;

Modelling with Big Data and Machine Learning: London, 2019;

Conference of the International Biometric Society: Lausanne, 2019;
 International Association for Applied Econometrics: Nicosia, 2019;
 UvA-Econometrics Panel Data Workshop: Amsterdam, 2019;
 DGGÖ-Jahrestagung: Augsburg, 2019;
 Statistische Woche: Linz, 2018;
 Verein für Socialpolitik: Vienna, 2017;
 Econometric Study Group Conference: Bristol, 2017;
 Mendelian randomization: Bristol, 2017;
 Annual Conference of the Royal Economic Society: Bristol, 2017;
 DGGÖ-Jahrestagung: Basel, 2017;
 22nd International Panel Data Conference: Fremantle, 2016;
 North American Summer Meeting of the Econometric Society: Philadelphia, 2016;
 Annual Conference of the Royal Economic Society: Sussex, 2016;
 Tagung der Deutschen Arbeitsgemeinschaft Statistik: Göttingen, 2016;
 UvA-Econometrics Panel Data Workshop: Amsterdam, 2016;
 World Congress of the Econometric Society: Montréal, 2015;
 Frontiers of Theoretical Econometrics: Constance, 2015;
 International Association for Applied Econometrics: Thessaloniki, 2015;
 German Network of Young Microeconometricians: Mannheim, 2015;
 Workshop dggö-Ausschuss Gesundheitsökonometrie: Wuppertal, 2014;
 Augsburg Workshop on the Economics of Health Behaviors: Augsburg, 2013;
 European Workshop on Econometrics and Health Economics: Lund, 2012;
 DGGÖ-Jahrestagung: Constance, 2012;
 Econometric Society European Meeting, Oslo 2011;
 European Economic Association: Glasgow, 2010;
 Verein für Socialpolitik: Kiel, 2010.

Personal Information

Nationality	German
Date of Birth	28 th of May 1979
Marital Status	married, two children (15 & 12)