

Applied Econometrics  
TUM School of Management  
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[Homepage](#)

## Helmut Farbmacher

### Academic Positions

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| since 08/2021   | Professor (W3) of Applied Econometrics,<br>TUM School of Management, Technical University of Munich.                             |
| 2011 - 07/2021  | Head of Research Unit “Health Econometrics”, Senior Researcher,<br>Munich Center for the Economics of Aging, Max Planck Society. |
| 10/18 - 03/2019 | Stand-In Professor (W3)<br>“Economics, esp. Empirical Economic Research”,<br>Department of Economics, University of Munich.      |
| 08/17 - 07/2018 | Stand-In Professor (W3) “Microeconometrics”,<br>Department of Economics, University of Mannheim.                                 |
| 04 - 06/2013    | Visiting Research Fellow, Department of Economics,<br>University of Bristol.   |
| 2007 - 2011     | Research and Teaching Assistant, Seminar for Empirical Research,<br>Department of Economics, University of Munich.               |

### Academic Education and Degrees

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| May 2012     | PhD (Dr. oec. publ.; summa cum laude), University of Munich,<br>Thesis Title: Financial Incentives and Behavior.<br>Four Essays in Applied Health and Labor Economics. |
| 2007 - 2012  | Munich Graduate School of Economics<br>(Supervisor: Joachim Winter).   |
| January 2007 | Diploma (Economics), University of Munich.   |

### Research Interests

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

### Papers in Refereed Journals

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Farbmacher H., Tauchmann H. (2023) “Linear Fixed-Effects Estimation with Non-Repeated Outcomes”, *Econometric Reviews*, 42(8), 635–654,  
[doi: 10.1080/07474938.2023.2224658](https://doi.org/10.1080/07474938.2023.2224658) (Best Paper Award 2023)

- Farbmacher H., Löw L., Spindler M. (2022) “An Explainable Attention Network for Fraud Detection in Claims Management”, *Journal of Econometrics*, 228(2), 244–258, doi: [10.1016/j.jeconom.2020.05.021](https://doi.org/10.1016/j.jeconom.2020.05.021)
- Farbmacher H., Guber R., Klaassen S. (2022) “Instrument Validity Tests with Causal Forests”, *Journal of Business and Economic Statistics*, 40(2), 605–614, doi: [10.1080/07350015.2020.1847122](https://doi.org/10.1080/07350015.2020.1847122)
- Farbmacher H., Huber M., Lafférs L., Langen H., Spindler M. (2022) “Causal Mediation Analysis with Double Machine Learning”, *Econometrics Journal*, 25(2), 277–300, doi: <https://doi.org/10.1093/ectj/utac003>.
- Farbmacher H., Kögel H., Hartmann M. (2022) “Economic Hardship, Sleep, and Self-Rated Health: Evidence from the Supplemental Nutrition Assistance Program (SNAP)”, *American Journal of Health Economics*, 8(2), 216–251, doi: <https://doi.org/10.1086/717811>
- 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., 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

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Farbmacher H., Apfel N., Groh R., Huber M., Langen H. “Detecting Grouped Local Average Treatment Effects and Selecting True Instruments”, [arXiv: 2207.04481](https://arxiv.org/abs/2207.04481)

**Revise and resubmit: Journal of Applied Econometrics**

Farbmacher H., Groh R., Mühlegger M., Vollert G. “Revisiting the Many Instruments Problem using Random Matrix Theory”, [arXiv: 2408.08580](https://arxiv.org/abs/2408.08580)

Farbmacher H., Groh R. “Killed in and after Action: The Long-Lasting Effects of Combat Exposure on Mortality”, [arXiv: 2511.22776](https://arxiv.org/abs/2511.22776)

## Programs and Code

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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

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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

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Advances in Statistical Analysis; Applied Economics; B.E. Journal of Economic Analysis and Policy; Communications in Statistics–Simulation and Computation; Empirical Economics; European Journal of Ageing; Fiscal Studies; Health Economics; Journal of Air Transport Management; Journal of Econometrics; Journal of Economic Behavior and Organization; Journal of Aging and Social Policy; Journal of Applied Econometrics; Journal of Behavioral and Experimental Economics; Journal of Health Economics; Journal of Labour Market Research; Journal of Population Economics; Labour Economics; Omega; Review of Economics and Statistics; Review of Law & Economics; Stata Journal; Strategic Organization; Statistics; Tourism Management.

## PhD students

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Rebecca Groh, Yasemin Karamik, Michael Mühlegger, Gabriel Vollert

## Teaching Experience

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### *Technical University of Munich:*

- ★ Advanced Econometrics & Statistical Learning (PhD level), lecture and tutorial, every Winter Term.
- ★ Microeconometrics for Big Data (M.Sc. and B.Sc. level), lecture and tutorial, every Winter Term.
- ★ Advanced Econometrics (M.Sc. level), lecture and tutorial, every Winter Term.
- ★ Applied Econometrics (B.Sc. level), lecture and tutorial, every Summer Term.

### *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, 2015 and 2016.