# Amrei Luise Stammann

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## Research Interests

**Panel and Network Data Econometrics**, in particular high-dimensional inference (e.g. bias reduction for fixed effects estimators)
**Computational Econometrics**, in particular algorithms for high-dimensional fixed effects estimators
**Applied Econometrics**, in particular applications in International Trade
**Scientific Software Development** (R-packages)

## Education

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| 2014 – 2019 | **PhD** in Economics, Heinrich-Heine University Düsseldorf<br>Thesis: *"Nonlinear Panel Data Models with High-Dimensional Fixed Effects"* (summa cum laude)<br>First supervisor: Florian Heiss, second supervisor: Joel Stiebale<br>Date of Defense: December 10, 2019 |
| 2012 – 2014 | **Master of Science** in Economics, Heinrich-Heine University Düsseldorf |
| 2009 – 2012 | **Bachelor of Science** in Economics, University of Cologne |
| 2009 – 2010 | Studies in B.Sc. Business Mathematics, University of Cologne |

## Positions & Affiliation

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| Since 2020 | Postdoctoral researcher, Chair of Empirical Economics, Ruhr-University Bochum |
| Since 2021 | Research Affiliate, Research Data Center at RWI-Leibniz Institute for Economic Research, Essen |
| 2019 – 2020 | Postdoctoral researcher, Chair of Statistics and Econometrics, Heinrich-Heine University Düsseldorf |
| 2014 – 2019 | Research assistant, Chair of Statistics and Econometrics, Heinrich-Heine University Düsseldorf |
| 2014 | Student assistant, Chair of Statistics and Econometrics, Heinrich-Heine University Düsseldorf |
| 2013 – 2014 | Student assistant, Düsseldorf Institute for Competition Economics, Heinrich-Heine University Düsseldorf |
| 2012 – 2013 | Student assistant, Chair of Applied Analysis, Heinrich-Heine University Düsseldorf |

## Research Visits

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| May 2022 | Nuffield College (University of Oxford), 3 weeks, Host: Martin Weidner |

## Publications

2022 *"Latent Unbalancedness in Three-Way Gravity Models"* (with Daniel Czarnowske), in ***Economics Letters***, 220, 110861.

2021 *"Worth the Pain? Firms' Exporting Behaviour to Countries under Sanctions"* (with Matthieu Crozet, Julian Hinz, and Joschka Wanner), in ***European Economic Review***, 134, 103683.

## Working Papers

*"Debiased Fixed Effects Estimation of Binary Logit Models with Three-Dimensional Panel Data"* (**job market paper**), arXiv preprint arXiv:2311.04073.

**Abstract:** *Naive maximum likelihood estimation of binary logit models with fixed effects leads to unreliable inference due to the incidental parameter problem. We study the case of three-dimensional panel data, where the model includes three sets of additive and overlapping unobserved effects. This encompasses models for network panel data, where senders and receivers maintain bilateral relationships over time, and fixed effects account for unobserved heterogeneity at the sender-time, receiver-time, and sender-receiver levels. In an asymptotic framework, where all three panel dimensions grow large at constant relative rates, we characterize the leading bias of the naive estimator. The inference problem we identify is particularly severe, as it is not possible to balance the order of the bias and the standard deviation. As a consequence, the naive estimator has a degenerating asymptotic distribution, which exacerbates the inference problem relative to other fixed effects estimators studied in the literature. To resolve the inference problem, we derive explicit expressions to debias the fixed effects estimator.*

*"State Dependence and Unobserved Heterogeneity in the Extensive Margin of Trade"* (with Julian Hinz and Joschka Wanner), arXiv preprint arXiv:2004.12655. (previously called "Persistent Zeros: The Extensive Margin of Trade")

*Inference in Unbalanced Panel Data Models with Interactive Fixed Effects* (with Daniel Czarnowske), preprint arXiv:2004.03414.

*"Fixed Effects Binary Choice Models: Estimation and Inference with Long Panels"* (with Daniel Czarnowske), arXiv preprint arXiv:1904.04217.

*"Fast and Feasible Estimation of Generalized Linear Models with High-Dimensional k-way Fixed Effects"*, arXiv preprint arXiv:1707.01815.

*"Estimating Fixed Effects Logit Models with Large Panel Data"* (with Florian Heiss and Daniel McFadden), In VfS Annual Conference 2016 (Augsburg): Demographic Change (No. 145837). Verein für Socialpolitik/German Economic Association.

## Work in Progress

*"Distribution Regression with Weakly Exogenous Regressors"* (with Philipp Berger and Daniel Czarnowske)

*"Latent Structures in Directed Network Models: With an Application to Cross-Section Gravity Models"* (with Daniel Czarnowske)

*"Estimation of Two-Way Fixed Effects Logit Models via GMM"* (with Cavit Pakel)

*"On the Incidental Parameter Problem in Fractional Response Models with Fixed Effects"*

## Policy Columns

*"Firms' exporting behaviour to countries under sanctions"* (with Matthieu Crozet, Julian Hinz, and Joschka Wanner), VoxEU.

## Software Packages

Maintainer and author of the R-package "*alpaca*: Fit GLM's with High-Dimensional k-Way Fixed Effects" (with Daniel Czarnowske)

Maintainer and author of the R-package "*bife*: Binary Choice Models with Fixed Effects" (with Daniel Czarnowske, Florian Heiss, Daniel McFadden)

## Conference & Seminar Presentations

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| 2023 | Università Politecnica delle Marche, Statistische Woche (Annual Meeting of the German Statistical Society) |
| 2022 | RuhrMetrics Seminar, Econometrics Lunch Seminar (University of Oxford), International Panel Data Conference, Gravity at Sixty Workshop (Wifo, Vienna), International Conference on Computational and Financial Econometrics |
| 2021 | CASS Business School, International Panel Data Conference |
| 2020 | European Economic Association |
| 2019 | Brown Bag Seminar (Düsseldorf Institute for Competition Economics), European Trade Study Group, International Panel Data Conference |
| 2018 | Empirical Research Group (Düsseldorf Institute for Competition Economics) |
| 2017 | Statistische Woche (Annual Meeting of the German Statistical Society) |
| 2016 | Annual meeting of the Verein für Socialpolitik (German Economic Association), Statistische Woche (Annual Meeting of the German Statistical Society) |
| 2015 | International Conference on Computational and Methodological Statistics, PhD Workshop (Düsseldorf Institute for Competition Economics) |

## Participation in Third-Party Funded Projects

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| Since 2020 | Coordinator of the project *"Digitale Daten in den Wirtschafts- und Sozialwissenschaften"* (Engl. "Digital data in economics and social sciences"), Principal investigators T. Bauer, C. Jentsch, and C. Hanck, funded by Mercator Research Center Ruhr (900.000 €) |
| 2017 – 2019 | Research assistant in the project *"Förderung statistischer Lehr- und Lernprozesse in Großveranstaltungen mittels eines Flipped-Classroom-Designs"* (Engl. "Fostering statistical teaching and learning processes in large-scale courses using a flipped classroom design"), Principal investigators M. Förster, T. Schank, F. Heiss, and S. Klinke, funded by BMBF (470.000 € ) |

## Teaching Experience

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| Since 2020 | Tutorial in "Microeconometrics" and "Introduction to Microeconometrics" (Master), Ruhr-University Bochum |
| 2020 - 2022 | Assistance for "Seminar in Empirical Economics" (Bachelor), Ruhr-University Bochum |
| 2016 | Lecture and Tutorial in "Introduction to Latex" (Bachelor / Master), Heinrich-Heine University Düsseldorf |
| 2015 - 2020 | Tutorial in "Advanced Econometrics II" (Master / PhD), Heinrich-Heine University Düsseldorf |
| 2014 - 2020 | Tutorial in "Econometrics" (Master), Heinrich-Heine University Düsseldorf |
| 2014 | Tutorial in "Statistical Methods II" (Bachelor), Heinrich-Heine University Düsseldorf |

## Voluntary Service in University Self-Administration

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| 2020 - 2023 | Membership in the Early Career Researchers Board, Ruhr-University Bochum |

## Refereeing

Econometric Reviews, Journal of Business Venturing, Journal of Econometric Methods, Quantitative Economics

## Languages

German (native), English (fluent)

## Technical Skills

**Statistical Software:** R (proficient), Matlab (basic), Stata (basic); **Typewriting:** Latex

## References

Prof. Dr. Florian Heiss
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Prof. Dr. Joel Stiebale
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Prof. Dr. Joschka Wanner
Chair of Quantitative International and Environmental Economics
Julius-Maximilians-University Würzburg
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Prof. Dr. Thomas K. Bauer
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