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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

2014 – 2019	PhD in Economics, Heinrich-Heine University Düsseldorf Thesis: <i>“Nonlinear Panel Data Models with High-Dimensional Fixed Effects”</i> (summa cum laude) First supervisor: Florian Heiss, second supervisor: Joel Stiebale 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

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

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

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| 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

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| 2023 | <p>“Debiased Fixed Effects Estimation of Binary Logit Models with Three-Dimensional Panel Data” (job market paper)</p> <p>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.</p> |
| 2020 | “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”) |
| 2020 | Inference in Unbalanced Panel Data Models with Interactive Fixed Effects (with Daniel Czarnowske), preprint arXiv:2004.03414. |
| 2019 | “Fixed Effects Binary Choice Models: Estimation and Inference with Long Panels” (with Daniel Czarnowske), arXiv preprint arXiv:1904.04217. |
| 2017 | “Fast and Feasible Estimation of Generalized Linear Models with High-Dimensional k-way Fixed Effects” , arXiv preprint arXiv:1707.01815. |
| 2016 | “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

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

Since 2020	Coordinator of the project “ <i>Digitale Daten in den Wirtschafts- und Sozialwissenschaften</i> ” (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 “ <i>Förderung statistischer Lehr- und Lernprozesse in Großveranstaltungen mittels eines Flipped-Classroom-Designs</i> ” (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

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

2020 - 2023	Membership in the Early Career Researchers Board, Ruhr-University Bochum
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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
Chair of Statistics & Econometrics
Heinrich-Heine University Düsseldorf
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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. Joel Stiebale
Düsseldorf Institute for Competition Economics (DICE)
Heinrich-Heine University Düsseldorf
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Prof. Dr. Thomas K. Bauer
Chair of Empirical Economics & Vice-President of RWI-
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