

Timo Schenk

Postdoctoral Fellow at Aarhus University

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EDUCATION

University of Amsterdam PhD in Economics. Expected graduation: June 2024.

Brown University Visiting Research Fellow, spring 2023, invited by Toru Kitagawa

Tinbergen Institute MPhil in Economics, 2018-2020 (cum laude)

University of Mannheim BSc in Economics, 2014-2017 (distinction)

University of Warwick Visiting student, 2016

RESEARCH

Primary field: Econometrics

Secondary fields: Causal inference, Applied microeconometrics

Working Papers

1. [Mediation Analysis in Difference-in-Differences Designs](#) [**Job Market Paper**] (*honorable mention, IAAE 2023*)

Abstract: This paper studies identification of indirect effects in difference-in-differences (DiD) designs, which allows researchers to quantify the importance of a mechanism behind the average treatment effect. Building on concepts from mediation analysis, I presents two complementary identification approaches that are straightforward to implement in practice. The sequential DiD approach requires one additional parallel trend assumption, restrictions on the mediator effect heterogeneity and monotonicity of the treatment effects on the mediator. Secondly, I present a two-sample approach, which includes results from other studies. I present inference procedures on the ratio of indirect and total effect that remain reliable when the effects are weak. I revisit two empirical studies to show how both approaches can be implemented in practice.

2. [Time-Weighted Difference-in-Differences: Accounting for Common Factors in Short T Panels](#) (*R&R Journal of Business & Economic Statistics*)

Abstract: I propose a time-weighted difference-in-differences (TWDID) estimation approach that is robust against time-varying common factors in short T panels. Time weighting substantially reduces both bias and variance compared to an unweighted DID estimator through balancing the pre-treatment and post-treatment factors. To conduct valid inference on the average treatment effect, I develop a correction term that adjusts conventional standard errors for the presence of weight estimation uncertainty. Revisiting a study on the effect of a cap-and-trade program on NOx emissions, TWDID estimation reduces the standard errors of the estimated treatment effect by 10% compared to a conventional DID approach.

Work in Progress

Policy Evaluation with Trending Data (*with Andreas Pick*)

Selected Talks at Seminars, Conferences & Workshops

2023	Bristol ESG (Bristol); IPDC (Amsterdam); IAAE Conference (Oslo); TI PhD Seminar (Amsterdam); NESG Conference (Rotterdam); TI PhD Jamboree; Econometrics Coffee (Brown University); PhD Lunch Seminar
2022	International Econometrics PhD Conference (Rotterdam); Panel Data Workshop (Amsterdam); ESEM Summer Meeting (Milan); IAAE Conference (London); IPDC (Bertinoro); NESG Conference (Groningen) ^P ; IAERE Conference (Cagliari); PhD Lunch Seminar ^o

^P poster, ^o online

TEACHING

BACHELOR	Econometrics ^{t,c} , Mathematical and Empirical Finance ^t , Empirical Project ^{t,c} , Thesis supervision, Microeconomics A ^{t,r} , Statistics 1 ^{t,c} , Mathematics for Economists ^{t,r}
MASTER/PHD	Advanced Econometrics 1 ^c , Financial Econometrics ^c , Measure Theory and Asymptotic Statistics ^t , Microeconomics 3: Information and Contract Theory ^t
OTHER	Causal inference (TA for an online class by Scott Cunningham); Introduction to STATA (Crash course for C4ED employees)

^t tutorial, ^c computer lab, ^r revision lecture

ACADEMIC EXPERIENCE

2017 - 2018	Research Assistant for Prof. Markus Frölich, University of Mannheim
2017 - 2018	Junior Research Manager, C4ED – Centre for Evaluation and Development

OTHER

Awards	Honorable mention at the IAAE 2023
Grants & Scholarships	Henri J. Diesbergenfonds travel grant (2023), IAAE student travel grant (2022), Tinbergen Institute full scholarship (2019-2020)
Programming	R, L ^A T _E X, Python, STATA, Matlab, Git
Languages	German (native), English (proficient, C2), Dutch (independent/proficient, B2/C1)
Services	Board member of the university-wide Central PhD Council, representing all 134 PhD candidates of my faculty. Member of the faculty-level PhD Council.

REFERENCES

Prof. Dr. Frank Kleibergen Professor of Econometrics Department of Economics University of Amsterdam f.r.kleibergen@uva.nl	Dr. Andreas Pick Associate Professor Department of Econometrics Erasmus University Rotterdam pick@ese.eur.nl	Prof. Toru Kitagawa Professor of Economics Department of Economics Brown University toru_kitagawa@brown.edu
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