

TOBIAS FELIX WERNER

Mail: werner@mpib-berlin.mpg.de

Max Planck Institute for Human Development ◊ Lentzeallee 94, 14195 ◊ Berlin, Germany

Website: tfwerner.com ◊ Github: github.com/ToFeWe

RESEARCH INTERESTS

Industrial Organization, Economics of Artificial Intelligence, and Experimental Economics

CURRENT ACADEMIC POSITION & AFFILIATIONS

**Postdoctoral Fellow – Max Planck Institute for Human Development–
Center for Humans and Machines** *since 06/2023*

Director: Prof. Iyad Rahwan, PhD

Research Affiliate – Düsseldorf Institute for Competition Economics (DICE) *since 06/2023*

Fellow – Berlin Centre for Consumer Policies (BCCP) *since 09/2023*

Visiting Postdoctoral Fellow – Harvard University *(planned) Spring 2025*

Host: David C. Parkes

EDUCATION

Heinrich-Heine-University Düsseldorf, Germany *04/2019 - 05/2023*

Düsseldorf Institute for Competition Economics (DICE)

Doctoral degree (Dr. rer. pol.) in Economics (*summa cum laude*)

Supervisors: Prof. Dr. Hans-Theo Normann & Prof. Dr. Matthias Hunold

University of Bonn, Germany *10/2016 - 03/2019*

M.Sc. in Economics

Instituto Tecnológico Autónomo de México, Mexico *01/2014 - 06/2014*

Exchange Semester

University of Cologne, Germany *04/2012 - 09/2015*

B.Sc. in Economics (Minor: Political Science)

JOB MARKET PAPER

Algorithmic and Human Collusion (single authored)

*Revise and resubmit at **The Economic Journal***

SSRN Link

Abstract:

I study self-learning pricing algorithms and show that they are collusive in market simulations. To derive a counterfactual that resembles traditional tacit collusion, I conduct market experiments with humans in the same environment. Across different treatments, I vary the market size and the number of firms that use a pricing algorithm. I demonstrate that oligopoly markets can become more collusive if algorithms make pricing decisions instead of humans. In two-firm markets, prices are weakly increasing in the number of algorithms in the market. In three-firm markets, algorithms weaken competition if most firms use an algorithm and human sellers are inexperienced.

FORTHCOMING AND CONDITIONALLY ACCEPTED PAPERS

Human-machine social systems (with Milena Tsvetkova, Taha Yasseri, and Niccolo Pescetelli)

*Forthcoming at **Nature Human Behaviour***

arxiv Link

What Drives Demand for Loot Boxes? An Experimental Study (with Simon Cordes and Markus Dertwinkel-Kalt)

*Forthcoming at **Journal of Economic Behavior & Organization***

SSRN Link

Willingness to volunteer among remote workers is insensitive to the team size (with Adrian Hillebrand and Fabian Winter)

*Accepted pending minor revisions at **Experimental Economics***

ZEW Discussion Paper No.22-050

Algorithmic Price Recommendations and Collusion: Experimental Evidence (with Matthias Hunold)

*Accepted pending minor revisions at **Experimental Economics***

SSRN Link

WORKING PAPERS

Algorithmic Cooperation (with Bernhard Kasberger, Simon Martin and Hans-Theo Normann)

*Revise and resubmit at **Games and Economic Behavior***

SSRN Link

Experimental Evidence That Conversational Artificial Intelligence Can Steer Consumer Behavior Without Detection (with Ivan Soraperra, Emilio Calvano, David C. Parkes and Iyad Rahwan; first author)

arXiv Link

Human-Machine Interactions in Pricing: Evidence from Two Large-Scale Field Experiments (with Tobias Huelden, Vitalijs Jascisens and Lars Roemheld)

SSRN Link (Submitted)

WORK IN PROGRESS

Delegation to Pricing Algorithms: Experimental Evidence (with Hans-Theo Normann, Nina Rulié and Olaf Stypa)

(Work in progress)

Asymmetric Cournot Competition (with Simon Martin, Hans-Theo Normann and Paul Püplichhuisen)

(Work in progress)

Firms' Response to Non-Directed Attention Allocation (with Markus Dertwinkel-Kalt, Hans-Theo Normann and Jan-Niklas Tiede)

(Work in progress)

GRANTS & AWARDS

Add-on Fellowship for Interdisciplinary Economics and Interdisciplinary Business Administration by the Joachim Herz Stiftung

12,500 Euro

Best Doctoral Dissertation of the Year 2023, Faculty of Economics, Heinrich-Heine-University Düsseldorf

3,000 Euro

CONFERENCE PRESENTATIONS, INVITED TALKS, AND WORKSHOPS

2024

Max Planck Institute for Research on Collective Goods, Thurgau Experimental Economics Meeting on Technology and Human Behaviour, Workshop: Computational Tools for Experimental Economists at Purdue University, Barcelona School of Economics Summer Forum Workshop on Computational and Experimental Economics, University of Southampton, Berlin Behavioral Economics Seminar

2023

Applied Science Brown Bag at Zalando, University of Münster, University of Potsdam, ESA World 2023, Workshop on Interactions of Humans and Algorithms at TU Berlin, International Conference on Computational Social Science 2023, EARIE 2023, Conference on Artificial Intelligence and the Economy at Hertie Berlin, Verein für Socialpolitik Jahrestagung 2023, Workshop on Competing with Algorithms and Data: liability and regulation issues at Paris Nanterre University, Connect AI Berlin: Advancing AI Research and Societal Impact

2022

CRESSE 2022, ESA World 2022, Stellenbosch University, MACCI Annual Conference 2022, RGS Conference 2022, Max-Planck-Institute for Human Development

2021

ESA Global Meeting 2021, DICE Brown Bag (2x), DICE PhD Research Workshop, HWR Berlin, NBER Young Scholars Workshop on the Economics of Artificial Intelligence

2020

Verein für Socialpolitik Jahrestagung 2020, ESA Global Meeting 2020, DICE PhD Research Workshop

2019

Max Planck Institute for Research on Collective Goods, DICE PhD Research Workshop (2x)

TEACHING EXPERIENCE

Competition in the Digital Economy (B.Sc. at the University of Potsdam) *2023*

Programming Experiments in oTree (M.Sc., Ph.D.) *2021*

Seminar “Algorithms: Interaction between humans and machines” (M.Sc.) *2021*

Seminar “Algorithms & Competition” (M.Sc.) *2020*

Digital Economy (TA, B.Sc.) *2019, 2020, 2021, 2022*

Co-supervision of several master (4x) and bachelor thesis (1x)

REFEREEING

Electronic Commerce Research, Economic Inquiry

RESPONSIBILITIES

Mentor and team lead for oTree and experimental tools at CHM

since 09/2023

Elected representative of the Düsseldorf Economics Ph.D. Students	10/2020 - 05/2022
Coordination and Editorial Assistance for the DICE Policy Brief	09/2020 - 12/2022

NON-ACADEMIC WORK EXPERIENCE

Zalando <i>Research Affiliate</i>	02/2023 - 05/2024 <i>Berlin, Germany</i>
Zalando <i>AI Research Fellowship</i>	08/2022 - 01/2023 <i>Berlin, Germany</i>
Max Planck Institute for Research on Collective Goods <i>Research Assistant and Intern</i>	12/2016 - 03/2019 <i>Bonn, Germany</i>
AXA Data Innovation Lab <i>Data Science Intern</i>	04/2018 - 08/2018 <i>Cologne, Germany</i>
Federal Cartel Office (Bundeskartellamt) <i>Intern</i>	04/2016 - 07/2016 <i>Bonn, Germany</i>
Center for European Economic Research (ZEW) <i>Research Intern</i>	01/2016 - 04/2016 <i>Mannheim, Germany</i>
DICE Consult <i>Consulting Intern</i>	10/2015 - 12/2015 <i>Düsseldorf, Germany</i>

SKILLS

Programming languages	Python, R (<i>Advanced</i>)
Experimental Economics Frameworks	Bash, Javascript/Node.js, Java, Julia, Stata (<i>Basic</i>)
Other skills	o-Tree and z-Tree
Experimental Environments	Git, SQL, Scrum, L ^A T _E X, MS office, familiar with cloud services (AWS, Azure, Databricks, and Heroku)
Languages	Prolific, MTurk, Clickworker, Laboratory, Field German (Native), English (Fluent), Spanish (Basic), Russian (365+ days Duolingo streak)

ACADEMIC REFERENCES

Prof. Dr. Hans-Theo Normann
Düsseldorf Institute for Competition Economics
Heinrich Heine University Düsseldorf
Universitätsstr. 1
40225 Düsseldorf, Germany
☎ +49 211 8115297
✉ normann@hhu.de

Prof. Iyad Rahwan, PhD
Center for Humans and Machines
Max Planck Institute for Human Development
Lentzeallee 94
14195 Berlin, Germany
☎ +49 30 82406753
✉ sekrahwan@mpib-berlin.mpg.de

Prof. Emilio Calvano, PhD
Università LUISS Guido Carli
Viale Romania, 32
00197 Rome, Italy
☎ +39 051 20 98122
✉ ecalvano@luiss.it