Tianyu Ma

UHG B4-107, Universität Bielefeld | Universitätsstraße 25, 33615 Bielefeld, Germany
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Education

Center for Mathematical Economics, Universität Bielefeld, Germany Nov 2023 – present
Ph.D Economics
RTG 2865: Coping with Uncertainty in Dynamic Economies
Supervisors: **Prof. Dr. Frank Riedel**, Prof. Dr. Dominik Karos

Universitat Autònoma de Barcelona, Spain Sep 2021 – Jul 2023
M.Res. Economics Analysis
Thesis: *A Dual-self Equilibrium of Games with Heterogeneous Ambiguity Attitudes*
Supervisor: Dr. Fernando Payró-Chew

Universidad Carlos III de Madrid, Spain Sep 2020 – Sep 2021
M.Sc. Economics
Thesis: *Confucian Social Norms and Household Savings Rate in China*
Supervisor: Dr. Álvaro Name-Correa

University of Nottingham Ningbo China Sep 2016 – Jul 2020
B.Sc. (Hons) International Economics and Trade
Dissertation: *Organ Donation Model with Biological Types Matching*
Supervisor: Dr. Chee-Kian Leong

Fields of Interest

Micro Theory • Decision Theory • Mechanism Design • Contract Design • AI Economics

Working Papers

First-price Sealed-bid Auctions with Smoothly Ambiguity Averse Bidders

We analyze equilibrium bidding behavior in first-price sealed-bid auctions where bidders exhibit smooth ambiguity aversion regarding the distribution of their rivals' valuations. Using the Smooth Ambiguity Model *à la* Klibanoff et al. (2005), we disentangle ambiguity attitudes from risk preferences to characterize a unique symmetric non-decreasing equilibrium. We establish a formal equivalence between this setting and a standard subjective expected utility auction where bidders employ a state-dependent "effective" posterior belief. The comparative statics reveal that, under weak assumptions, greater ambiguity aversion leads to more aggressive bidding. We show the bidding function converges to the equilibrium bidding of the maximin expected utility model (Lo, 1998) as ambiguity aversion attitude becomes infinite. Furthermore, our framework offers an interpretation where ambiguity over independent private values mimics an auction with affiliated private values, but where ambiguity aversion systematically distorts the bidders' posterior beliefs. Finally, we demonstrate that there is no clear welfare ranking between first- and second-price auctions under smooth ambiguity.

Work in Progress

Ambiguous Contracts with an α-MEU Agent

Presentations

CUDE retreat	2024, 2025
BiGSEM Colloquium	2024, 2025, 2026
SASCA Ph.D. Conference in Economics 2025, Sassari, Italy	Sep 11–12, 2025
2026 CSW Asia Meeting of the Econometric Society, Abu Dhabi, UAE	Jan 23–25, 2026
QED Jamboree 2026, Padua, Italy	Apr 17–18, 2026
FUR 2026, University of Alicante, Spain	Jun 10–12, 2026

Other Activities

EPICENTER Summer Course in Epistemic Game Theory, Maastricht University	Jul 1 – 12, 2024
CRC TR 224 Summer School on Recent Advances in Mechanism and Information Design, Annweiler, Germany	Jul 19 – 23, 2024
New Problems in Institution Design, summer school by Prof. Dr. Philipp Strack, Gerzensee, Switzerland	Jul 28 – Aug 1, 2025
Organization of 20th BiGSEM Workshop, Bielefeld, Germany	Dec 15 – 16, 2025
Trimester Program “Advances in Mechanism Design”, Bonn, Germany	May 18 – Jun 12, 2026

Skills

Programming	Python, Julia, Perl, SQL
Tools	LaTeX, Stata, Matlab, Mathematica
Languages	Chinese (native), English (fluent)

References

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Prof. Dr. Dominik Karos
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Bielefeld University
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