Gabriel Martinez-Roa

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Education

University of Wisconsin - Madison, 2013 to present
Ph.D. Candidate in Economics
Thesis Title: "Essays on Information and Economic Networks"
M.S. in Economics, University of Wisconsin - Madison, 2016
B.S. in Economics, CIDE , *summa cum laude*, 2012

References:

Marzena Rostek
University of Wisconsin–Madison
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William H. Sandholm
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Marek Weretka
University of Wisconsin–Madison
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Antonio Penta
ICREA-UPF and Barcelona, GSE
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Research Fields

Information Economics, Empirical Industrial Organization, Applied Microeconomic Theory,

Working Papers

"Bayesian Persuasion in the Digital Age" (JMP)
"Dynamic Trading in Decentralized Markets" (with M. Rostek)
"Games with Multilateral Contracts" (with M. Rostek and J. H. Yoon)

Work in Progress

"Hospital Incentives under Capitation and Fee-for-Service Contracts" (with N. Serna)
"Optimal Echo Chambers" (with N. Tenev)
"Games among Groups" (with M. Rostek and J. H. Yoon)

Teaching Experience

Teaching Assistant at University of Wisconsin - Madison
Fin 300: Introduction to Finance (Undergraduate - Fall 2019) - NA
Fin 325: Corporate Finance (Undergraduate - Fall 2019) - NA
Econ 521: Game Theory (Undergraduate - Summer 2019) - NA
Econ 703: Mathematics for Economists (Ph.D. - Fall 2017, 2016) - Distinguished (Both)
Econ 713: Micro Theory Sequence II (Ph.D. - Spring 2016) - Excellent
Econ 711: Micro Theory Sequence I (Ph.D. - Fall 2015) - Excellent
Econ 101: Principles of Microeconomics (Undergraduate - Spring 2015) - Excellent
Econ 302: Intermediate Mcaroeconomics Theory (Undergraduate - Fall 2014) - Good

Teaching Assistant at Centro de Investigacion y Docencia Economicas (CIDE)
Advanced Microeconomics (Undergraduate - Fall 2012)
Game Theory (Undergraduate - Spring 2012)
Intermediate Microeconomics (Undergraduate - Spring 2011)
Intermediate Macroeconomics (Undergraduate - Fall 2010)

Research Experience and Other Employment

Research Assistant for Professor Scott Gehlbach (UW-Madison: Political Sciene, Winter 2017)
Research Assistant for Professor Marzena Rostek (UW-Madison, Spring 2017 Spring 2018)
Research Assistant for Professor William H. Sandholm (UW-Madison, Spring 2018)
Summer Research Internship at the Financial Stability Unit under Professor Alberto Romero (Banxico, Summer 2015)
Research Assistant for Professor Maria Jose Roa and Alberto Ortiz (CEMLA, 2012-2013)
Research assistant for Professor Victor Carreon and Kurt Unger (CIDE, 2011-2012)

Honors, Scholarships and Fellowships

Graduate School University Fellowship (UW-Madison, 2013 - Spring 2019)
Conference Presentation Fund (Fall 2018)
Distinguished Teaching Assistant Award (UW-Madison, Fall 2016)
Exchange Program Fellowship for Duke University (CIDE, Fall 2011)
Academic Excellence Fellowship (CIDE, 2008-2011)

Conferences and Seminars

Midwest Economic Theory Conference (Washington University in St. Louis, Fall 2019)
The 30th Stony Brook International Conference on Game Theory (Summer 2019)
Midwest Economic Theory Conference (Vanderbilt University, Fall 2018)
UW-Madison Theory Workshop (Fall 2018, Fall 2019)
Theory Research Team, UW-Madison Student Workshop (Spring 2018 Fall 2018)
Central Bank of Mexico (Banxico), Financial Stability Unit Seminar (Summer 2015)
Center for LA Monetary Studies (CEMLA), Young Researchers' Seminars (Spring 2013)

Student Involvement Activities

Instructor at the annual training for new Teaching Assistants (UW-Madison, 2018, 2019)
Organizer of the research seminar for theory students, TRT (UW-Madison, 2017-2018)
Leader of a cultural student organization, open to the public (UW-Madison, 2017-2018)

Advisor for the MS students' summer research project (UW-Madison, Summer 2017)
President of the Ph.D. students' association, JRC (UW-Madison, 2015-2016)

Programing Languages

MATLAB, Stata, EViews, R, Fortran, Excel

Spoken Languages

Spanish (Native), English (Fluent), Portuguese (Beginner)

Working Papers' Abstracts

"Bayesian Persuasion in the Digital Age" (JMP)

In digital platforms, agents have vast access to information, but the quality of it is unclear. I study this phenomenon as a Bayesian persuasion game with multiple senders that have partial control over the beliefs of a receiver. The receiver knows the signal chosen by all senders but randomly observes the realization of only one such signal. Senders can pool their signals, so the receiver is uncertain about the informativeness of the message received. This uncertainty may incentivize a sender to provide more or less information compared to the benchmark without uncertainty about the source. The main insight is that each sender's optimal signal is chosen to affect the average informativeness of messages given the communication strategies of other senders. I apply this framework in some important examples to derive policy recommendations for information platforms like social media.

"Dynamic Trading in Decentralized Markets"

Most financial assets are traded in multiple trading venues. We study a model of imperfectly-competitive trading where agents have multiple opportunities to trade risky assets. We consider decentralized markets: that is, there are coexisting exchanges for many assets and any number of strategic traders. We characterize equilibrium dynamics of prices, trades, and price impact. Markets with the same prices, allocations, and price impact may differ in their dynamic efficiency properties depending on the characteristics of traders and their participation in different exchanges. We provide necessary and sufficient conditions - on trader participation alone - for markets to be dynamically efficient as the number of rounds grows to infinity. Decentralized markets for a single asset (or, more generally, standardized assets) are always dynamically efficient. For assets traded at low frequencies, even markets that are not dynamically efficient can give rise to higher total welfare than the centralized market. Increasing trading frequency can lower welfare due to the interaction of price impact and market incompleteness (i.e., limited participation in the exchanges).

"Games with Multilateral Contracts"

This paper examines games among groups of players who act non-cooperatively. Players can be members of multiple groups (contracts), and their payoffs exhibit externalities both within and across groups. We characterize equilibrium for games in which the payoff externalities among groups are symmetric for each player. We characterize when bilateral vs. multilateral contracts maximize total welfare. Furthermore, we show that creating private clubs, in which a subset of group members signs a separate contract, can improve welfare by reducing negative strategic externalities in the larger contract.