

Clemens Possnig

PHD CANDIDATE · VANCOUVER SCHOOL OF ECONOMICS

6000 Iona Drive Vancouver, BC Canada, V6T 1L4

☎ +1 604-338-1179 | ✉ cjmpossnig@gmail.com | 🌐 sites.google.com/view/clemenspossnig | Austrian Citizen

Education

University of British Columbia

PHD ECONOMICS

- Fields: Game Theory, Algorithmic Learning, Econometric Theory
- Committee: Li Hao (co-supervisor), Vitor Farinha Luz (co-supervisor), Michael Peters

Vancouver, Canada

2016 - 2023 (expected)

Institute for Advanced Studies

MSC ECONOMICS

Vienna, Austria

2014 - 2016

Karl Franzens University

BA ECONOMICS

Graz, Austria

2010-2014

References

Li Hao

Co-supervisor

Vancouver School of Economics
University of British Columbia
6000 Iona Drive
Vancouver B.C. V6T 1L4
hao.li@ubc.ca
Phone: +1 604-822-6685

Vitor Farinha Luz

Co-supervisor

Vancouver School of Economics
University of British Columbia
6000 Iona Drive
Vancouver B.C. V6T 1L4
vitor.farinhaluz@ubc.ca
Phone: +1 604-822-6217

Michael Peters

Committee Member

Vancouver School of Economics
University of British Columbia
6000 Iona Drive
Vancouver B.C. V6T 1L4
peters@econ.ubc.ca
Phone: +1 604-822-4418

Papers

WORKING PAPERS

Reinforcement Learning and Collusion, *Job Market Paper*

This paper presents an analytical characterisation of the outcomes that can arise when firms use algorithms to compete. This characterisation can be used to determine which market conditions and details of a class of algorithms will lead to collusion with positive probability. For an important subset of the algorithm class, I show that the points of convergence of algorithm policies coincide with Markov-perfect equilibria of the repeated game that are attracting with respect to a tractable differential equation. Using this insight, I give necessary and sufficient conditions on market conditions and algorithms for the stage-game Nash equilibrium to never be learned. Applying the approach in a Cournot game, I give testable conditions on market fundamentals and algorithms such that collusive policies will be learned with positive probability. The conditions on algorithms consist of their specific policy updating scheme and a novel categorization of the information that algorithm policies are conditioned on. My class contains algorithms known as

actor-critic, which are widely studied in the computer science literature and form the basis of many real-world applications.

Estimating Diffusion over multiple large Networks in a dynamic linear panel Model (with [Andreea Rotarescu](#) and [Kevin Song](#)),

Spillover of economic outcomes often arises over multiple networks, and distinguishing their separate roles is important in empirical research. For example, the direction of spillover between two groups (such as banks and industrial sectors linked in a bipartite graph) has important economic implications, and a researcher may want to learn which direction appears prominent in data. For this, we need to have an empirical methodology that allows for both directions of spillover simultaneously. In this paper, we develop a dynamic linear panel model and asymptotic inference with large n and small T , where both directions of spillover are accommodated through multiple networks. Using the methodology developed here, we perform an empirical study of spillovers between bank weakness and zombie-firm congestion in industrial sectors, using firm-bank matched data from Spain between 2005 and 2012. Overall, we find that there is positive spillover in both directions between banks and sectors.

Awards, Fellowships, & Grants

		CAD
2016-2021	Four Year Fellowship , University of British Columbia	20,000-26,000 p.a.
2019,2020	Graduate Fellowship in Gambling Research 6798 , University of British Columbia	CAD 32,000 p.a.
2020	SSHRC Explore - Faculty of Arts Adaptation Research Assistant Grant , University of British Columbia	CAD 4,000
2019	Faculty of Arts Graduate Award , University of British Columbia	CAD 3,800
2018	Best 2nd Year Paper Award , University of British Columbia	CAD 1,000
2017	Best Student in 1st Year Micro, Macro and Econometrics Class , University of British Columbia	CAD 600
2014-2016	Full Scholarship , IHS Vienna	EUR 20,000
2015	Excellence Award , IHS Vienna	

Presentations (including forthcoming)

2022 ACM Economics and Computation, Game Theory and Applications, CORS/INFORMS, Canadian Economic Theory
 2021 Stony Brook International Conference on Game Theory

Teaching Experience

2020	Comprehensive Exam in Microeconomics , Official Tutor	UBC
2018,2019	PhD Math Camp , Instructor (Math review course for 1st year PhD students)	UBC
2017,2018	Microeconomics , Teaching Assistant (MA level)	UBC
2015	Time Series Econometrics , Teaching Assistant (MSc level)	IHS Vienna

Languages

SOFTWARE

MATLAB, PYTHON, JULIA, SQL

LANGUAGE

English (Fluent), German (Native), French (CEPR: C1), Spanish (CEPR: B2), Mandarin (CEPR: A2)