

LESTER T. CHAN

270 Bay State Road, Room B21

Boston MA 02215 USA

Cell: (617) 751-8975

Email: lctlab@bu.edu

Website: <https://sites.google.com/view/lesterchan>

EDUCATION

Ph.D., Economics, Boston University, Boston MA, May 2021 (expected)

Dissertation Title: *Economic Applications of Potential Games*

Dissertation Committee: Ching-to Albert Ma, Barton Lipman, and Alexander White

M.Phil., Economics, Chinese University of Hong Kong (CUHK), Hong Kong, 2015

Main Advisor: Duoze Li

B.Sc., Quantitative Finance and Risk Management Science, CUHK, Hong Kong, 2013

First Class Honors

FIELDS OF INTEREST

Microeconomic Theory, Industrial Organization

WORKING PAPERS

“[Weight-Ranked Divide-and-Conquer Contracts](#),” September 2020. (Job Market Paper)

“[Divide and Conquer in Two-Sided Markets: A Potential-Game Approach](#),” revise and resubmit at *RAND Journal of Economics*.

WORK IN PROGRESS

“Signed Weighted Potential Games and Potential Minimaximization: Application to Multi-Agent Contracting”

“Strong Network Effects Eliminate Spence Distortions”

PRESENTATIONS

World Congress of the Game Theory Society, Budapest, Hungary, 2021 (scheduled)

University of Manchester Economic Theory Seminar, 2020 (scheduled)

CUHK-HKU-HKUST Joint Theory Seminar, 2020

Young Economists Symposium, 2020

Toulouse School of Economics Online Economics of Platforms Seminar, 2020

Annual Conference of the European Association for Research in Industrial Economics, Barcelona, Spain, 2019

Platform Strategy Research Symposium, Boston MA, 2019

North American Summer Meeting of the Econometric Society, Seattle WA, 2019

Asian Meeting of the Econometric Society, Xiamen, China, 2019

International Industrial Organization Conference, Boston MA, 2019

FELLOWSHIPS AND AWARDS

Dean’s Fellowship, Boston University, 2015 – 2020

Summer Research Grant, Boston University, 2018 – 2019

Postgraduate Fellowship, CUHK, 2013 – 2015

Best Thesis Award, CUHK, 2015

Highest Grade Point Average Award, CUHK, 2014
Dean's List, CUHK, 2011, 2013

WORK EXPERIENCE

Research Assistant for Duozhe Li, CUHK, Fall 2014 – Spring 2015, Summer 2015 – 2018
Research Assistant for Travis Ng, CUHK, Summer 2017

REFEREE EXPERIENCE

Economic Modelling, Management Science, The B.E. Journal of Theoretical Economics

TEACHING EXPERIENCE

Teaching Assistant, Microeconomic Theory, Boston University, Fall 2017 – Spring 2020
Teaching Assistant, Health Economics, Boston University, Spring 2017, 2020
Teaching Assistant, Introduction to Microeconomics, Boston University, Fall 2016
Teaching Assistant, Game Theory, CUHK, Spring 2014
Teaching Assistant, Advanced Microeconomics, CUHK, Fall 2013

LANGUAGES: English (fluent), Cantonese (native), Mandarin (fluent)

COMPUTER SKILLS: MATLAB, R, LaTeX

CITIZENSHIP/VISA STATUS: Hong Kong/F1

REFERENCES

**Professor Ching-to
Albert Ma**
Department of Economics
Boston University
Phone: (617) 353-4010
Email: ma@bu.edu

Professor Barton Lipman
Department of Economics
Boston University
Phone: (617) 353-2995
Email: blipman@bu.edu

Professor Alexander White
Department of Economics
Tsinghua University School of
Economics and Management
Phone: (+86) 10-6279-8048
Email: awhite@sem.tsinghua.edu.cn

LESTER T. CHAN

Weight-Ranked Divide-and-Conquer Contracts (Job Market Paper)

This paper studies a large class of multi-agent bilateral contracting models with the property that agents' payoffs constitute a weighted potential game. I fully characterize a contracting scheme that is optimal for a large set of equilibrium selection criteria and implementation requirements. This scheme ranks agents in ascending order of their weights in the weighted potential game and induces them to accept their offers in a dominance-solvable way, starting from the first agent. I apply the general results to networks and pure/impure public goods/bads.

Divide and Conquer in Two-Sided Markets: A Potential-Game Approach

Strong network effects generate multiple equilibria in two-sided markets. To overcome the methodological challenge of selecting an appropriate equilibrium, this paper shows that many two-sided market models are weighted potential games, and thus potential maximization, a refinement of Nash equilibrium justified by many theoretical and experimental studies, always selects a unique equilibrium. Under potential maximization, platforms often subsidize one side and charge the other, i.e., divide and conquer. The fundamental determinant of which side to subsidize/monetize is cross-side network effects. This divide-and-conquer strategy implies that platforms are often designed to favor the money side much more than the subsidy side.

Signed Weighted Potential Games and Potential Minimaximization: Application to Multi-Agent Contracting

This paper introduces signed weighted potential games and potential minimaximization. The former generalize weighted potential games by allowing negative weights, and they are strategically equivalent to two-team zero-sum games. The latter selects the global saddle point of the potential function, and it reduces to potential maximization if all the weights are positive. Based on these generalizations, I extend the main result of Chan (2020) on multi-agent contracting. Precisely, in a more general contracting environment, the weight-ranked divide-and-conquer contracts, in a generalized form, remain optimal for a large set of implementation requirements.

Strong Network Effects Eliminate Spence Distortions

Under strong network effects with multiple tipping equilibria, firms compete for the adoption of all consumers instead of competing for the marginal consumer. In this scenario, the Spence distortion should be absent, contradicting the well-established Spence distortion results in the network economics literature. The crux of this inconsistency is the choice of equilibrium selection criterion. This paper shows that all popular selection criteria in that literature lead to Spence distortions whereas a refinement of Nash equilibrium justified by many theoretical and experimental studies—potential maximization—does not. This suggests that regulations on network markets based on Spence distortion arguments might be socially suboptimal or even welfare-reducing.