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Citizenship: China, F-1 Visa

Fields of Concentration:

Game Theory (Cooperative and Noncooperative)
Mechanism Design
International Trade

Desired Teaching:

Microeconomics, Game Theory, International Trade

Comprehensive Examinations Completed:

Oral: Microeconomic Theory (2017), International Trade (2017)
Written: Microeconomics (2016), Macroeconomics (2016)

Dissertation Title: *Essays in Game and Economic Theory*

Committee:

Professor Larry Samuelson (chair)
Professor Costas Arkolakis
Professor Xiaohong Chen

Expected Completion Date: May 2021

Degrees:

Ph.D., Economics, Yale University, 2021 (expected)
M.Phil., Economics, Yale University, 2021 (expected)
M.A., Economics, Yale University, 2021 (expected)
B.A., Accounting, Harbin Institute of Technology, 2010

Fellowships, Honors and Awards:

University Fellowship, Yale, 2015 - 2020
University Dissertation Fellowship, Yale, 2019
Cowles Foundation Fellowship, 2015 – 2019

Tailong Bank Fellowship, Peking University, 2014
ICBC Scholarship, Peking University, 2013

Teaching Experience:

Yale College

Intermediate Microeconomics, Profs. Mira Frick and Soenje Reiche, Fall 2020

Game Theory, Prof. Ben Polak, Spring 2020

Introduction to Microeconomics, Prof. Cormac O’Dea, Spring 2019

Spatial Economics, Prof. Costas Arkolakis, Spring 2018

Peking University

Development Economics, Prof. Yang Yao, Fall 2013

Research Experience:

Research Assistant to Prof. Costas Arkolakis, 2014 - 2018

Working Papers:

“The (n+1)th Bargaining Solution,” (Nov 2020), *Job Market Paper*

“On the Equilibrium Properties of Models with Heterogeneous Agents” with Treb Allen and Costas Arkolakis, (September 2020)

“Optimal City Structure” with Treb Allen and Costas Arkolakis, (September 2020)

Work In Progress:

“The Bargaining Problem (without threat)”

“Toward a Complete Understanding of Optimal Income Tax”

Seminar and Conference Presentations:

2016: NBER International Trade and Investment Meeting

Referee Service:

Journal of International Economics, Economic Theory

Languages:

Chinese (native), English (fluent)

References:

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Dissertation Abstract

The (n+1)th Bargaining Solution (Job Market Paper)

We propose a new solution to the two-player bargaining problem of Nash (1950): The Consensus solution.

Nash's bargaining problem can be represented by a pair (W, s) where $W \subseteq \mathbb{R}^2$ is the set of utilities that players can obtain via cooperation and $s \in \mathbb{R}^2$ is what they obtain if there is no cooperation and called "the threat."

We introduce the Consensus solution through two approaches: maximization and axiomatization. In the maximization approach, the Consensus solution maximizes the area of points of W that are for both players better than the threat s but worse than the solution. In the second approach, we replace the controversial Axiom IIA (Independent of Irrelevant Alternatives) of the Nash solution with three new axioms. Among them, the key axiom says that the solution shall not change when the threat changes and the change induces more points that are better than the threat but worse than the solution.

We compare the Nash and Consensus solutions in detail. We find that the Consensus solution is exactly the same as the Nash solution in a large class of bargaining problems where many of the good properties of the Nash solution were discovered. Outside that class are cases where the Nash solution can easily clash with common sense, and the Consensus solution is essentially different from it.

We conclude why the Nash and Consensus solutions are different. The Nash solution focuses on the threat s , the anticipation of no-cooperation, and the Consensus solution focuses on W , what they can obtain via cooperation.

On the Equilibrium Properties of Models with Heterogeneous Agents with Treb Allen and Costas Arkolakis

In this paper, we consider a broad class of network models where a large number of heterogeneous agents simultaneously interact in many ways. We provide an iterative algorithm for calculating an equilibrium and offer sufficient and "globally necessary" conditions under which the equilibrium is unique. The results arise from a multi-dimensional extension of the contraction mapping theorem which allows for the separate treatment of the different types of interactions. We illustrate that a wide variety of heterogeneous agent economies – characterized by spatial, production, or social networks – yield equilibrium representations amenable to our theorem's characterization.

Optimal City Structure with Treb Allen and Costas Arkolakis

In this paper, we develop a quantitative general equilibrium model of a city that incorporates the many economic interactions that occur over the space of the city, including commuting, trade, and

personal interactions. We show that, despite the many spatial linkages, in the absence of externalities the competitive equilibrium is efficient; conversely, in the presence of spillovers, there exists opportunities for a city planner to increase the welfare of the city inhabitants by restricting the use of land (“zoning”). We provide sufficient conditions for the optimal zoning policy that depend solely on observables and several key model parameters. Finally, we illustrate the flexibility of the model by applying it to study the observed zoning policy of the city of Chicago. Preliminary results suggest that the welfare if residents of Chicago would increase if more area in the central business was allocated to residents district and more area in the outlying neighborhoods was allocated to businesses.