

Daniel G. Stephenson

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Research Interests

game theory, mechanism design, behavioral economics, experimental economics, auctions

Education

Postdoctoral Studies in Economics, Chapman University, 2017-2019
Ph.D. in Economics, Texas A&M University, 2011-2017
B.Sc. (Summa Cum Laude) in Economics, Campbell University, 2006-2010

Working Papers

Coordination and Evolutionary Dynamics: When are Evolutionary Models More Reliable?

Evolutionary models are frequently invoked as equilibrium selection tools, but their formal characterization of disequilibrium dynamics is often overlooked in economics. This study provides a powerful experimental test of these evolutionary models by investigating the effect of coordination incentives on dynamic behavior in a particular class of attacker-defender games that yield identical equilibrium predictions but distinct evolutionary predictions. Contrary to the Nash predictions but consistent with evolutionary predictions, subjects exhibited persistent cyclical behavior that was tightly clustered around equilibrium in standard attacker-defender games but widely dispersed from equilibrium in coordinated attacker-defender games. In contrast to theoretical predictions from the frequently employed class of sign-preserving evolutionary dynamics, the observed behavior remained strictly in the interior of the state space, suggesting that the wider class of sign-correlated evolutionary dynamics may provide a superior characterization of human behavior.

Continuous Feedback in School Choice Mechanisms

(This research was funded by National Science Foundation grant number 1458541.)

This study experimentally investigates the effect of continuous assignment feedback in school choice mechanisms. Standard implementations of school choice mechanisms only reveal school assignments to participants at the end of the reporting period, after all preference reports have been finalized. In contrast, continuous feedback mechanisms reveals assignments to participants throughout the preference reporting period, before preference reports are finalized. Adaptive models predict that continuous assignment feedback will reduce confusion and promote rational preference revelation by providing participants with increased opportunity for learning and adjustment. To experimentally test this hypothesis, this study implements both discrete feedback and continuous feedback treatments for three widely employed school choice mechanisms: the deferred acceptance mechanism, the top trading cycles mechanism, and the Boston mechanism. As predicted by adaptive models, continuous feedback mechanisms achieved equilibrium assignments significantly more often than discrete feedback mechanisms, suggesting that policy makers can improve the effectiveness of widely employed school choice mechanisms by providing participants with continuous assignment feedback.

Imitation and Optimization in Continuous-Time All-Pay Auctions

(with Alex Brown)

A large class of adaptive models take imitation as the primary driver of behavior, while others focus on some form of optimization. Previous literature is mixed on which class of models is more appropriate for describing human behavior. To test these models, we experimentally investigate continuous-time all-pay auctions where optimization models predict convergence to equilibrium but imitative models predict non-convergence, providing clean separation between the theoretical predictions of imitative models and those of optimization models. In accordance with theoretical predictions from adaptive models, but in contrast to Nash equilibrium predictions, we observe incessant disequilibrium cycles in subject bidding behavior.

Teaching

Econ 202, Principles of Economics, Primary Instructor
Texas A&M University, Fall 2016

Econ 459, Games and Economic Behavior, Primary Instructor
Texas A&M University, Spring 2016

Econ 459, Games and Economic Behavior, Primary Instructor
Texas A&M University, Spring 2015

Econ 202, Principles of Economics, Primary Instructor
Texas A&M University, Summer 2013

Econ 618, Behavioral Financial Economics, Teaching Assistant
Texas A&M University, Fall 2015

Econ 449, Economics of Decision, Teaching Assistant
Texas A&M University, Spring 2013

Talks

Social Learning in Continuous-Time All-Pay Auctions
2013 Economic Science Association World Meeting, Zurich, Switzerland

Social Learning in Continuous-Time All-Pay Auctions
2013 Economic Science Association American Meeting, Santa Cruz, California

Preference Revelation Dynamics in Continuous-Time School Choice Mechanisms
2014 Economic Science Association European Meeting, Prague, Czech Republic

Preference Revelation Dynamics in Continuous-Time School Choice Mechanisms
2014 Economic Science Association North American Meeting, Fort Lauderdale, Florida

Coordination and Evolutionary Stability in Attacker-Defender Games
2015 Economic Science Association North American Meeting, Dallas, Texas

Coordination and Evolutionary Stability in Attacker-Defender Games
2016 Texas Experimental Economics Association Symposium, Houston, Texas

Continuous Feedback in School Choice Mechanisms
2016 Texas Economic Theory Camp, Houston, Texas

Organizational Memberships

American Economic Association
Economic Science Association

Awards

The John Van Huyck Graduate Fellowship
Department of Economics, Texas A&M University, 2016

The S. Charles Maurice Graduate Fellowship
Department of Economics, Texas A&M University, 2015

Outstanding Graduate Instructor in Upper Level Economics
Department of Economics, Texas A&M University, 2015

Doctoral Dissertation Research Improvement Grant
National Science Foundation, 2014

Best Fourth Year Presentation Award
Department of Economics, Texas A&M University, 2014

References

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Texas A&M University Professor

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Texas A&M University Professor

Dr. Daniel Fragiadakis
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