Curtis Kephart

NEW YORK UNIVERSITY, ABU DHABI

CONTACT INFORMATION

Mailing Address
Social Science Experimental Laboratory
A5-179 - Saadiyat Island
P.O. Box 129188
Abu Dhabi, United Arab Emirates

Phone: +971 2 628 5656
Mobile: +1 646 421 0610
E-mail: curtiskephart@gmail.com
Website: www.cazaar.com/home/research

Currently a postdoctoral scholar at New York University, Abu Dhabi's Social Science Experimental Laboratory (NYUAD-SSEL).

DOCTORAL STUDIES

University of California Santa Cruz
Ph.D. International Economics, 2015
Dissertation advisor: Daniel Friedman
Thesis title: "Essays on Market Dynamics"

PRIOR EDUCATION

University of California Santa Cruz
M.A., International Economics, 2011

University of California Santa Cruz
B.A., Business Management Economics, 2003

FIELDS

Primary: Experimental Economics, Virtual Economies.
Secondary: Experimental Macroeconomics, Spatial Models, Market Microstructure.

WORKING PAPERS

Emergence of Networks and Market Institutions in a Large Virtual Economy, *with Daniel Friedman and Matthew Baumer*
We analyze a complete set of transactions from an on-line barter marketplace. We construct trader and goods networks, and track them over time using network-theoretic metrics such as node strength, assortativity, betweenness and closeness. The trading platform was designed to make barter exchange as attractive as possible; money was not part of the design and all players were created equal. Yet, within weeks, several specific goods emerged as media of exchange, and various specialized traders appeared. Eventually trade was predominantly money-mediated and market-makers played a major role. Our results illustrate how network analysis can capture the spontaneous emergence of economic institutions.

Stability in Competition? Hotelling in Continuous Time, *with Liam Rose.*
We study Hotelling's classic location model in continuous time with flow payoffs accumulated over time and the price dimension made explicit. In an experimental setting, subjects chose price and location in treatments varying only by the timing of the game, which ranges for a discrete, staged game to instantaneous adjustment on either dimension. We find that the principle of minimum differentiation generally holds, with little distance between subjects in location decisions. We also show that there is relatively low stability in the competition between subjects, as difficulties in finding a Nash equilibrium in theoretical work are borne out in our results. Our data also support literature that the ability to respond quickly increases cooperation.

Aggregate Dynamics in a Large Virtual Economy: Prices and Real Activity in Team Fortress 2, *with Matthew Baumer*
We examine economic activity in a large virtual economy which features decentralized barter as the sole exchange institution available to the participants. We find that certain goods emerge endogenously which act as media of exchange. Our analysis includes estimation of spot exchange rates between these numerous money goods and we develop a methodology which allows us to price all goods measured in an endogenous numeraire and track inflation. We calculate nominal growth and perform a decomposition it and conclude that a steadily increasing proportion of nominal growth is due to growth in per capita real wealth. We find that devaluation of a currency relative to other currencies tends to be associated with a decrease in the price of items typically denominated in that currency, possibly indicative of nominal rigidities. We also find that announcements made by the economic planners can induce speculation leading to short-lasting asset price bubbles in the markets for the goods relevant to the announcement.

Published Papers

Hotelling revisits the lab: equilibration in continuous and discrete time, *Journal of the Economic Science Association, 2015, with Daniel Friedman.*
We investigate experimentally the impact of continuous time on a four-player Hotelling location game. The static pure strategy Nash equilibrium consists of firms paired-up at the first and third quartiles of the linear city. In a repeated simultaneous move (discrete time) treatment, we largely replicate previous findings in which subjects fail to converge to the Nash equilibrium. However, in asynchronous move (continuous time) treatments we see clear convergence towards the Nash equilibrium.

Software for Continuous Game Experiments, *Experimental Economics, 2014, with James Pettit, Daniel Friedman, and Ryan Oprea.*
ConG is software for conducting economic experiments in continuous and discrete time. It allows experimenters with limited programming experience to create a variety of strategic environments featuring rich visual feedback in continuous time and over continuous action spaces, as well as in discrete time or over discrete action spaces. Simple, easily edited input files give the experimenter considerable flexibility in specifying the strategic environment and visual feedback. Source code is modular and allows researchers with programming skills to create novel strategic environments and displays.

Work In Progress

Estimating the Effect of Windfall Gains on Economics Behavior: Evidence from a Large Online Marketplace

Additional Hotelling Experiments
Continuing the work in *"Continuous Differentiation: Hotelling Revisits the Lab"* we are investigating the components of continuous and discrete time that have lead to this distinctive result. There are two important features that differentiate continuous from discrete time; first, subjects are able to move asynchronously; and secondly, subject interaction is intensified. Regarding the first feature, in our discrete time treatment subjects selected locations simultaneously. In simulations of automated agents playing myopic best response and relocating simultaneously, no equilibrium emerges. However, when these automated agents take turns relocating, the Nash equilibrium does appear. We plan additional treatments that blur the lines between continuous and discrete time thereby gaining deeper insight into these distinctions.

Teaching

Instructor

Introduction to Econometrics.....Summer 2013

Teaching Assistant

Introduction to Microeconomics, for KC Fung.....Winter 2010
*Marketing, for Mary Flannery..... Spring 2010
Mathematics for Economists II, for Luba Petersen.....Summer 2010
Intermediate Macroeconomics, for Aspen Gorry .....Fall 2010
Marketing, for Mary Flannery.....Winter 2011
*Introduction to Econometrics, for Carlos Dobkin..... Spring 2011
Introduction to Econometrics, for Susan Peterson.....Summer 2011
Intermediate Macroeconomics, for Aspen Gorry .....Fall 2011
*Introduction to Econometrics, for Carlos Dobkin..... Spring 2012
Introduction to Microeconomics, for Nick Lovett.....Summer 2012
Intermediate Macroeconomics, for Johanna Francis.....Fall 2012
Intermediate Macroeconomics, for Johanna Francis.....Winter 2014
Business Strategy, for Bob Baden..... Spring 2014
R-Lab (Masters and Undergraduate).....Winter 2016
**TA excellence awards*

Reader

Advanced Maths for Economists, for Ken Kletzer.....Fall 2010

Positions

Postdoc, New York University at Abu Dhabi, Social Science Experimental Laboratory (SSEL) .....August 2016-

Postdoc, UCSC Economics.....June 2015 - 2016

Lab Manager, LEEPS Lab.....June 2012 - 2015

Researcher Assistant to Daniel Friedman, LEEPS Lab
Research Assistant for NSF Grants "Continuous Games" (NSF SES-0925039), "Economic Analysis of Recommender Systems" (NSF CCF-1101741), and "Edgy - Revealed Preferences and General Equilibrium in the Laboratory" (SES-1357867) ..... June 2011 - 2014

Former Series 3 licensed commodities broker at Forex Capital Markets, a foreign exchange trading broker.....2004 - 2007

Grants

"**Economic Analysis of a Virtual Economy**",
Valve Software Scientific Cooperation Agreement, 2012-2015

Conference Presentations

Bay Area Behavioral and Experimental Economics Workshop (BABEEW), Economics Science Association (ESA), UC Santa Cruz Economics Department seminars, Macroeconomics Workshop, and Experimental Reading Group.

Additional Skills and Experience

Proficient in R and SQL. Some programming with Python (PANDAS, NetworkX, BeautifulSoup), C, JavaScript and Unix/Linux environments.

My teaching YouTube channel – which hosts economics T.A. tutorials and R instructional videos for economics undergraduate students – now garners 80,000 monthly views.

Honors and Awards

Outstanding Teaching Assistant Award UCSC.....2012-2013
Winner of three "Teaching Assistant Excellence Award, Economics Department", the maximum number granted to teaching assistants. Awarded classes indicated by asterisks above.....2010-2012
Economics Department Quarterly Fellowship.....Spring 2013
Regent's Fellowship, Economics Department..... 2009
Department Honors, Economics Department, UCSC..... 2003
College Honors, Adlai Stevenson College, UCSC.....2003

References

2015-2016 Job Market Year

Professor Daniel Friedman
UC Santa Cruz,
Department of Economics
Santa Cruz, CA 95064
Phone: 831 459 4981
E-mail: dan@ucsc.edu

Professor Nirvikar Singh
UC Santa Cruz,
Department of Economics
Santa Cruz, CA 95064
Phone: 831 459 4093
E-mail: boxjenk@ucsc.edu

Johanna Francis
Fordham University,
Economics Department
Bronx, NY 10458
Phone: 718 817 4055
E-mail: ajofrancis@fordham.edu

Mary Flannery,
Director of Undergraduate Studies,
Department of Economics
University of Notre Dame
Phone: 574 631 1369
E-mail: mflanne2@nd.edu