Kory M. Garner

Statement of Research Objectives

The primary focus of my research agenda is the field of Network Economics. I utilize both theory and experiments in order to investigate network phenomena. My current research focuses on non-static networks. I define a non-static network to be one where the parameter values of the network (number of nodes, cost of linkage, etc...) change over time. In the future, I hope to investigate applications of networks such as labor networks and research-joint-venture networks.

Non-Static Networks

My job market paper “Defending a Star: Coordinating the Defense of a Network” theoretically and experimentally investigates a model of Robust Networks. In some networks, nodes may be subject to the possibility of failure and the robust network is the one that maintains the highest expected value after node failure. My job market paper investigates networks where nodes fail due to a targeted attack. The paper explores the case of a contest played on a Star Network in four cases. I compare actual allocations to equilibrium predictions and find that equilibrium predictions hold in all but one case. Specifically, I find that when the defense is allocated by each node individually in the form of Decentralized Defense the defenders do not alter their defense allocations at all even though theory might predict they should.

A second paper “Optimal Networks and Defense Under the Possibility of an Outside Attack” explores two of the cases from my Job Market Paper and provides conditions for when a Star Network is both robust and pair-wise stable. A final paper introduces the ability for multiple defenders to communicate when planning a coordinated defensive effort. The purpose of this paper is to explore possible explanations for the phenomena experienced in
the job market paper. I aim to discover what process it is that is leading decentralized
defenders to not alter their defense allocations in accordance with equilibrium predictions.

On a project separate of my dissertation, I have begun work on looking at Hysteresis,
Measures of Stability and Equilibrium Selection in Network Formation games. A first paper
in this series “hysteresis of Network Formation” studies a network formation game played in
continuous time where the cost of link formation changes over time. We find that hysteresis
matters when subjects make their linking decisions which means that subjects get stuck in
low-earning equilibria and it takes a sizeable shock to switch to a higher-earning equilibrium.

Other Research

In addition to my work on Economic Networks, I have interests in a broad range of is-
ues in the fields of Behavioral Economics, Industrial Organization and Labor Economics.
“Knowledge Spillovers and Game Form Representation” is a project which looks at learning
differences between subjects. In particular we found a competitive game that may take at
least two forms: a difficult form and an easy form. We compare play by subjects who ex-
perience the harder form of the game when they play against other subjects who have the
easier form versus when the subjects with the harder form of the game play against other
subjects who experience the harder form of the game.