

Research Statement

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I am an applied micro economist focusing on Information Economics and Incentive Design. My research utilizes theory and experiments to investigate the impact of external disruptions and human errors on economic mechanisms in environments with incomplete information. I take advantage of both laboratory and field approaches, which allows me to integrate the perspective of practitioners into micro-level investigations. Independent of my research professors, I secure sources of funding and the cooperation of external organizations needed to combine these two approaches. The first section of this research statement describes my work on labor mechanisms. The second section discusses information aggregation mechanisms, and the third will explain my ongoing projects.

1. Behavioral Labor

In labor markets characterized by moral hazard, the limited role of explicit incentives often necessitates the use of implicit incentives such as image rewards. The widespread practice of eliciting effort through social image manipulation assumes that people undertake costly action to signal their types. In my job market paper No Excuses for Good Behavior, Margaret McConnell and I investigate the signaling mechanism underlying prosocial behavior in a lab experiment where subjects are engaged directly in a Los Angeles nonprofit's operation. We alter the image rewards of volunteering by removing the monitor (experimenter) from the room and by providing subjects with an excuse to leave early. Our theoretical predictions are derived by extending Benabou and Tirole (2006)'s model of honor and stigma into our dynamic setup. We find that when excuses are not available, time volunteered increases without reducing productivity. Audience identity matters: while the presence of a larger number of peers increases the willingness to volunteer, the presence of a monitor reduces volunteering. Furthermore, we see evidence of non-linearities in stigma; subjects avoid being the first to stop volunteering but are more likely to stop once others have stopped. This paper is under Revise and Resubmit at the *Journal of Public Economics*.

Image concerns play an important role outside of the scope of prosocial behavior. In a finitely repeated setting where firms prepay wages and workers choose costly effort, Brown, Falk and Fehr (2004) found that when firms and workers are identifiable, a two tiered labor market emerged: long term relationships with high wages and effort, and a 'temp market' characterized by low wages and low effort. In Relational Contracting under Threats of Economic Downturns, Colin Camerer and I subject these relationships to stochastic interruptions by imposing exogenous random "economic downturns" where firms cannot hire workers for three periods. Surprisingly, the downturns do not harm aggregate market efficiency and actually increase average worker profit. Our investigation hints at two reasons. First, firms offer higher wages and request more effort in anticipation of lost earnings from future downturns, inducing workers to exert a little more effort. Second, the instability of the market lessened the stigma of unemployment, thus allowing workers who had put in low effort in early rounds a chance to exit the temp market.

2. Information Aggregation

In recent years, prediction market has gained popularity, fueled by the belief that aggregation of information in groups can result in decisions are better than what an expert. However, attempts to

integrate prediction markets into decision making in business units often suffer from low participation. Surveys of experimental asset markets (Sunder, 1995) suggests that these thin markets may produce decisions that are only approximately correct, and the noise will increase as assets increase in complexity.

In Prediction Market Alternatives for Complex Environments (with Paul J. Healy, John Ledyard, and Richard Lowery), we ask 'Which mechanism is best suited to aggregate information in thin markets and why?' We experimentally compare the aggregation properties of the most commonly used market mechanism (the double auction) to three alternative aggregation mechanisms (a parimutuel, a poll incentivized with Market Scoring Rule, and a simple iterative poll). We find that the iterative poll produces smaller prediction error relative to the other mechanisms in both simple (two possible states of the world) and complex (eight possible states) environments. We analyze four behavioral conjectures that may explain this result. This paper is under Revise and Resubmit at *Management Science*.

I more formally analyze why aggregation in some environments is more difficult than others in Accounting for Noise in the Microfoundations of Information Aggregation. Instead of looking at a particular aggregation mechanism, I focus on the basic unit of group inference: two private signal holders who take turns reporting and revising their posterior over uncertain states of the world (Geneakoplos and Polemarchakis, 1982). By introducing stochastic noise into the computation of expected utility, I theoretically show that the probability that this revision process will improve predictions relative to the common prior depends on the information structure. Using this result, I derive the difficulty rankings for four experimental environments and test them with a lab experiment. I find evidence that the theoretical difficulty of information structure matters, however, the deterioration in performance as the number of states increases is not as large as predicted.

3. Other projects

I have several ongoing projects both in the area of behavioral labor and information aggregation. In information aggregation, I am in the early stages of extending Accounting for Noise in the Microfoundations of Information Aggregation to understand how a mechanism's performance is affected by the choice of method where individual reports are summarized into public statistics.

The subject of Competition for Compliance: a Field Experiment at a Homeless Shelter (with Tomomi Tanaka and Rajiv Singha) is low cost incentive design to increase voluntary compliance to rehabilitation programs. Motivated by Brocas and Carillo (2001) theoretical finding that competition can overcome procrastination, we implemented a savings competition in a 451 bed homeless shelter and monitor the effect of competition on duration of stay, attendance at case management meetings, and savings rates. Preliminary analysis seems to indicate that controlling for demographics, time preferences, and sophistication, the group competing for monetary prizes shows higher compliance on all aspects of the program than both the group competing for reputational prizes and the control group.

I plan to continue my research focus in incentive/information design on issues pertinent to organizations operating in environments with moral hazard and high uncertainty, such as entrepreneurial firms and the social service sector. My experimental approach will continue to seek the input of practitioners in the design and implementation of research projects.