

AREC 815: Experimental and Behavioral Economics

Problem Set 2

Department of Agricultural and Resource Economics
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Fall 2016

Problem Set 2 is due by the end of the day on October 6.

1. Consider a standard prisoner's dilemma game with the following payoffs:

	C	D
C	1, 1	-1, 2
D	2, -1	0, 0

Suppose both the row player and the column player of utility functions of the form

$$u(\pi_i, \pi_{-i}) = \pi_i + \lambda\pi_{-i}$$

where π_i is the payoff to player i , π_{-i} is the payoff to the other player, and $\lambda > 0$. For what values of λ is the unique Nash equilibrium (C, C) ?

2. The next two problems are based on the paper by Urs Fischbacher and Simon Gächter, "Social Preferences, Beliefs, and the Dynamics of Free Riding in Public Goods Experiments," (*AER*, 2010). The replication files for the paper are saved in the **Fischbacher-Gaechter-data** folder. These were downloaded directly from the *AER* website. (Public release of replication files is now an *AER* requirement.) Write a Stata program that replicates Tables 1 and 2 of Fischbacher and Gächter's paper (drawing on their replication files). Present your regression results in pdf form and discuss any issues you encountered during the replication process in your write-up.
3. Since observations within sessions are not independent, the authors cluster their standard errors at the session level. However, with only 6 sessions, tests are not correctly sized. Read about this issue in "A Practitioner's Guide to Cluster Robust Inference" by Colin Cameron and Doug Miller (*JHR*, 2015), particularly pages 344–346 on the "wild cluster bootstrap."

In the `PS2/Assignment/Fisman-Jakiela-Kariv-data` directory, you will find the code used to make Table 4, Panel A, in the paper "How Did Distributional Preferences Change During the Great Recession?" by Ray Fisman, Pamela Jakiela, and Shachar Kariv (*JPubE*, 2015). The code runs OLS regressions and then calculates Wild cluster bootstrapped p-values which adjust for the low number of clusters (9).

Familiarize yourself with this code and then adapt it to run on the data from Fischbacher and Gächter's *AER* paper. Replicate Tables 1 and 2, but include the Wild cluster bootstrapped p-values for the key outcomes of interest. Discuss your findings.

4. Discuss one weakness of the paper by Fischbacher and Gächter. Propose an extension of their experiment that could address the weakness that you have highlighted.