Written Exam, Summer school, Economics summer 2011

Course: "Behavioral and Experimental Economics"

Final Exam

Date: August 22, 2011

(2-hour closed book exam)

Answers must be given in English. Please indicate the question number and letter clearly in your answer.

Question 1: Experimental methods

a) Briefly explain the following expressions
   - "replication"
   - "ceteris paribus variation"
   - "session"
   - "treatment"
   - "randomization"
   - "Duhem-Quine problem"
   - "partner matching"

b) Explain the sufficient conditions to "induce" experimental subjects' preferences (Smith, AER 1982).

Question 2: Social Preferences

a) Describe the Ultimatum Game (Güth et al., JEBO 1982). What is the subgame-perfect Nash-equilibrium in this game?

b) What are the main stylized facts observed in the Ultimatum Game (UG)?

c) Describe the Impunity Game (e.g. Bolton and Zwick GEB 1995)

d) What do the findings from the Dictator game and the Impunity Game suggest for the interpretation of the findings discussed in b)?

Question 3: Guessing game

Consider the standard guessing game with factor $p < 1$. Suppose a share $s < 1$ of the $n > 2$ players is irrational. These players choose a no matter what and a share 1-s is rational (i.e. have rational expectations) and choose a best reply r to what everybody else does.

a) Derive the choices of the rational players in equilibrium as a function of p, s and a .

b) Derive the equilibrium average number M^* and decompose the total effect into a direct and the indirect effect of a change in s.

c) Derive the value of μ (the multiplier) in the expression $\partial M^*/\partial s = \mu\,(a - r)$

d) How does μ depend on the degree of strategic complementarity and the share of irrationals?

e) Calculate (i) the total effect, (ii) the direct effect and (iii) the indirect effect for the values $p = 0.8$, $a = 50$ if s changes from $s_1 = 0.1$, to $s_1 = 0.2$.

Question 4: Labor markets

a) Describe the treatment GEM (stands for gift exchange market) in Fehr, Kirchler, Weichbold and Gächter (JOLE 1998) (Hint: $\pi = (v - w)e$; $U = w - c(e) - 20$; where: $v = 120$)

b) What is the standard game-theoretic prediction in the GEM?

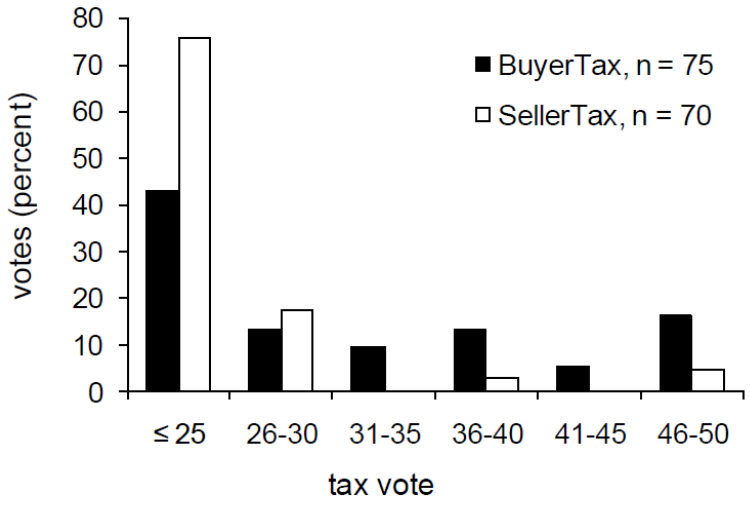
c) How do observations in the GEM compare to the treatment BGE (stands for bilateral gift exchange)? What do the authors conclude from this observation?

d) What is the main difference between the GEM and treatment AE in Fehr and Falk (JPE, 1999)?

e) What is the main finding for treatment AE (with effort choice) in Fehr and Falk (JPE, 1999)?

Question 5: Voting on taxes in goods markets

Sausgruber and Tyran (JPubE 2011) study voting on taxation in goods markets. The figure below shows some results from this study.



a) Describe how the goods market in Sausgruber and Tyran (2010) is organized.

b) Explain treatment BuyerTax (Hint: Explain the difference between t and τ, how either of those is implemented, and why the procedure is "incentive compatible").

c) What is the main finding from the comparison of treatment BuyerTax with SellerTax? (Hint: refer to the figure above). Why is it important to implement treatment SellerTax?

d) Describe treatment "Deliberation".

e) What is the main finding in "Deliberation" as compared to BuyerTax?

Question 6: Cooperation and punishment

a) What is the standard game theoretic prediction in the Public Goods Game (or, volutary contribution mechanism) if played once? (Hint: $\pi_i = c_i + a\,\Sigma_j g_j = (E_i - g_i) + a\,\Sigma_j g_j$)

b) What constraint do such games impose on a and n?

c) Explain how the "strategy method" can be used to elicit cooperation profiles (e.g. in Thöni, Tyran and Wengström, WP 2010).
What are the characteristics of the profile for a "free rider" and of a "conditional cooperator"?

d) Describe the "punishment" game by Fehr and Gächter (AER, 2000).

e) What are the standard game-theoretic predictions if the game in Fehr and Gächter (AER, 2000) is played once?

f) What are the main findings in Fehr and Gächter (AER, 2000) with respect to contributions over time and to punishment patterns?

g) Gächter, Herrmann and Thöni (2008, Science) observe substantial variation across countries in the punishment game. How do the authors explain this variation?

h) Markussen, Putterman and Tyran (2011, WP) implement a game with voting on formal sanctions.
- What is the prediction of standard theory for voting and contributions in treatment DC, i.e. when $s = 0.8$ and $c = 2$, if the alternative is no sanctions?
- How do these predictions change in treatment DE, i.e. when $s = 0.8$ and $c = 8$?
- How do experimental results compare for voting in DC and DE?

Hint:

$$\pi_i^{FS} = (1-s)(20-C_i) + 0.4\sum_{j\in g} C_j - c$$
$$= 20(1-s) + (0.4+s-1)C_i + 0.4\sum_{j\neq i} C_j - c$$