

Written Exam for the M.Sc. in Economics summer school 2017

Behavioral and Experimental Economics

Final Exam

August 15, 2017

(2-hour closed book exam)

Please note that answers must be provided in English.

All 4 questions have to be answered for obtaining the top grade.

The exam has 4 pages in total (including cover page)

NB: If you fall ill during the actual examination at Peter Bangsvej, you must contact an invigilator in order to be registered as having fallen ill. Then you submit a blank exam paper and leave the examination. When you arrive home, you must contact your GP and submit a medical report to the Faculty of Social Sciences no later than seven (7) days from the date of the exam.

Question 1: Loss aversion

Loss aversion is a core concept of behavioral economics. It can potentially explain important phenomena which cannot easily be accounted for by standard economics.

Pick **two** examples of research discussed during the summer school (in assignments or the lecture) to illustrate. For each example, describe the setting we discussed (survey study, lab or field experiment) in sufficient detail, explain what role loss aversion plays in the setting, and discuss the potential relevance of the finding for economic theory or policy.

Question 2: General issues

- a) In what ways is it problematic when an experimental study does not implement a ceteris paribus variation? Use Slembeck and Tyran (JEBO 2004) to illustrate.
- b) Can experiments which fail to induce preferences as explained in the Induced Value Theory (Smith, AER 1982) nevertheless be interesting? Use an example to illustrate.
- c) Explain the expression “experimenter demand effect”. Why are such effects a problem? What can be done to mitigate the problem?

Question 3: Individual irrationality and aggregate outcomes

- a) Provide a definition of bounded rationality.
Hint: Refer to the definition of rationality in Camerer and Fehr (Science 2006)
- b) Consider a “guessing game” in which $N > 2$ players choose a number $[0, 100]$. The player closest to a target $T = pM$ wins a prize, where M is the average number chosen by all players and $0 < p < 1$. If several players are equidistant to T , the prize is shared among these players.
Assume a share $0 < s < 1$ of players is boundedly rational in the sense that they choose the best reply to a belief $b > 0$ about what everyone else chooses, while the remaining players are fully rational in the sense that they play a best reply to what everyone chooses.
 - b1) In what ways is the share s of players boundedly rational? Explain with reference to the definition you gave in a) above.
 - b2) What belief B^* do the fully rational players hold in equilibrium if $0 > s > 1$? Provide a formal expression.
 - b3) What is the sign of $\partial B^* / \partial b$?
 - b4) Does an increase in the share of irrational players s increase or decrease the deviation of aggregate outcomes from the standard prediction in the game above? Is the change proportional to s ? Why (not)?
 - b5) How do equilibrium beliefs B^* change when the factor P is negative ($0 > P > -1$) instead of positive ($0 < p < 1$)?
- c) Cooper, Schneider and Waldman (GEB forthcoming) use a guessing game with $T = pM + d$, with $d > 0$ and $0 > P > -1$ in one treatment and $0 < p < 1$ in another treatment. Describe the main outcomes in the two treatments.

Question 4: Dividends of democracy

- a) Tyran and Feld (SJE 2006) claim that their experimental results provide support for a “dividend of democracy”.

a1) Describe the treatments MildEnd and MildEx and the corresponding standard predictions. *Hint:*

$$E_i = (20 - g_i) + 0.5 \cdot \sum_{j=1}^3 g_j$$

a2) What is the main result of the study? *Hint:* refer to the “dividend of democracy”

a3) The authors argue with reference to the table below that selection effects are an implausible explanation for the main result of the study. Explain why selection may in principle play a role in this experiment and what should be observed in the table in case such effects were strong.

	Yes-voters	No-voters
If mild law Accepted	A 62%	B 68%
If mild law Rejected	C 17%	D 23%

- b) It has been argued that a “dividend of democracy” can be obtained through positive information aggregation in majority voting.

b1) Explain the information aggregation effect using an example of a common interest situation with 3 voters where each voter has a probability of $p_i = 0.6$ to make the correct choice. Assume that abstention is not allowed and voters cast their votes independently and sincerely.

Hint: Condorcet Jury Theorem.

b2) How is the information aggregation related to the “wisdom of the crowds”?

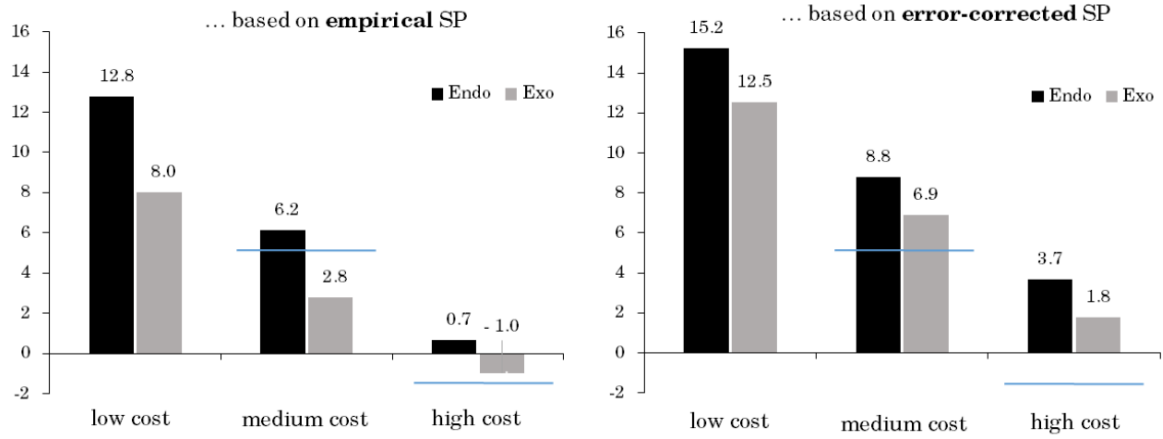
b3) Morton, Piovesan and Tyran (WP 2012) experimentally investigate information aggregation in voting. Describe their treatments “baseline” and “opinions”.

b4) How does the “opinions” treatment in Morton et al. (WP 2012) shape what the authors call “the dark side of the vote”? Why?

- c) Mechtenberg and Tyran (WP 2016) study information aggregation in a setting in which subjects can delegate the choice to an expert or can demand to make the choice themselves by majority voting.

c1) The authors investigate the extent of “rational ignorance”. What does it mean in the context of their experiment? *Hint:* The cost of information varies across treatments.

c2) What are the main findings in Mechtenberg and Tyran (WP 2016)? *Hint:* refer to the figure below.



Notes: Panels show efficiency of voting (EV), i.e. the net excess return of voting over delegating the policy choice to the expert as a percentage of earnings with expert judgment for $q_L = 0.6$. Expected net group earnings with voting are $SP \times 25\text{€} \times n - kc$, where k is the number of informed voters, $n = 7$ is the number of group members. Expected net group earnings with delegation is $q_L \times 25\text{€} \times n$. Left panel uses empirical (uncorrected) success probabilities (SP), right panel uses error-corrected SP. Horizontal lines indicate EV in Pareto-dominant pure-strategy subgame equilibria with voting.