Written Exam for the M.Sc. in Economics summer school 2013

Behavioral and Experimental Economics

Final Exam

August 20, 2013

(2-hour closed book exam)

Please note that answers must be provided in English.

All 5 questions have to be answered for obtaining the top grade.

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

Question 1: General issues in behavioral and experimental economics

a) Rabin (AER 2013) proposes an "Approach to incorporating Psychology into Economics". Name one example where this approach has been successfully employed.

b) Rabin (AER 2013) says: "most economic theory is not about developing new assumptions about people …". What is it about, according to Rabin? And what is "the core empirical exercise in economics" in his view?

c) Using the notation of Falk and Heckman (Science 2008), suppose a laboratory experiment identifies a strong causal effect of X_1 on Y (given Z) and a field experiment identifies a weaker effect of X_1 on Y (given Z'). What can be concluded for the ability of results from experiments to "generalize" to other environments Z''?

Question 2: Biases in probability estimates

a) According to prospect theory (Kahneman and Tversky, Ecma 1979) people weigh probabilities in a particular way.
i) Provide a (stylized) sketch of the "probability weighting function"
ii) What does the function imply for choices involving low-probability events?

b) Snowberg and Wolfers (JPE 2010) investigate the "favorite long-shot bias". What kind of data source do the authors use to investigate the bias? What do they find, and how does it relate to a) above?

c) The table below is taken from Slembeck and Tyran (JEBO 2004) who study the Monty Hall Game. Interpret the coefficients on *Switchwon*, *Switchlost*, *Switchbonus*, *Time* and $Time^2$ in the first part of the table.

Dependent Var. switch	d*F*/dx (2)	$P > \|z\|$ (5)
Learning		
Switchwon	0.3323	0.000
Switchlost	−0.2149	0.000
Switchbonus	0.0017	0.003
Time	0.0135	0.013
$Time^2$	−0.0003	0.008
Institutions		
Competition	0.1435	0.035
Communication	0.1549	0.022
Competition × *Communication*	0.0468	0.375
Interaction of learning and competition		
Competition × *Switchwon*	−0.1434	0.027
Competition × *Switchlost*	0.1407	0.021
Competition × *Switchbonus*	−0.0006	0.415
Competition × *Time*	0.0057	0.076
Interaction of learning and communication		
Communication × *Switchwon*	0.0032	0.961
Communication × *Switchlost*	−0.0964	0.136
Communication × *Switchbonus*	−0.0019	0.010
Communication × *Time*	0.0089	0.006

Number of observations = 1880, Log likelihood = −956.8

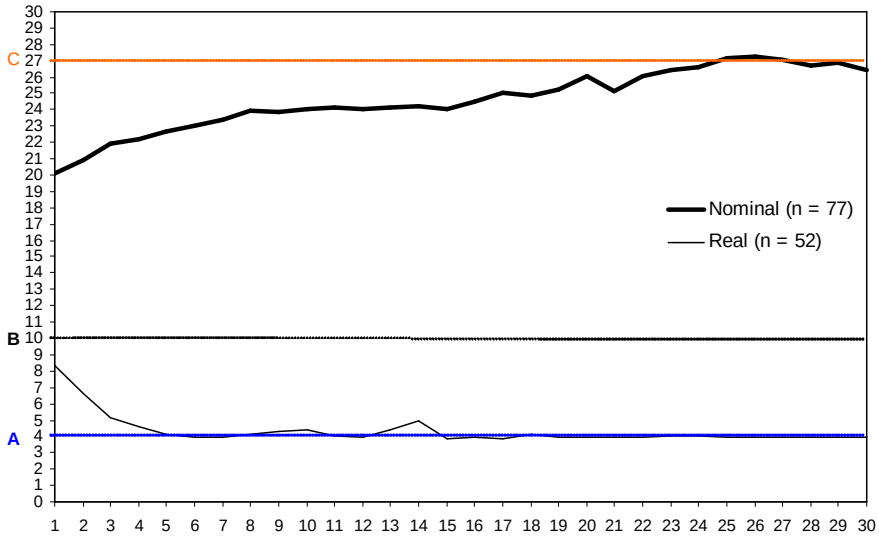
d) Croson and Sundali (JRU 2005) provide evidence for the "Gambler's fallacy". Explain the basic intuition of the fallacy. What is the authors' main finding?

Question 3: Nominal loss aversion and money illusion

a) Explain the expression "nominal loss aversion" (NLA).

b) Stephens and Tyran (WP 2012) construct an index of NLA. Explain how the index is constructed. Describe the observed distribution of NLA_i in the Danish population.

c) The figure below shows key results from Fehr and Tyran (GEB 2008). Discuss how these results shed light on the "long-run effects" of money illusion. (*Hint*: what do the letters A, B, C indicate?)



Question 4: The role of entitlements and needs in fair sharing

Cappelen, Moene, Sørensen, and Tungodden (JEEA 2013) conduct an experiment to evaluate the role of entitlements and needs in fair sharing.

a) Describe the design of Cappelen et al. (JEEA 2013).

b) What are the main descriptive results of the study?
(*Hint*: refer to differences in production across countries and assigned "prices", and to sharing patterns across countries)

c) The authors propose a model of how self-interest is traded off against fairness motives:

$$V^k(y;\cdot) = y - \beta(y - m^e)^2/2X - \delta\alpha(y - m^n)^2/2X$$

Derive the interior solution y^* (assume $\delta = 1$). (*Hint*: use $\tau = \beta / (\alpha + \beta)$)

d) In the model, the fairness view m^e can take three forms. Characterize these forms by using the following expressions: a_i (production of player i), p_i ("price"), X (total income available for distribution)

e) How does τ relate to the relative weight given to entitlements vs. needs? (*Hint*: refer to question c above)

f) The authors estimate a random utility model. What are the main findings of the estimation?

Question 5: Cooperation and punishment

a) Explain how the "strategy method" can be used to elicit cooperator "types" (e.g. in Thöni, Tyran and Wengström JPubE 2011). Describe the profile (slope) for a free rider and of a conditional cooperator. What distribution of "types" do the authors find in the Danish population?

b) Gächter, Herrmann and Thöni (Science, 2008) observe substantial variation across countries in the "punishment game" (e.g. Fehr and Gächter AER, 2000). How do the authors explain this variation?

c) Markussen, Putterman and Tyran (RES, forthcoming) 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:

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

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