Written Exam at the Department of Economics summer 2017

Foundations of Behavioral Economics

Final Exam

August 22, 2017

(3-hour closed book exam)

This exam question consists of 4 pages in total

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.

The exam consists of 4 questions with several subquestions. In order to get the best possible grade, you must answer all questions. Please note that, because of differences in the workload needed to answer the questions, different questions have different weights. When answering mathematical questions, you can use the calculator function on your computer. However, your responses must clearly and comprehensively reflect all steps your analysis. When answering non-technical questions, your answers can be short and concise (e.g., using bullet points), but your arguments must be explained sufficiently.

Good Luck!

Question 1: (weight: 31%)

a) During the course we discussed the model of belief-dependent sequential reciprocity by Dufwenberg and Kirchsteiger. Please define and explain their notion of kindness and perceived kindness. How do they formalize the emotion of 'reciprocity' using these two concepts?

b) Consider the following two-player sequential prisoner's dilemma (the upper payoff refers to player 1 and the lower to player 2)
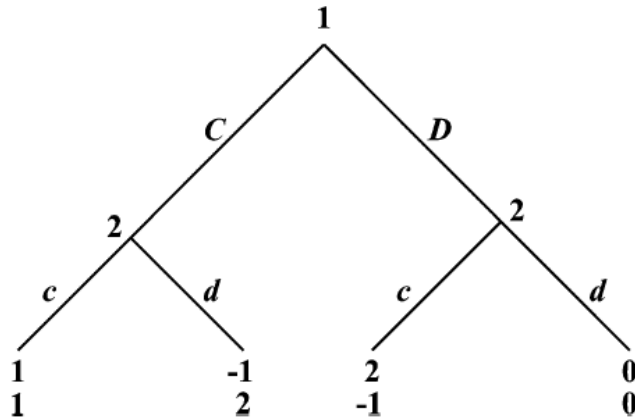

Fig. 2. Game Γ_2—the sequential prisoners' dilemma.

Under what circumstances is (C,cd) a sequential reciprocity equilibrium. I.e. under what circumstances is player 1 choosing strategy C and player 2 choosing strategy cd a sequential reciprocity equilibrium? Intuitively explain your result.

c) We also talked about the belief-dependent emotion 'guilt aversion'. Please formally and intuitively define it. Using this model, give an example for how guilt aversion might affect real world behavior.

Question 2: (weight: 35%)

Consider a consumer who is characterized by a Koszegi-Rabin utility function with the following properties

- $U(c|r) = m(c) + \mu(c|r)$

- with material utility $m(c)=c$

$$\mu(\cdot) = \begin{cases} (c_i - r_i) & \text{if} \quad c_i \geq r_i \\ \lambda(c_i - r_i) & \text{if} \quad c_i < r_i \end{cases}$$

- and two-piece linear gain-loss utility

  where $\lambda > 1$

The consumer faces a situation in which he risks losing \$1000. This damage occurs with probability 20% (*p=0.2*).

Alternatively, the consumer can buy an insurance police that fully insures him against the potential loss (choice *"I"*). The cost of the insurance police is \$280.

a) What is the reference point of the agent if he expects *not to buy* the insurance police? Provide a formal response and explain Koszegi/Rabin's underlying assumption of what determines the reference point.

b) What is the consumer's expected utility if he does not buy the insurance (choice *"NI"*) and does not expect to do so? I.e., what is *EU(NI|NI)*?

c) Is "not buying" the insurance (and expecting not to buy) a personal equilibrium?
   - *Hint: build on your result from part b) and check under which conditions* EU(NI|NI)> EU(I|NI)

d) Under which conditions is "buying the insurance" (and expecting to buy) a personal equilibrium?

e) What is the preferred personal equilibrium?

Question 3: (weight: 17%)

a) Discuss three different strategies for empirically identifying the relevance of limited attention in decision-making. Use the simple theoretical framework (i.e., the valuation function) discussed in class to illustrate your response.
   - *Hint: in the framework, the (perceived) valuation of a good was denoted as* $\hat{V} = v + (1 - \theta)o$

b) For one of the strategies mentioned in part a), discuss an empirical study in which the respective strategy was used.
   - Describe the basic economic environment, the key hypotheses, and the identification strategy of the study.
   - Briefly summarize the study's main empirical findings.

Question 4: (weight: 17%)

Based on empirical findings in economics and psychology, some people have argued that policy-makers should rely more heavily on a "libertarian paternalistic" policy approach.

a) What is the idea behind libertarian paternalism?

- Explain, in particular, the basic rationale for this approach from a behavioral welfare perspective.
- Critically discuss potential advantages and problems of the approach.

b) Provide an example of a libertarian paternalistic policy intervention. Discuss briefly what bias it tries to address, to what extent the intervention fulfills the idea of being both "libertarian" and "paternalistic", and use the example to illustrate your arguments from part a).