Written Exam at the Department of Economics summer 2019

Behavioral and Experimental Economics

Final Exam

26.8.2019

(2-hour closed book exam)

Answers only in English.

This exam question consists of 4 pages in total. All questions must be answered to obtain the top grade.

NB: If you fall ill during an examination at Peter Bangsvej, you must contact an invigilator in order to be registered as having fallen ill. In this connection, you must complete a form. 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.

Be careful not to cheat at exams!

You cheat at an exam, if during the exam, you:

- Make use of exam aids that are not allowed
- Communicate with or otherwise receive help from other people
- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Or if you otherwise violate the rules that apply to the exam

Question 1: Loss aversion

Loss aversion (Kahneman and Tversky ECMA 1979) is a key concept of behavioral economics. It can potentially explain important phenomena which cannot easily be accounted for by standard economics.

a) Loss aversion can be used to set incentives to reach particular policy goals more effectively. An example is Fryer, Levitt, List and Sadoff (NBER WP 2012) whose goal it was to improve schooling outcomes.
Briefly explain the basic design, the main finding, and how it relates to loss aversion.

b) What other phenomena can loss aversion account for? Name **one** example of research discussed during the course to illustrate. For the example you choose, describe the setting we discussed (survey study, lab or field experiment) in sufficient detail (in similar detail as discussed in the slides), explain what role loss aversion plays in the setting, and discuss the potential relevance of the finding for economic theory or policy.

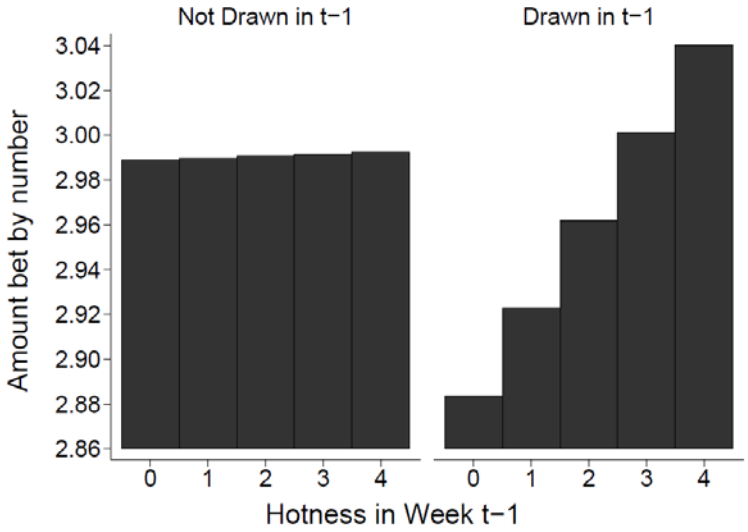
Question 2: Biases in probability estimates

a) Friedman (AER 1998) observes that subjects do not "switch" as often as predicted by standard economic theory in the standard Monty Hall Game in which subjects pick one of three doors containing a prize.
Name **two** treatment variations that can mitigate the "anomaly" and explain why these manipulations are expected to be behaviorally effective.

b) A "Hot hand fallacy" (HHF) has been claimed to be present in Basketball (Gilovich, Vallone and Tversky 1985). The evidence was later contested.
What is the HHF? Why is it difficult to test for the HHF in a sport like basketball?

c) 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?

d) Suetens, Jørgensen and Tyran (JEEA 2016) study the Gambler's fallacy (GF) and the Hot-Hand fallacy (HHF) using Lotto data in Denmark. The figure below presents their estimates for how much "changers" bet. Explain how the Gambler's fallacy and the Hot-Hand fallacy can be read off the figure



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 r 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) How does an increase in the share of irrational players s shape the deviation of aggregate outcomes from the standard prediction in the game above? Is the change proportional to the change in s? Why (not)? *Hint*: refer to direct vs. indirect effects

c) Cooper, Schneider and Waldman (GEB 2017) use a guessing game with $T = pM + d$.

c1) The authors study shocks in two treatments that differ with respect to d and p. How are these parameters set, what hypothesis do they test, and do the results support the hypothesis?

c2) How do the findings of Cooper et al. (GEB 2017) relate to Fehr and Tyran (ECMA 2008)? (*Hint*: these authors study the effect of strategic incentives on nominal inertia)

Question 4: Social Preferences

a) Franzen and Pointner (ExEc 2012) use the "misdirected letter technique" to study the "generalizability" of standard laboratory findings in the dictator game. What do they find?

b) Cappelen, Nielsen, Sørensen, Tungodden and Tyran (Ecs Letters 2013) replicate a study by List (JPE 2007) that challenges the view that giving in the dictator game is a good measure of preferences for altruism or generosity. Describe the design and the main finding of Cappelen et al. (2013)

c) Prasnikar and Roth (QJE 1992) study the multi-proposer Ultimatum game. Describe the game and the main finding.

d) Cappelen, Moene, Sørensen, and Tungodden (JEEA 2013) conduct an experiment to evaluate the role of entitlements and needs in fair sharing. The authors propose a model of how self-interest is traded off against fairness motives:

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

In which 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)

Question 5: Discrimination

a) Bertrand and Mullainathan (AER 2004) is an example of a "correspondence test" to investigate ethnic discrimination.

   a1) Briefly describe the experiment.

   a2) What is the main finding of the study?

b) Hedegaard and Tyran (JEEA 2018) develop a new type of field study to investigate ethnic discrimination in Denmark.

   b1) Describe the general setup of the experiment and how the "price of prejudice" is varied in treatments Info?

   b2) Describe the main results of treatment Info. Is discrimination found to be responsive to price changes?

   b3) Which concern with the interpretation of the result in Info does treatment NoName address? What is the finding?