Written Exam for the M.Sc. in Economics summer 2015

The Psychology of Choice

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Experimental Theory and Methods

Final Exam/ Elective Course/ Master's Course

May 26, 2015

(3-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title that was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

This exam question consists of 3 pages in total including this page.

(1) Anchoring and Heuristics

Often we have to take decisions involving considerable uncertainty. Examples are: (i) going for a picnic (depending on the likelihood of rain); (ii) amount of food we bring to the picnic (depending on the amount of friends that might show up); (iii) buying a particular flat (depending on the likelihood with which prices on housing market rise) etc. All these decisions implicitly involve judgments about the likelihoods of uncertain values.

In the course we discussed that these judgments are often influenced by anchoring.

a. Please explain the concept of 'coherent arbitrariness' developed by Ariely *et al.* in the article: Ariely, D., Loewenstein, G. and Prelec, D. (2003), "Coherent Arbitrariness: Stable Demand Curves without Stable Preferences", The Quarterly Journal of Economics, 118(1), 73-105. Furthermore, discuss possible implications of this idea.

b. Describe one of the experiments that Ariely *et al.* conducted and explain why they did this experiment in the context of their study of the idea of coherent arbitrariness.

c. We not only talked about the anchoring effect, but also about the availability heuristic. Please define the availability heuristic, use one of the experiments discussed during the course to explain it and discuss possible implications.

(2) Ref. Dependence, Framing and Loss Aversion

The economic theory of the consumer is a combination of positive and normative theories. Since it is based on a rational maximizing model it describes how consumers *should* choose, but it is alleged to also describe how they *do* choose. Thaler, R. (1980), "Toward a Positive Theory of Consumer Choice", *Journal of Economic Behavior and Organization*, 1(1), 39-60, identifies certain well-defined situations where this is not so.

a. One example that Thaler gives of this is the *endowment effect*: "Mr. R bought a case of good wine in the late 50s for about $5 a bottle. A few years later his wine merchant offered to buy the wine back for $100 a bottle. He refused, although he has never paid more than $35 for a bottle of wine."

   Describe how prospect theory can explain this prediction. Describe how the rational maximizing model also can explain this prediction. Discuss the two explanations with a specific focus on why prospect theory may offer a more parsimonious explanation.

b. Another example that Thaler gives of this is the *sunk cost effect*: "A man joins a tennis club and pays a $300 yearly membership fee. After two weeks of playing he develops a tennis elbow. He continues to play (in pain) saying 'I don't want to waste the $300!'"

Describe how prospect theory can explain this prediction. Describe what the rational maximizing model will predict. Discuss the two explanations with a specific focus on experienced and anticipated consumption.

c. Finally, Thaler also gives an example of *regret*: "Mr. A is waiting in line at a movie theater. When he gets to the ticket window he is told that as the 100,000th customer of the theater he has just won $100. Mr. B is waiting in line at a different theater. The man in front of him wins $1,000 for being the 1,000,000th customer of the theater. Mr. B wins $150. Would you rather be Mr. A or Mr. B?"

Use prospect theory to explain why many people chooses to be Mr. A. Explain what the rational maximizing model will predict. Discuss the two prediction with a specific focus on the incentive to eliminate choice.

(3) Choice Architecture
Choice architecture reflects the fact that there are many ways to present a choice to the decision-maker, and that what is chosen often depends upon how the choice is presented. Choice architects can influence choice in many ways: by varying the presentation order of choice alternatives, the order attributes and their ease of use, and the selection of defaults, to name just a few of the design options available.

a. Please describe the use of a default options in organ donation studied in the article: Johnson, E.J. and Goldstein D. (2003), "Do Defaults Save Lives?", Science Magazine, 302, 1338-1339. Furthermore, discuss why the default is so strong in organ donation and describe a choice situation where the default option may not matter so much.

b. As convincingly demonstrated by Eddy, D. M. (1982), "Probabilistic Reasoning in Clinical Medicine: Problems and Opportunities" In Kahneman, Daniel, Paul Slovic, and Amos Tversky (ed.): Judgment under uncertainty: Heuristics and biases, Cambridge: Cambridge University Press, even doctors' judgments about likelihoods in the cases of life and death are prone to errors. Please describe Eddy's experiment and discuss ways in which such judgments errors can be mitigated by a choice architect.

c. In the course we discussed the role of a choice architect, concretely, that they should try to "nudge" people towards choices that are obviously rational without making it harder for people to make other choices if they really want to do so. Give an example of "nudging" where this is the case, and discuss the ethical considerations that are associated with the example.