Written Re-Exam for the M.Sc. in Economics winter 2018

The Psychology of Choice

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Experimental Theory and Methods

Final Exam/ Elective Course/ Master's Course

February 14, 2019

(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) Ref. Dependence, Framing and Loss Aversion

The definition of rationality has been much debated. However there is in economics a general agreement that rational choices should satisfy some elementary requirements of consistency and coherence. In the following questions you will be asked to describe systematic violations to the requirement of consistency, and trace these violations to the psychological principles that govern decision problems.

  a. *Tversky, A. and Kahneman, D. (1981) "The Framing of Decisions and the Psychology of Choice", Science,* introduced the notion of the framing of contingencies (i.e., conditional probabilities that relate outcomes to acts).

   What axiom of rationality did they investigate using this method of framing? Describe and discuss their findings.

  b. The above mentioned paper consider the following two decision problems:

   Decision Problem 1: Which of the following options do you prefer?
   A. *A sure win of $30 [78 percent]*
   B. *A 80% chance to win $45 [22 percent]*

   Decision Problem 2: Which of the following options do you prefer?
   A. *A 25% chance of win $30 [42 percent]*
   B. *A 20% chance to win $45 [58 percent]*

   Discuss and explain the design, results and intuition of these decision problems. (The percentages in the brackets show how many individuals chose that option.)

  c. The above mentioned paper also proposed the following variant of question *1b* above:

   Decision Problem 3: Consider the following two-stage game. In the first stage, there is a 75% chance to end the game without winning anything, and a 25% chance to move into the second stage. If you reach the second stage you have a choice between:
   C. *A sure win of $30 [74 percent]*
   D. *A 80% chance to win $45 [26 percent]*

   Discuss and explain the design, result, and intuition of this decision problem. (The percentages in the brackets show how many individuals chose that option.)

(2) 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. *Johnson, E.J. and Goldstein D. (2003), "Do Defaults Save Lives?", Science Magazine,* studied how default options implicitly are used in organ donation .

   Describe the use of opt-in and opt-out in organ donation. 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. *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*, demonstrated that even doctors' judgments about likelihoods in the cases of life and death are prone to errors.

   Describe Eddy's experiment and discuss ways in which such judgments errors can be mitigated by choice architecture.

c. A choice architect 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.

(3*) Overconfidence*
During the course we talked about overconfidence. One of the facets of overconfidence is miscalibration. Please explain the concept of miscalibration and how it is usually measured. What are the potential problems with this measure?

a. How does the measure of 'true overconfidence' presented in *Glaser, Langer and Weber (2013) "True Overconfidence in Interval Estimates: Evidence Based On a New Measure of Miscalibration", Journal of Behavioral Decision Making*, solve this problem?