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

The Psychology of Choice

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Experimental Theory and Methods

Re-exam/ Elective Course/ Master's Course

19 August 2013

(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 which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

This exam question consists of 4 pages in total including this page.

Question 1:

1. Explain the concept of "Loss Aversion" and explain how loss aversion might give rise to an "Endowment Effect".

2. In the article "Availability: A Heuristic for Judging Frequency and Probability" Kahneman and Tversky present the availability heuristics using different experimental studies. One of the studies is the following:

Study 4: Permutations

"Consider the two structures, A and B, which are displayed below.

(A)	(B)
X X X X X X X X	X X
X X X X X X X X	X X
X X X X X X X X	X X
	X X
	X X
	X X
	X X
	X X
	X X
	X X
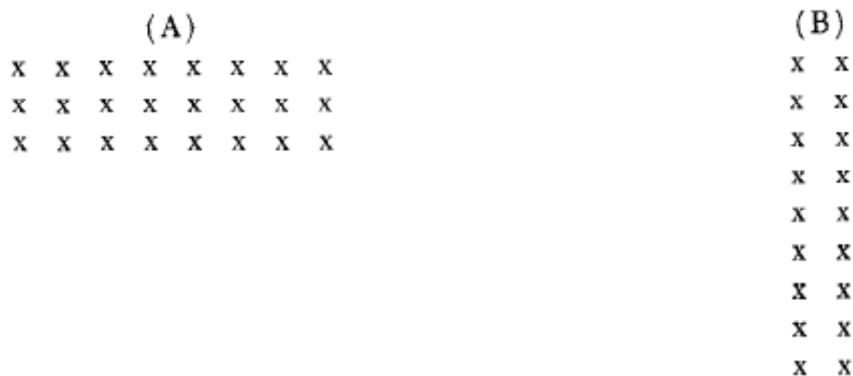
A path in a structure is a line that connects an element in the top row to an element in the bottom row, and passes through one and only one element in each row.

In which of the two structures are there more paths?
How many paths do you think there are in each structure?"

Please explain the availability heuristic with the help of this study and explain what factors might influence the differential availability of paths in the two structures.

3. Explain the representativeness heuristic and explain why the use of the representativeness heuristic might lead to the conjunction fallacy.

4. Which are the potential biases that the representativeness heuristic leads to? Explain them!

Question 2: When faced with complex choice situations, cognitive representations of the choice options greatly influence our preferences. Cognitive resources are scarce and consequently we cannot process all the relevant information nor retain the information in working memory. Thus, our choices are often guided by heuristic rules that ease the strain on our cognitive resources. As in question 1, in the following questions you will be asked to consider some of the heuristics that guide our choice behavior in relation to underlying cognitive mechanisms.

1. Describe the functions of the availability heuristic and the related cognitive mechanisms (consider e.g., Kahneman & Tversky, 1974, Judgment under uncertainty: Heuristics and biases; Oppenheimer, 2004, Spontaneuos discounting of availability in frequency judgment tasks; Wänke et al, 1995, The availability heuristic revisited: Experienced ease of retrieval in mundane frequency estimates).

2. Discuss how memory representations and schemas influence judgments and preferences.

3. Give an account of differences between remembered and experienced utility, and discuss these types of utility in relation to the neo-classical concept of utility (Bernoullian utility).

4. Explain the principles of satisficing and fast-and-frugal heuristics as described by Gigerenzer & Sturm, 2012.

Question 3: Explanations and predictions of people's choices are often founded on the assumption of human rationality. The definition of rationality has been much debated, but in there is 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 the perception of decision problems and the evaluation of options.

1. Tversky and Kahneman introduced the notion of the framing of contingencies (i.e., conditional probabilities that relate outcomes to acts). Which of axiom of rationality did they investigate using this method of framing?

2. Consider the following two framing of contingencies experiments from Tversky and Kahneman (1981):

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

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

   Discuss the design, results, and intuition of these experiments.

   Include a description of why reducing the probability of an outcome by a constant factor has more impact when the outcome is initially certain, than when it is merely probable.

3. Tversky and Kahneman (1981) also proposed the following variant of the above mentioned experiments:

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. *80% chance to win $45 [26 percent]*

Discuss the difference between the three Decision Problems.

4.   In the experiment above we have considered elementary outcomes, such as gains or losses in a single attribute. In many situations, however, an action gives rise to a compound outcome, which joins a series of changes in a single attribute, such as a sequence of monetary gains or losses, or a set of concurrent changes in several attributes.

Consider the following two experimental setups, which were given to two different groups of subjects. Group 1 was given the values that appear in parentheses, and Group 2 the values shown in brackets.

Imagine that you are about to purchase a jacket for ($125) [$15], and a calculator for ($15) [125$]. The calculator salesman informs you that the calculator you wish to buy is on sale for ($10) [$120] at the other branch of the store, located 20 minutes drive away. Would you make the trip to the other store? Yes [Group 1, 68 percent; Group 2, 29 percent] or No [Group 1, 32 percent; Group 2, 71 percent].

Explain why 68 percent of Group 1 where willing to make an extra trip, while only 29 percent in Group 2 where willing to exert the same effort.