

Written Exam for the M.Sc. in Economics summer 2016

The Psychology of Choice

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Experimental Theory and Methods

Final Exam/ Elective Course/ Master's Course

June 8, 2016

(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) Attention

During the course we talked about attention and working memory. Especially, we talked about there being competition for limited cognitive resources and that this influences our choices.

- a. Please explain the behavioral characteristics of this competition and how it relates to bottom-up and top-down biases.
- b. In the article,

Desimone and Duncan (1995) "Neural Mechanisms of Selective Visual Attention", Annual Review of Neuroscience, 18, 193–222,

the authors outline the neurobiological limitations that make competition necessary. Please explain these limitations.

- c. Once the competition has ended, available information is stored in the working memory.

Luck and Vogel (1997) "The Capacity of Visual Working Memory for Features and Conjunctions", Nature, 390(6657), 279–281,

established the properties of this storage. Please describe these properties.

(2) Ref. Dependence, Framing and Loss Aversion

We also talked about framing effects—the fact that people are remarkably susceptible to the manner in which options are presented. Especially, we talked about framing of choices (or acts), framing of outcomes, and framing of probabilities (or contingencies).

- a. Please describe each of the framing effects with a focus on the assumption of rational choice they violate.
- b. The framing of outcomes is the fundamental idea behind prospect theory. Please describe prospect theory's value function and discuss how it relates to framing.
- c. In the article,

De Martino, Kumara, Seymour and Dolan (2006) "Framing, Biases and Rational Decision-Making in the Human Brain", Science, 313, 684–687,

the authors study the neurobiological basis of framing. Please discuss their experimental design and results, with a special focus on the key role of the amygdala.

(3) Anchoring and Heuristics

During the course we talked about different heuristics (rules of thumb) that people use to evaluate the likelihood of uncertain events or uncertain quantities:

- a. Please define these heuristics as clearly as possible.
- b. What is the conjunction fallacy and why might the use of the representativeness heuristic lead to it.

(4) Overconfidence

We also talked about overconfidence. Please explain why the authors of the article,

Glaser, Langer and Weber (2013) "True Overconfidence in Interval Estimates: Evidence Based On a New Measure of Miscalibration", Journal of Behavioral Decision Making, 26(5), 405–417,

call their measure of overconfidence a measure of 'true overconfidence'?