

Written 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

January 15, 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) Attention**

During the course we talked about attention and working memory. Especially, we talked about how information processing becomes a significant player when faced with many choice options. In the following questions you will be asked to consider which component influence selection for awareness and how these components are related to choice situations.

- a. *Desimone, R. and Duncan, J. (1995) "Neural Mechanisms of Selective Visual Attention", Annual Review of Neuroscience, 18, 193–222*, describe two basic phenomena (i.e. competition and selectivity) that define the problem of visual attention.

Explain the two concepts and describe how they affect choice. (Hint: use the rational choice model as a benchmark.) Describe the pop-out effect and what drives it.

Points that should be included in the answer:

See page 194-213 and conclusion of "*Desimone and Duncan (1995) "Neural Mechanisms of Selective Visual Attention, Annual Review of Neuroscience, 18, 193–222"*".

- b. *Reutskaja, E., Nagel, R., Camerer, C.F. and Rangel, A. (2011) "Search Dynamics in Consumer Choice under Time Pressure: An Eye-Tracking Study", American Economic Review, 101(2), 900–926"*, investigated the effects of attention on visual search dynamics of consumer choice.

Explain the effects of increasing number of choice options, and how the effects verify or falsify the three hypotheses (i.e. models) that are tested. Relate the two basic phenomena from question "1a" to the dynamics of search behavior.

Points that should be included in the answer:

See page 904-912 and conclusion of "*Reutskaja, E., Nagel, R., Camerer, C.F. and Rangel, A. (2011) "Search Dynamics in Consumer Choice under Time Pressure: An Eye-Tracking Study", American Economic Review, 101(2), 900–926"*".

## **(2) Ref. Dependence, Framing and Loss Aversion**

We also talked about Prospect Theory— the fact that people make decisions based on the potential value of losses and gains rather than the final outcome, and that people evaluate these losses and gains using some reference point. Especially, we talked about some abnormalities that Prospect Theory could explain.

- a. *Thaler, R. (1980) "Toward a Positive Theory of Consumer Choice", Journal of Economic Behavior and Organization, 1(1), 39-60*, argues that in certain well-defined situations many consumers act in a manner that is inconsistent with standard economic theory and that Prospect Theory can be used as the basis for an alternative descriptive theory.

Describe, explain, and draw the main mechanisms of Prospect Theory. Use Prospect Theory to describe the effects of searching and the psychophysics of prices [Section 5; Thaler, 1980]. (Hint: think about the minimal price differential which would induce a consumer to buy at a different store.) Contrast your answer, with the answer you gave in question "1b".

Points that should be included in the answer:

See page 41-34 and page 50-51 of "Thaler, R. (1980) "Toward a Positive Theory of Consumer Choice", *Journal of Economic Behavior and Organization*, 1(1), 39-60".

- b. Kahneman, D., Knetsch, J.L. and Thaler, R.H. (1991) "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias", *The Journal of Economic Perspectives*, 193-206, describe deviations from standard economic theory that can be accounted for by Prospect Theory—one of these was the Endowment Effect.

Explain and draw how Prospect Theory can account for the Endowment Effect. Describe why and how the Endowment Effect is inconsistent with standard economic theory.

Points that should be included in the answer:

See page 41-34 of "Kahneman, D., Knetsch, J.L. and Thaler, R.H. (1991) "Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias", *The Journal of Economic Perspectives*, 193-206".

### **(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. Especially, we talked about the representativeness heuristics, in which probabilities are evaluated by the degree by which one event resembles another event.

- a. Tversky A. and Kahneman, D. (1974) "Judgment under Uncertainty: Heuristics and Biases", *Science*, 185(4157), 1124-1131, argues that we rely on the representativeness heuristic when judging probabilities in specific situations.

Describe the probabilistic questions that are typically answered by use of the representativeness heuristic. Explain how the representativeness heuristic can explain insensitivity to prior probability of outcomes (i.e. base-rate frequency)—relate your answer to Bayes-rule. By use of the representativeness heuristic explain how and why a limited sequence of events can lead to misconceptions of chance.

Points that should be included in the answer:

See page 1124-1127 of "Tversky A. and Kahneman, D. (1974) "Judgment under Uncertainty: Heuristics and Biases", *Science*, 185(4157), 1124-1131".

