UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4260 – Behavioral Economics**

Date of exam: Thursday, June 2, 2016 **Grades are given: June 22, 2016**

Time for exam: 02.30 p.m. – 05.30 p.m.

The problem set covers 3 pages

Resources allowed:

- No written or printed resources – or calculator - is allowed (except if you have been granted use of a dictionary from the Faculty of Social Sciences)

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

The exam consists of four problems, which are divided into several parts. The percentage weights on each problem are indicated. Start by reading through the whole exam, and make sure that you allocate time to answering problems you find easy. You can get a good grade even if there are parts of problems that you do not have time to solve.

Problem 1 (weight 32.5%, each part counts equally)

(a) Explain briefly what the *endowment effect* is.

(b) Two kinds of experiments were initially used to demonstrate the endowment effect; an experiment showing disparity in willingness to accept and willingness to pay and an experiment that found too few exchanges. Explain the main design of these experiments and the basic finding in the initial literature.

(c) How can Prospect theory be used to explain the endowment effect?

(d) Recently the empirical support for the endowment effect has been questioned in new experiments. Can you mention one or two such experiments and the main results?

(e) Given the evidence that has been discussed in the course, what are the arguments in favor of and against the existence of an endowment effect?

Problem 2 (weight 32.5%, each part counts equally)

(a) Explain what is meant by the (β, δ) model of the quasi-hyperbolic discounting, and how it departs from the exponential discounting model.

(b) What is time-inconsistency and intertemporal preference reversal? Give real-life examples.

(c) Explain how the (β, δ) model of the quasi-hyperbolic discounting can explain intertemporal preference reversal, using a numerical example. The numerical example must have (at least) three periods and two alternatives, where the choice between the two alternatives is made in the second period (so that the utility in the first period is the same for both alternatives). In particular, the alternatives might be of the form $(0,0,x)$ and $(0,y,0)$, where x and y are positive or negative numbers.

(d) What is meant by naïve and sophisticated behavior when preferences are time-inconsistent? Show the difference between naïve and sophisticated behavior by adding to your numerical example a third alternative that can be chosen in the first period, and where the choice of this alternative rules out the other two alternatives. This third alternative might be of the form $(z, 0,0)$, where z is a positive or a negative number.

(e) Why might a sophisticated decision-maker with time-inconsistent preferences want to pay for costly commitment, while a naïve decision-maker will not? Illustrate by your numerical example. Give real-life examples indicating that people pay for costly commitment.

Problem 3 (weight 15%, each part counts equally)

(a) What is an ultimatum game?

(b) Assume that players care only about their own material self-interest, and that this is common knowledge. How would you expect players in a one-shot ultimatum game with full anonymity to behave? Why?

(c) What are the typical findings when ultimatum games are played in laboratory experiments (one-shot, full anonymity)?

Problem 4 (weight 20%, each part counts equally)

In a sports club there is no formal membership fee. However, each member is encouraged to contribute a recommended fixed amount of 1 of some unit (e.g. thousand kroner) voluntarily. Everyone who makes the recommended contribution gets a sticker, intended to be placed on an easily visible place on their sports gear. The club has N members, where $N > 0$ is exogenously fixed. Assume that each member i's utility U_i is given by

(1) $$U_i = u(c_i) + v(G) + s_i \ ,$$

where u and v are concave and strictly increasing functions, c_i is i's private consumption, G is the activity level of the sports club, and s_i is the social approval to i from other club members. Let i's budget constraint be given by

(2) $$Y = c_i + g_i \ .$$

Y is i's exogenous income, which is assumed to be the same for everyone. g_i is i's voluntary contribution to the sports club. Everyone contributes either the suggested amount or nothing; hence, for every i, g_i equals either 1 or 0. The activity level of the club is given by

(3) $$G = \sum_{i=1}^{N} g_i \ .$$

Individual members do not expect others' contribution choice to depend on their own behavior. Further, the club is large, and each individual member will not be able to notice the difference in club activity caused by his/her own contribution. Thus, when choosing whether to contribute, each member behaves as if G were exogenously fixed.

Let a be the share of contributors among members. Note that $a = G/N$ (due to eq. (3) and the fact that any strictly positive contribution equals 1). Individuals behave as if a is exogenously fixed.

Assume that contributors give social approval to other contributors, while non-contributors neither give nor receive social approval. Assume that this gives rise to the following relationship between i's contribution and the social approval he or she receives:

(4) $$s_i = g_i K a \ ,$$

where K is some strictly positive constant.

(a) Under what conditions does an individual i prefer to contribute in this model?

(b) Can a zero activity in the club ($G = 0$) be a Nash equilibrium outcome in this model? Why/why not?

(c) Can an activity level of $G = N$ be a Nash equilibrium outcome in this model? Why/why not?

(d) Does the club's policy of giving stickers to contributors play any important role in the above model? Discuss.