Behavioral Economics

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Homework 3

Due 16th May 2022

Question 1 (Information Aversion vs Rational Inattention) Read the papers "Information Aversion" (journals.uchicago.edu/doi/abs/10.1086/705668?af=R&mobileUi=0) by Andries and Haddad and "A News Utility Theory for Inattention and Delegation in Portfolio Choice" (https://www.dropbox.com/s/tz2q4dxnunoip4j/PortfolioChoiceMP.pdf?dl=0) by Pagel. Design an experiment to differentiate between inattention driven by costs derived from non-expected utility (as in these two papers) and rational inattention type information costs. A good answer will have thought very carefully abouit behavior that is consistent with each class of model in order to inform the experiment, and so will have a strong theory component. EXPILICTLY DESIGN AN EXPERIMENT IN WHICH BOTH COULD BE EXPLANATIONS AND TEST WHICH ONE

Question 3 (Four different approaches to the endowment effect for risk) Consider a typical endowment effect types experiment. A subject is first endowed with a lottery, and their WTA for selling that lottery, then is endowed with some money e and their WTP for the same lottery is elicited. For the sake of completeness, assume that the lottery in question is a 50% chance of \$10 and a 50% chance of \$0. For each of the following models, calculate the WTA and WTP, discuss how they change with the parameters of the model and determine whether there is an endowment effect for risk

1. The Kosezgi Rabin model

$$U(p,r) = \sum_{x \in X} p(x)u(x) + \sum_{x \in X}\sum_{y \in X} v(u(x) - u(y))p(x)r(y)$$

where $v(z) = z$ if $z > 0$ and $v(z) = \lambda z$ if $z \leq 0$.

Assuming that the reference point is the endowment. To make it a bit more fun, do not assume linear utility. You should be able to guess and verify that the WTA will equal the expected utility of the lottery. for the WTP you will get an implicit expression, so assume a particular utility function.

2. The Choice acclimatizing personal equilibrium model - so people maximize the utility function

   TRY WITH LINEAR UTILITY FIRST

$$U(p) = \sum_{x \in X} p(x)u(x) + \sum_{x \in X} \sum_{y \in X} v(u(x) - u(y))p(x)p(y)$$

3. A model in which the DM (i) calculates the expected utility of the lottery and then (ii) treats the lottery like a 'mug' in the model of loss aversion in riskless choice we discussed in class

4. The prospect theory model where the reference point is (a) zero and (b) the value of the endowment - so either e or the expected value of the lottery

5. Third generation prospect theory where

$$U(q, r) = \sum_{x \in X} \sum_{y \in X} U_3(x|y) p_{q,r}(x, y)$$

   Where $p_{q,r}(x, y)$ is the joint distribution of q and r (recall that if they are the same lottery they will be perfectly correlated and

$$U_3(x|y) = \begin{cases} (x - y)^{\beta} \text{ if } x > y \\ = -\lambda(y - x) \text{ if } x \leq y \end{cases}$$