

Behavioral Economics

Mark Dean

Homework 5

Due Tuesday April 7th

Question 1 Consider a quasi-hyperbolic consumer who will live for three periods. In each period, they can choose between watching a frivolous movie, which will give a payoff 1 in the period it is watched, and a worthy movie that will give a payoff R in the period it is watched and all subsequent periods

1. Under what conditions will the consumer in period 2 choose to watch the frivolous movie in that period?
2. Under what conditions will the consumer in period 1 choose to watch the frivolous movie in that period?
3. Under what conditions would the period 1 consumer like the period 2 consumer to watch the worthy movie?
4. Calculate the amount that a sophisticated period 1 consumer would pay to constrain the period 2 consumer to watching the worthy movie, as a function of the parameters of the model.

Question 2 Let X be a finite set of prizes and $\Delta(X)$ be the set of lotteries over those prizes. Show that, if a set of preferences \succeq on $\Delta(X)$ has an expected utility representation, then it must be the case that it satisfies the independence and Archimedean axioms

Question 3 Show that, if $u : X \rightarrow \mathbb{R}$ is a von-Neuman Morgensten utility function that represents \succeq , then $v : X \rightarrow \mathbb{R}$ also represents \succeq if and only if $v(x) = au(x) + b$ for all $x \in X$ and some $a > 0, b \in \mathbb{R}$

Question 4 Over the coming weeks, I want you to prepare a 1 page research proposal for your project. As practice for this, I want you to prepare a 1-2 page research proposal of someone else's work. In your groups, I want you to pick a paper related to the course, and imagine that this research has NOT been done, but you want to persuade someone that it SHOULD be done - i.e. write a research proposal for the project. This proposal should include the following information

1. What SPECIFICALLY is the question that you would like to answer
2. Why this is interesting
3. What you are going to do in order to answer this question (the experiment that you would run or the theory that you would do)
4. How doing this will answer the question

If you are struggling to find a paper, you can email me or the TAs for suggestions. As well as submitting your paper as part of the homework, I will be picking on random individuals in class to give a 5 minute talk through their research proposals on Tuesday April 7th and Thursday April 9th. The individual, who I will select in class, will have to talk (i.e. they cannot defer to another member of the group) so be prepared.