Paper 4 IIB. Behavioural and Experimental Economics

Supervision 1, Lent 2019

Julia Shvets

Question 1 Consider one of the experiments in Kahneman and Tversky (1979) (also discussed in the lectures), where the subjects were randomly allocated to two scenarios, with the following instructions:

Scenario I:
You have been given 1000 Israeli pounds. Please choose between two possibilities, A & B:

A: 1000 with probability 50%, 0 with probability 50%

B: 500 with certainty

Scenario II:
You have been given 2000 Israeli pounds. Please choose between two possibilities, C & D:

C: -1000 with probability 50%, 0 with probability 50%

D: -500 with certainty

1. Explain what choices each of the following theories would predict, and compare these predictions to what Kahneman and Tversky observed in the experiment:
   (a) Subjects are expected utility maximizers (benchmark, did it in the lectures)
   (b) Subjects have a utility described by Kahneman and Tversky where the reference point is
      i. the amount of money the subjects had before the start of the experiment (for simplicity, you can assume it is the same for everyone)
      ii. the amount of money the subject receives from the experimentor at the start of the experiment (i.e. 1000 or 2000 pounds depending on the scenario).
      iii. the expected value of the money to be received in the experiment
2. Comment on the role of diminishing sensitivity assumption in predicting the results in the three versions of the Kahneman and Tversky model.
3. What do we learn from this exercise?

Question 2 Read Fehr and Goette 2007 AER (F&G), and prepare for a discussion, giving brief answers to the following questions:

a) Explain the challenges of estimating substitution effect of wages on labour supply using non-experimental data. Which features of F&G design allow to deal with these problems? In particular, compare this study with those of the taxi drivers. What are the advantages and drawbacks of F&G design relative to them?

b) Why do F&G look at changes in effort in *fixed shifts* only?

c) What do F&G need to assume about the reference point in order to argue their evidence is consistent with a reference-dependent utility model? Is this assumption plausible?

d) What variant of a neoclassical model can also explain F&G results? How do F&G try to argue that reference-dependence is more likely to be the model underlying their data?

Question 3 Consider the model of consumer who is buying shoes, as described in Közsegi and Rabin 2006, beginning of Section IV. Suppose that there are two possible market prices, $p_L < p_{min}$ and $p_L < p_H < p_{max}$, occurring with probability q_L and $1 - q_L$ respectively, where p_{min} and p_{max} are defined on p. 1146.

a) Define Personal Equilibrium (PE). Consider the strategy 'Always buy'. Derive the condition on λ (relative to other parameters of the model) which needs to be satisfied for this strategy to be a PE. Clearly label gain/loss utility that would arise if this strategy were a PE.

b) Show that in this PE utility in both states of the world falls in q_L, hence verifying proposition 1.1 of the paper, and illustrating the maxim 'the key to happiness are low expectations.' Comment.

c) Verify that if $\eta = 1$, $p_L = 1/4$, $p_H = 9/8$ and $q_L = 1/2$, 'Always buy' is an PE for $\lambda > 13/9$. Further show that if $\lambda < 7$, any PE will involve the consumer buying shoes at p_L.

d) Show that, given parameters in the previous part, for a sufficiently high value of λ, never buying shoes (and rationally expecting this) gives a higher utility to this consumer than the ex-ante expected utility in the 'Always buy' equilibrium. Explain

why this happens. Now consider a deterministic environment where the price is always 9/8, and show that 'Always buy' can be PE for $\lambda > 10/8$.