

## Behavioral Economics. Problem Set 2. Part B.

**Due Week 6, Friday, in class, 4.40pm.** Each hour delayed means a penalty of 2% of the Problem Set grade.

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1. (8 points) Suppose Jack's lifetime utility function is given by

$$U(c_0, c_1, c_2, \dots) = \log(c_0) + \delta \left( \sum_{t=1}^{\infty} \beta^t (v(c_{t-1}) + \log(c_t)) \right),$$

where  $v(c_{t-1}) = -\sqrt{c_{t-1}}$ , and  $0 < \delta < \beta < 1$ .

- (a) (0 points, for practice) Write down Jack's utility for the first three periods: 0,1,2
- (b) (1 point) What good could  $c$  be? Argue carefully. Use an example other than an example provided in class (if any).
- (c) (1 point) How much will Jack decide today to consume today? (i.e, what is  $c_0^*$ ?)
- (d) (1 point) How much will Jack decide today to consume tomorrow? (i.e, what is  $c_1^*$ ?)
- (e) (1 point) How much will Jack decide today to consume the day after tomorrow? (i.e, what is  $c_2^*$ ?)
- (f) (1 point) Which one is the largest? Explain the intuition  
Now suppose that one day passes. So we are at  $t = 1$ . Jack already decided in  $t = 0$  what he wanted to consume for the rest of his life ( $t = 0, 1, 2, 3, \dots, 9$ ). But he does not trust his past self, and wants to make all choices again.
- (g) (1 point) How much will Jack decide *tomorrow* to consume tomorrow? (i.e, what is  $c_1^*$ ?)
- (h) (1 point) How much will Jack decide *tomorrow* to consume the day after tomorrow? (i.e, what is  $c_2^*$ ?)
- (i) (1 point) Consider the results. Does he decide to change his past options? YES / NO. Carefully argue why.

2. (5 points) Consider the article mentioned in the syllabus by Yona Rubinstein and Dror Brenner: "Pride and Prejudice: Using Ethnic-Sounding Names and Inter-Ethnic Marriages to Identify Labour Market Discrimination." *Review of Economic Studies*, 2014. (You can find it online in NUS libraries).

- (a) (1 point) What is the goal of the article (i.e., what is the research question)? Be precise.
- (b) (0.5 points) What is the methodology they use?
- (c) (0.5 point) Provide details of at least one labour market outcome that is different between Ashkenazi vs. Sephardic.
- (d) (1.5 point) Why do the authors focus on kids of inter-ethnic couples only? Make sure your answer specifies why this is key to their research design.
- (e) (0.5 points) Who is shown to have stronger preferences for ethnicity and income?
- (f) (0.5 points) The text says: *Sephardic men might not be able to draw women from the very right tail of the “talent distribution”*. Explain in lay words what this means, and why the authors claim so.
- (g) (0.5 points) The text says: *less “talented” Ashkenazi men should have a comparative advantage among women with strong tastes for perceived Ashkenazi ethnicity*. Explain in lay words what this means, and why the authors claim so.

3. (5 points) **Short Project Design**

Type this question (not hand-written questions allowed). Submit your document in Canvas (assignment) and *also bring a hardcopy of your solution to class. Make sure the hardcopy does not have your name, or ID.*

Suppose that you have the suspicion that three faculty members in the social sciences, let's say  $X$ ,  $Y$ , and  $Z$  are discriminating against certain students, so they give them lower grades than what they deserve. Suppose they are discriminating against people who share a characteristic you can observe (for instance, students who use glasses). You approach the Dean of Faculty to make her aware of the issue and, given that she is a scientist, she asks you for empirical evidence before she can take any action. She says she will put at your disposal anything you need. Access to grades, interviews to all members of the community, facility to carry out surveys or experiments, etc. You have five days to write a short research proposal that will provide the data that will determine whether these faculty members are in fact discriminating.

Write this short proposal. Be specific about the data you need or want to collect, the exact things you will measure, and what kind of results you expect if there is indeed discrimination (this is not a statistics course, you do not need to discuss  $t$  – tests or distributions in detail. Just make reference to which results you expect to be significant and which not.) **(2 pages max)**