

RECAP/PRACTICE QUESTIONS

Questions in this practice don't exhaust all materials that we have learned. Any materials on the lecture slides are a fair game for exam.

Sep 23, 2020

1. **[Introduction]** What are some assumptions of the standard economic model?
2. **[Introduction]** What are the three main aspects of how individuals might deviate from the standard models, according to DellaVigna(2009)? Give one example for each aspect.
3. **[Heuristics]** What is the difference between gambler's fallacy and the hot hand fallacy? Can representativeness heuristics be used to explain both fallacies? If so, please explain how.
4. **[Heuristics]** Consider tosses of a fair coin for heads(H) or tails(T). Consider these two following sequences:

(a.) H-T-H-T-T-H

(b.) H-H-H-T-T-T

Lisa evaluated that sequence (a.) was more likely than sequence (b.).

- 4.1) According to basic statistics principle, is Lisa's evaluation correct?
- 4.2) Give a reasoning that might underlie Lisa's evaluation.
- 4.3) With the reasoning that Lisa used, will Lisa predict the next drawing from sequence "T-H-H-H-H-H" to be head(H) or tail(T)? Based on your answer, explain why she might predict that way.

5. [The power of default] A researcher is interested in the power of default option in organ donation. He collected data across countries and run the following regression analysis:

$$Donation_i = \alpha + \beta Optin_i + \epsilon$$

, where $Donation_i$ is the proportion of population that will donate their organs for country i , $Optin_i$ is the dummy variable equal to 1 if country i has the opt-in default (if an individual doesn't want to donate, she needs to opt-out.).

Based on your understanding on the power of default, predict the sign of $\hat{\beta}$. Explain your reasoning in details.

6. [Risk Preference]

Consider a choice between options A and B:

A: A fair coin toss that pays \$100 if heads, and \$0 if tails

B: \$52 for sure

6.1 According to Expected Value (EV) Theory, a person should prefer the risky coin toss (Option A) over the sure thing (Option B)

Label this statement TRUE or FALSE, and briefly explain your answer.

6.2 Consider options A and B above. What will be the reason for a person to prefer option A over B, under expected utility theory?

7. [Risk Preference]

“Expected utility theory can explain risk aversion for small-stakes gamble.”

Label this statement TRUE or FALSE, and explain your answer in details.

8. [Risk Preference]

Consider a simple model of loss aversion and the endowment effect.

Assume preferences described by

$$U(c, m|r) = U(c|r) + m$$

$$U(c|r) = u(c) + v(c|r)$$

Assume $r \in \{0,1\}$, where $r = 0$ means a person is unendowed, and $r = 1$ means a person is endowed with mug.

Assume $c \in \{0,1\}$, where $c = 0$ means a person doesn't buy, or keep mug, and $c = 1$ means a person buys, or keeps mug.

m is money.

$u(c)$ is intrinsic utility from consumption.

$$u(c) = \begin{cases} \mu & \text{if } c = 1 \\ 0 & \text{if } c = 0 \end{cases}$$

$v(c|r)$ is gain-loss utility.

$$v(c|r) = \begin{cases} \phi & \text{if } r = 0, c = 1 \\ -\lambda\phi & \text{if } r = 1, c = 0 \end{cases}$$

8.1) Given wealth w and price p , derive the condition under which Sellers who were given a mug will be willing to sell the mug.

8.2) Given wealth w and price p , derive the condition under which Buyers who were not given a mug will be willing to buy the mug.

8.3) What must the restriction on the value of λ be, to ensure that there is loss aversion? What is the reason for such restriction?

8.4) Can risk aversion explain why in the mug experiment $WTA > WTP$?

9. [Risk Preference]

“The shape of value function of prospect theory in loss domain can help explain purchase of insurance policy.”

Label this statement TRUE or FALSE, and briefly explain your answer.