ECON 455, Discussion Section 9

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Office: SS 6470. OH: Wed 8:00-9:30am; Thu 4:15-5:45pm; or by appt.

1. (Self-justification; Lec 18) It will either rain, snow or be sunny today. The weather forecast tells you that the probability of each of these events is r, s and $(1-r-s)$ respectively. You have to decide what to wear today, a decision that yields payoffs contingent on the weather as follows:

	Rain	Snow	Sun
Coat	10	0	10
Winter jacket	0	10	10
T-shirt	0	0	20

   (a) For what r, s is ...

      i. the coat optimal?

      ii. the winter jacket optimal?

      iii. the t-shirt optimal?

   (b) Suppose you have your own subjective beliefs that put probability $\hat{r}, \hat{s}$ and $(1-\hat{r}-\hat{s})$ on rain, snow and sun respectively. Also suppose that you choose an action to maximize expected utility at beliefs $(\alpha r + (1-\alpha)\hat{r}, \alpha s + (1-\alpha)\hat{s}, \alpha(1-r-s) + (1-\alpha)(1-\hat{r}-\hat{s}))$, and you then distort those beliefs to maximize your expected utility, but only insofar as you can do so without making the action you chose suboptimal. This is "Model 3" from the lecture, and the one you should focus on. Remember that the algorithm for solving these is to first work out what subjective beliefs would justify each action. Then, for each action, find which subjective beliefs (anything so long as they justify the action) maximize the expected utility of that action. Then compare those maximal expected utilities to pick the action.

      i. Supposing $\alpha = \frac{1}{2}, r = \frac{1}{2}, s = \frac{1}{4}$, find the action and the beliefs $\hat{r}, \hat{s}$ that you choose.

      ii. Supposing $\alpha = 1, r = \frac{1}{2}, s = \frac{1}{4}$, find the action and the beliefs $\hat{r}, \hat{s}$ that you choose. *Hint: You do not need to solve this out. Instead, think what $\alpha = 1$ means and use your answer to answer to (a).*

   (c) Suppose instead we use "Model 1" from the lecture. In this case, you work out the what action is best for each set of subjective beliefs $(\hat{r}, \hat{s}, 1-\hat{r}-\hat{s})$ and then pick the beliefs to maximize your expected utility given those believes. What is the optimal $(\hat{r}, \hat{s}, 1-\hat{r}-\hat{s})$ and action? How does this illustrate the main criticism of "Model 1"? *Hint: To find the optimal action and belief, all you really need to do is look at the payoff matrix and think about it for a moment.*

2. (Self-justification; Model 2 MC) Which of the following best describes "Model 2" (and its relation to the other models) of self-justification in Lecture 18?

   (a) Unlike "Model 1," the true probabilities factor into the agent's decision. Unlike "Model 3," the agent chooses the optimal action based only upon the true probabilities, then chooses the subjective beliefs to maximize expected utility given the chosen action.

   (b) Unlike "Model 1," the true probabilities factor into the agent's decision. Unlike "Model 3," an agent's chosen action may not be optimal for his chosen subjective beliefs.

   (c) Unlike "Model 1," the agent chooses his beliefs before choosing his action. Unlike "Model 3," the agent chooses the optimal action based only upon the true probabilities, then chooses the subjective beliefs to maximize expected utility given the chosen action.

   (d) Unlike "Model 1," the agent chooses his beliefs before choosing his action. Unlike "Model 3," an agent's chosen action may not be optimal for his chosen subjective beliefs.

3. (Self-deception; Lec 19) Which of the following was NOT part of the circumstance we found in class in which you could want to avoid finding out free information about yourself?

   (a) You are over-confident.

   (b) You are a quasi-hyperbolic discounter.

   (c) If you do not see the information, you will do the task.

   (d) It is optimal to not do the task.

   (e) You decide whether to see the information in the period before that in which you decide whether to undertake a certain task.

4. (Self-handicapping; Lec 19) Based on our model of self-handicapping, why might you drink (alcohol, that is) before an important exam?

   (a) Alcohol may calm you down and therefore make it less likely that you self-handicap during the exam.

   (b) You want to make the test result less informative.

   (c) If you do really well on an exam after drinking beforehand, you get super confident.

   (d) Because it's senior spring and your grade doesn't really matter.

   (e) Because the Badgers lost. And because the referees kinda screwed us.

   (f) Same reason as why Shane drinks before/while writing discussion section handouts.