1. Experiments on Amazon Mechanical Turk (3 points).

(a) Search for an experiment on MTurk that interests you. (Hint: You might want to \Search all HITs" for a job or project that has the word \experiment" in it.)

The experiment with the title “Collect Flight Availability on Delta.com” seems interesting to me. The description of this experiment is “Search for flights on Delta.com and collect the prices in $USD and in miles”.

(b) Describe the full payment structure of this experiment. That is, the reward column says an amount, but there is a lot more information available as to what that amount means.

You will earn $0.10 after you successfully accomplish this experiment once. For this experiment, you may not get paid if your submission doesn’t contain “either a) the entire html element for both MILES and $USD results or b) the words "NO DATA”.

(c) Describe any qualifications, eligibility requirements, or restrictions (or lack thereof).

Firstly, as I described in part b), the submission should contain the prescribed information. Also, if your submission contains the information about miles and prices, you should fill in prior to completing this experiment. And the submission responses must be in English. Other languages are not acceptable.

(d) How long does this job take? What is the implied hourly rate (dollars per hour)?

This job will take 10 minutes to complete. Therefore, the implied hourly rate is $0.60.

(e) When does this job expire?

This job will expire at 06:45pm on 11/17/2018.

(f) What is the most this project would cost the HIT experiment creator if 1 million people participated in the task?

This project will cost the creator $100,000 if 1 million people participated in the task.

2. Costa and Kahn (2013) (4 points).

The research question of this paper is does the political ideology have some influence on people’s reaction on the electricity conservation “nudge”? The primary data set of this paper consists of residential billing data from January 2007 to October 2009 (Costa and Kahn, 2013). This data provides us the heat consumption information and whether this household purchased green energy and enrolled in the electric utility's program or not. Then, the author combined this information with the time this household began to receive the Home Energy Reports and their basic house information such as the size, age and the energy type. The author also used “individual voter registration and marketing data for March 2009 (Costa and Kahn, 2013)” to get the voters’ party affiliation information and their connections to the environmental organizations. In addition, they have information from other sources to examine the household attitudes towards the HER according to their ideology. For the HER Experiment, they selected the households from “85 census tracts with a high density of single-family homes (Costa and Kahn, 2013)”. They also set the

threshold for the subjects: “Both treatment and control households had to have a current account with the electric utility that had been active for at least one year, could not live in apartment buildings, and had to live in a house with square footage between 250 and 99,998 square feet (Costa and Kahn, 2013)”. The treatment is the households will receive a report containing her absolute level of consumption and the descriptive comparation of 100 neighbors living in similar-sized homes on a quarterly or monthly basis. The treatment group is around 35,000 households who received the first Home Electricity Reports between March 14 and May 9, 2008. And the control group is “roughly 49,000 households who have never received a Home Electricity Report. (Costa and Kahn, 2013)” The previous paper includes the variable to measure “whether the households were initially above or below the average level of energy consumption in their neighborhood (Schultz et al. 2007)”. In Costa and Kahn (2013), they add more control variables such as time, mean daily temperature in the billing cycle and a dummy variable indicating whether the house is using electric heat. Also, the author put the interaction term using “party registration, green indicators, individual characteristics, block characteristics, and house characteristics (Costa and Kahn, 2013)” with an indicator for whether the treatment period has started or not. This paper finds that people’s ideology has some influence on people behaviors and reactions on the electricity conservation “nudge”. After receiving the report, liberal households will reduce their electricity consumption level more than conservatives and they are less likely to opt out of the experiment. Therefore, their results also suggest that environmental nudges are most effective in relatively liberal neighborhoods.

References:

Costa, Dora L. and Matthew E. Kahn, “Energy Conservation Nudges and Environmentalist Ideology: Evidence from a Randomized Residential Electricity Field Experiment,” Journal of the European Economic Association, June 2013

Schultz, P. Wesley, Jessica M. Nolan, Robert B. Cialdini, Noah J. Goldsteinand, and Vladas Griskevicius, “The Constructive, Destructive, and Reconstructive Power of Social Norms,” Psychological Science, 2007

3. Analytical exercise (3 points).

(a) Under what conditions might it be better to focus your resources on a small number of clinics and under what conditions might it be better to spread them more widely?

For this experiment, there is a fixed cost of $100 for each clinic and it will cost $1 to send the text message. Given the limited funding, we should make effective use of our resources unless some experimental principles are violated. Salganik (2018, pp. 206) mentions the term SUTVA, and the first part of it is to make sure that “the only thing that matters for person i’s outcome is whether that person was in the treatment or control condition”. If we want to focus on a small number of clinics, we need to assure that those patients for this clinic will not communicate with each other about the vaccination uptake reminders. For those patients who are fixed to a clinic, it is very normal to know and communicate with others. In this case, it is better for us to spread the clinics more widely. If in the previous research, we found that patients did not talk with each other. For the sake of saving resources, we could focus on a small number of clinics.

(b) What factors would determine the smallest effect size that you will be able to reliably detect with your budget?

I think it's the precision level. If we want to use the difference-in-means to estimate the standard error, for this experiment, we need to set the number of patients in treatment group and in control group are very close to lower the standard error. We could also use the difference-in-difference estimator, "which can lead to a smaller variance than a difference-in-means estimator Salganik (2018, pp. 208)".

Reference:

Salganik, Matthew J., Bit by Bit: Social Research in the Digital Age, Princeton University Press, 2018.