**PS 15 Midterm Practice Question**

This practice question was on a previous midterm. The midterm will consist of a set of multiple part questions similar to this. This was the longest question on the midterm – most questions will have fewer parts. The midterm will be 100 points total.

**Question 1 (points indicated after each part).** Earlier this year Sarah Anzia published a paper in the *Journal of Politics* entitled “Election Timing and the Electoral Influence of Interest Groups.” The abstract for this paper reads:

It is an established fact that off-cycle elections attract lower voter turnout than on-cycle elections. I argue that the decrease in turnout that accompanies off-cycle election timing creates a strategic opportunity for organized interest groups. Members of interest groups with a large stake in an election outcome turn out at high rates regardless of election timing, and their efforts to mobilize and persuade voters have a greater impact when turnout is low. Consequently, policy made by officials elected in off-cycle elections should be more favorable to the dominant interest group in a polity than policy made by officials elected in on-cycle elections. I test this theory using data on school district elections in the United States, in which teacher unions are the dominant interest group. I find that districts with off-cycle elections pay teachers more than districts that hold on-cycle elections.

(2A) Write a hypothesis you could use to test the causal relationship described in this abstract. (4 pts.)

(2B) What is the unit of analysis of your hypothesis? (2 pts.)

In order to test her hypothesis, Anzia gathered data on the percentage of elections in each U.S. school district that were “off-cycle” (held on a different day than other elections, such as Presidential elections, that would attract greater voter interest) in the last 20 years.

(2C) What is the level of measurement of this variable? (2 pts.)

Using the data she collected, Anzia estimated a regression, with the off-cycle election variable described above as an independent variable, and the mean annual teacher salary in each U.S. school district as the dependent variable. In other words, she estimated the equation $y = a + b*x$, where $y$ is the mean annual teacher salary and $x$ is the percentage of off-cycle elections. Her results were:

- $a = $39,800
- $b = $100

(2D) Interpret the constant term in this regression (the “constant term” is the intercept for the regression line). Be as specific as possible -- tell us what this constant term means in this particular research question, not what constant terms mean in general. (4 pts.)
(2E) Keeping in mind that x measures the percentage of off-cycle elections, interpret the slope coefficient in this regression. Again, be as specific as possible. (4 pts.)

(2F) Does the slope coefficient in this regression support Anzia's hypothesis? Explain why or why not. (4 pts.)