

Social Science Inquiry II

Week 2: Summarizing data numerically and visually, part I

Molly Offer-Westort

Department of Political Science,
University of Chicago

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How would you answer these questions with the Card and Krueger (1993) paper?

(Reviewing) Group discussion

- ▶ Is social science *science*? Justify your answer.
- ▶ What does it mean for something to cause something else? Come up with your own definition.
- ▶ Holland emphasizes focusing on the effects of causes, rather than the causes of effects. Why do you think this is? Do you think there are cases when we should focus on the latter? If so, when?
- ▶ Give an example when you think each of the below causal assumptions would hold.
 - ▶ Temporal stability
 - ▶ Causal transience
 - ▶ Unit homogeneity
 - ▶ Constant causal effect
 - ▶ Independence

Temporal stability and causal transience

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Temporal stability and causal transience

- ▶ The value of response will not change based on *when* you apply treatment to an observation.
- ▶ The value of response will not change if you had at some point previously applied a different treatment to an observation.

Unit homogeneity

- ▶ The value of response under a given treatment is the same for two observations; and the value of response for a different treatment is also the same.

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- ▶ The value of response under a given treatment is the same for two observations; and the value of response for a different treatment is also the same.
- ▶ You can observe response on the comparable units under one of each version of treatment.

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- ▶ How does this relate to the unit homogeneity assumption?
- ▶ Does this allow us to back out the value of the causal effect, without other assumptions?

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- ▶ On average, the units that are assigned one version of treatment look like the units that receive another version of treatment.
- ▶ (What does $E[Y_s|S = t]$ mean?)

References I

Card, D. and Krueger, A. B. (1993). Minimum wages and employment: A case study of the fast food industry in New Jersey and Pennsylvania.