

# Social Science Inquiry II

## Week 2: Summarizing data numerically and visually

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# Reading papers

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

# Reviewing Holland, 1986

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

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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.

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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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# Constant causal effect

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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.