Quant II
Lab 1

Sylvan Zheng

2024-01-30

Hi!

- Sylvan Zheng, 4th year PhD.

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- Fields: American Politics, Methods

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- What do **you** want to get out of Quant II?

Logistics

- Lab materials will be posted on the lab's GitHub repo: https://github.com/squidgetx/quant2-labs-spring2025
- Materials for future labs subject to change

Some purposes of lab

- Build intuition and motivation

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- Review and extend

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- Ask questions

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- Build intuition and motivation
- Review and extend
- Ask questions
- Learn how to **do** the analysis we are learning about (ie, in R)

Today's Lab

- Review Design vs Model Based Inference

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- Getting set up with RMarkdown

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    - Potential outcomes and ATES
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- ~~DAGs~~ (we will get more into DAGs in future sessions)

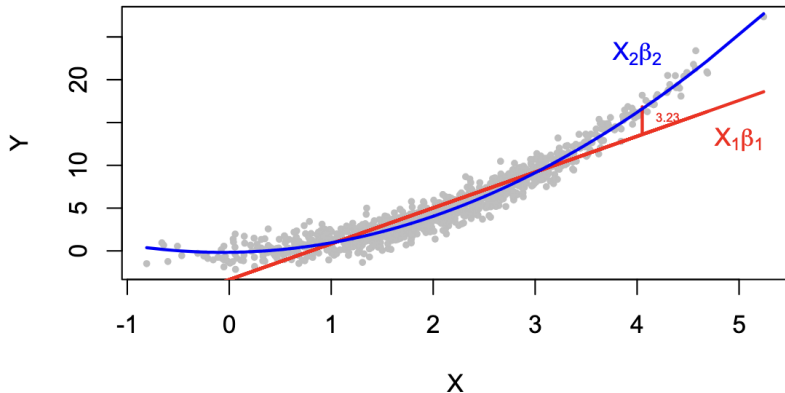- What is it and why do we care?

Design vs Model Based Inference

- What is it and why do we care?
- What is a "population regression coefficient"?

Design vs Model Based Inference

- What does it mean for the CEF to be linear (or not)?

Linearity (in parameters) depends on the regression specification

Review proof of consistency for $\hat{\beta}$

- [Cyrus slides 27-28]

Review proof of consistency for $\hat{\beta}$

- [Cyrus slides 27-28]
- [Break]

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- Tool that combines R, LaTeX, and Markdown

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- Create **reproducible** documents
- Combine text, code, and analysis results
- Your homework must be prepared using RMarkdown or similar tools
- Code should be clean, well named, and properly formatted.

Package: Here

- [KVR Example]

Package: Here

- [KVR Example]
- NO FILE PATHS IN CODE

Package: Here

- [KVR Example]
- NO FILE PATHS IN CODE
- Use the Here package

Package: Here

- [KVR Example]
- NO FILE PATHS IN CODE
- Use the Here package
- Works either with `.Rproj` or `.herefile`

Lab Activity

- [See the lab1.Rmd/lab1.pdf in the Github]