Welcome to ARE 256B Sections!

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Outline I

Introduction I

- I'm Mahdi Shams, your TA for this course.
- I'm a second-year PhD student in Davis ARE.
- Originally from Tehran, Iran, I pursued my undergraduate studies in engineering there and later earned my master's degree in economics in Toulouse, France.
- I'm interested in the intersection of environmental policy and public economics, and I believe econometrics plays a crucial role in my work.
- I'm here to assist you, so feel free to reach out with any questions or concerns!
- my email is mashams[at]ucdavis[dot]edu.

It's your turn now!

Announcements I

Announcements:

- Sections: Fridays 9:00-9:50 am at Veihmeyer Hall 116
- Mahdi OHs: Fridays 10:00-11:00 am at SSH 2136

Setup I

Access to Stata:

- option 1: https://stata-support.ucdavis.edu/
- option 2: https://virtuallab.ucdavis.edu/
- option 3: ARE Computer Lab

Week 1: Stata Basics I

- type `doed` in the command window to open the do-file editor
- asking help 1: `help "command"`
- asking help 2: google *help "command" stata*
- basic stata syntax: `command varlist if in, options`
- setting working directory
- importing data
- `browse, describe, ...`
- operators
- getting summary statistics: `summ, tabulate|, ...`
- `gen, replace, drop, keep, ...`
- using functions: `log(x)`

Week2: Lectures 1 to 3 (limited dep. variable) and presentation I

Lectures

1. estimating linear models
2. estimating probit models
3. plotting the scatter plot
4. computing the rmse

Presentation

Motivation: Fixed costs + now you have more time

1. template do file
2. making log file and converting it to pdf
3. making the tex file (look at the example.tex)

Week 3 I

- creating a random subsample
- Censoring
- Sample Selection
- exporting plots
- exporting regression tables using estout –
- HA1 Questions!

Censoring I

- Y is known exactly if some criterion defined in terms of Y is met.
- X variables are observed for the entire sample
- Example: Determinants of income; income is measured exactly only if it is above the poverty line. All other incomes are reported at the poverty line (the lower threshold).

Sample Selection I

- is observed only if a criteria defined in terms of some other random variables (B) is met (e.g. In our example, the criteria is employment status).
- We observe the determinants of B (which we call by Q) for the entire sample.
- Example: Survey data with item or unit non-response

Week 4 I

- 'Locals' and $globals in Stata
- Loops in Stata
- MT 2022 Review?

Week 8 I

Pooled OLS

$$Y_i t = \beta_0 + \beta X_{it} + u_{it}$$

for causal interpretation we need exogeneity $\mathbb{E}[u_{it}|X_{it}] = 0$
This rules out that W_i, W_t, or W_{it} exist.
FE model with State + time fixed effects

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_k X_{kit} + \alpha_i + \lambda_t + u_{it}$$

FE Model with State FEs + time FEs + State-level time trends

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_k X_{kit} + \alpha_i + \lambda_t + \gamma_i t + u_{it}$$

We are not controlling for any omitted var that is changing over time. That is if we believe that there exist an omitted variable that is changing over time we can not have causal interpretation for the β.

Links I

- Example .do file
- Example .tex file
- Stata Visual overview for creating graphs
- exporting regression tables using estout
- LaTeXin 30 Minutes