ECON 217: Section Notes

Week 1

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Introduction

- 5th-year economics PhD student
- Primary field: development economics
- Ongoing RCT projects in Liberia and Malawi, with topics ranging cash transfers, intimate partner violence, health access, and taxation.

- How to reach me:
  - TA sections: Wed 10:40-11:45am or Fri 12:00-1:05pm
  - Office hours: Mon 4-6pm (Zoom link is the same as for TA sections)
  - Email: davidspark@ucsc.edu
  - Homepage: dshpark.com/econ217_w21/ **(*all section material will be posted here, after Friday's section)**

Protocol for Zoom

- Log into whichever time works for you (not necessarily the one you enrolled for). TA sections won't be recorded/uploaded.
  - Wed. 10:40-11:45 or Fri. 12:00-1:05
- I strongly encourage everyone to **turn on their camera**, if and whenever possible.
- Whenever you have questions, feel free to interrupt me by
  - just speaking out,
  - physically showing/waving your hand in the camera, or
  - writing down your questions in the chat room embedded in Zoom.
- All other times, please mute your microphone.

About you...

1. Best course you've taken last quarter, or best professor you got to know?
2. What career path are you planning after this masters program?
3. One thing you want the TA sections to be covering?

Regression Models

- Simple linear regression model:

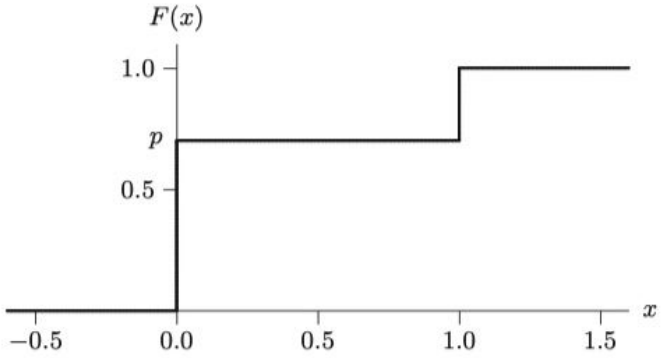
$$y_t = \beta_1 + \beta_2 X_t + u_t.$$

  - Observed: dependent var. *y* and independent var. *X*
  - Unobserved: parameters *b1* and *b2*, and error term *u*

- A crucial assumption about *u* to identify *b1* and *b2:* $\mathrm{E}(u_t \mid X_t) = 0$

$$\mathrm{E}(y_t \mid X_t) = \beta_1 + \beta_2 X_t + \mathrm{E}(u_t \mid X_t) = \beta_1 + \beta_2 X_t$$

Understanding CDFs: An Example



- CDFs of “staircase” functions are for **discrete** random variables.
- Discontinuities (or “jumps”) indicate the discrete permitted values.
- Each vertical jump is the probability of the corresponding value.

- PDF:
  - 0 with probability *p*
  - 1 with probability *1-p*