ECON 7670: Semester Recap

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Semester Focuses

- Main focuses of the semester:

    - Identification vs. estimation

    - Empirical strategies

    - Models

    - Coding

    - Presentation and writing skills

Semester Focuses

- Taxation as an overarching context:

  - Tax incidence

  - Efficiency and deadweight loss

  - Income taxation

    - Labor supply

    - EITC

    - Unit of taxation

- Social insurance (SSDI, SNAP, public housing)

Semester Focuses

- We are often interested in taxation because of how it affects real people and distorts decisions

- What I hope you take away about taxation:

  - Salience matters (Chetty, Looney, and Kroft 2009; Chetty, Friedman, and Saez 2013; Ito 2014)

  - Tax burdens are not shared equally (Evans, Ringel, and Stech 1999; Chetty, Looney, and Kroft 2009; Hastings and Washington 2010)

  - Labor supply "effects" may just be reporting (Saez 2010; Chetty, Friedman, and Saez 2013)

  - Joint taxation creates different incentives within households (Eissa 1995; Eissa and Hoynes 2004)

Identification vs. Estimation

- Identification is not a statistical property; it is an outcome of your empirical approach

- Identification in natural experiments:
  - Typically comes from policy-induced changes in incentives or treatments

- Identification with instrumental variables:
  - Comes from the IV assumptions (relevance, independence, and exclusion)

- Identification with difference-in-differences
  - Comes from the DD assumptions (parallel trends, no anticipation)

- Identification with regression discontinuity
  - Comes from the RD assumptions (smoothness, no manipulation)

Identification vs. Estimation

- Estimation is actually obtaining the estimate you want to identify

- Takes practice with Stata and will mostly be self-taught

    - Replication assignment code may help build foundations for later projects

    - Advisors are unlikely to look through your code

    - Talk with and help each other

- "Translate" your Stata code into English when you write research updates

    - Easier for advisors to understand

    - Will help you determine whether your code is telling Stata to do what you actually want it to do

Empirical Strategies

- Many examples from class that use multiple empirical strategies

- Each empirical strategy is well-suited for a specific context and for answering a specific type of question

  - DD: What is the effect of this $0/1$ treatment?

  - IV: What is the effect of this endogenous variable?

  - RD: What is the effect of this $0/1$ treatment caused by a cutoff?

Empirical Strategies

- Examples of empirical strategy combinations we have seen:

  - RCT + DD: Chetty, Looney, and Kroft (2009)

  - Natural experiment + DD: Eissa and Hoynes (2004) and Gorodnichenko, Martinez-Vazquez, and Peter (2009)

  - Natural experiment + IV: Homonoff and Somerville (2021)

  - Natural experiment + Bunching: Ito (2014)

  - DD + IV: Chyn (2018)

Empirical Strategies

- Many papers still use a single empirical strategy:

  - Natural experiment: Hastings and Washington (2010), Maestas, Mullen, and Strand (2013), and Martinez, Saez, and Siegenthaler (2021)

  - DD: Eissa (1995)

  - IV: Friedberg and Isaac (2022)

  - Bunching: Saez (2010)

- And others use different regressions/samples/research designs in related contexts (e.g., Jones 2012; Chetty, Friedman, and Saez 2013)

Empirical Strategies

- Which empirical strategy/strategies you use depends on your context and research question

- Each strategy has different strengths/weaknesses and different identification assumptions

- Motivation for each strategy should be "what can this strategy teach us that we could not learn from something else?"

- Goal is to tell your story

Models

- Models can motivate your empirical strategy (e.g., Chetty, Looney, and Kroft 2009; Gorodnichenko, Martinez-Vazquez, and Peter 2009; Jones 2012; Maestas, Mullen, and Strand 2013)

- Models do not need to be very complicated

  - Can be useful to illustrate theoretical effects/mechanisms

  - Can be useful to derive your regression specification

- Doing both (modeling and estimation) can make your paper stronger and more successful

- Each paper's model is necessarily unique to its situation

Coding

- Replications can serve as guidelines for how to structure data and code in your own projects

- Recommended reading: "Code and Data for the Social Sciences: A Practitioner's Guide" by Matthew Gentzkow and Jesse Shapiro

- Things to think about now:
  - Version control
  - Data storage and code organization
  - Stata automation
  - Cypress (Tulane's high-powered computing cluster)
  - Task management
  - Storing references and papers

Coding

- For keeping track of papers: Zotero* (free & paid), EndNote (paid), Mendeley

- For setting and accomplishing goals: Weekly action plan*, daily planner*, Todoist* (free & paid), Microsoft To Do, Google Tasks, Trello (free & paid)

- For version control: Microsoft OneDrive*, Google Drive*, GitHub*, Dropbox*, Box*

- For writing and/or collaborating in LaTeX: Overleaf* (free & paid), Texifier* (paid)

*: Elliott uses this

Presentation and Writing Skills

- Presentation and writing skills are different than research and coding skills

- You can be good at one and bad at the other

Goldin and Katz

Theorem #1: It is always possible to transform a good idea into a great paper and a superb presentation.

Theorem #2: Even if your idea is Nobel-worthy, you can always make it into a poorly written paper and a lousy presentation.

Presentation and Writing Skills

- You will get better at presentations and writing, **but only if you practice**

- General advice:

  - Treat every presentation as if it is high-stakes

  - Always do a practice presentation $\sim$1 week before

  - Attend seminars and pay attention to presentation style and technique

  - Read papers and pay attention to writing and structure

- Research updates for advisors are a good way to practice writing

PhD Program

Going Forward and Working Backward

- 5th+ year milestone: Job market

    - JMP should be done by August before job market year

- 4th year milestone: Dissertation proposal defense

    - JMP idea and RQ should be clear by August before 4th year

    - Submit field paper to journal in Fall of 4th year if possible

- 3rd year milestone: Dissertation prospectus

    - Re-write, update, and present field paper in lunch seminar if possible

    - Work on finding a JMP idea (ideally different than field paper)

- 2nd year milestone: Field paper

Advising

- It is your responsibility to carefully form your dissertation committee

- Advice I received:

    - Balance the individual strengths of dissertation committee members

    - It is your job to meet regularly with committee chair ($1\times$ per month is absolute minimum) and other committee members

- $\sim \frac{1}{3}$ of faculty are untenured

- Listen to your advisors; they know more than you

Research

- Be organized

- Practice writing

- Practice presenting

- Practice Stata

  - Most Stata skills will be self-taught

  - Google obstacles (high probability someone has faced and solved the same problem)

  - Ideal: Someone should be able to download your code and data, click "Do," and will obtain the exact regressions and tables in your paper

Goal Setting

- Your PhD work is becoming more self-driven, making goal-setting more important

- Two types of goals:

  - **Outcome goal**: A goal defined by a measurable outcome

    Examples: "Publish a paper", "Get an A", "Obtain results"

  - **Process goal**: A goal defined by an action

    Examples: "Spend 1 hour writing draft", "Attend office hours", "Spend 1 hour writing code"

- Begin by defining an outcome goal with a deadline and work backwards to set process goals needed to accomplish it