Quantitative Social Science at Princeton

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Today's Quantitative Social Science

- Data, Data, and **Data**
- Past: government data, national survey data
- Today: more of old types of data and lots of new data
  - Randomized experiments and surveys conducted by researchers
  - Administration records: voter files, contributions, lobbying, ...
  - Economic data: trade, company information, finance, ...
  - Military data: casualty, insurgent attacks, ...
  - Social media data: websites, blogs, tweets, cell phones, ...
  - GIS data: satellite, climate, natural resource discoveries, ...
  - Text, images, sounds: news, speeches, bills, commercials, ...

- The problem is not about data
- Need for new substantive ideas
- Need for new data analysis tools
- Do not let statistical methods constrain your research
- Use whatever methods necessary for answering your questions

What You Need for Good Quantitative Research

- Theoretically motivated questions and puzzles
- Data nobody else analyzed
- Innovative methods that get most out of the data

- Some recent examples from successful Princeton dissertation:
  - Texts of court opinions and rulings
  - Lobbying reports, firm-level data, and product-level trade data
  - GIS data about the boundaries of European states
  - Campaign contribution data and a survey of contributors

Quantitative Political Science at Princeton

- We can't teach you all methods needed for the rest of your career
- Why? Methods are changing very FAST
- We will teach you a solid foundation

- Quantitative Methods Training at Princeton
  - Train a sophisticated user of statistics rather than a blind consumer
  - Rigorous and painful (especially first year)
  - Requires serious commitments from both instructors and students

- 1st Year: Mastering basics through "boot camps"
  1. POL 571: Probability Camp
  2. Statistical Programming Camp
  3. POL 572: Statistics Camp
  4. Web scraping and text analysis workshop
- 2nd Year: Learning how to do research using statistics
  1. POL 573: More methods, replication project, poster session
  2. Advanced Statistical Programming Camp
  3. POL 574 / Courses in other departments: Cutting-edge methods

How **Not** to Study Statistics

- Learning statistics (or math/computer proramming in general) is **different** from learning substantive topics in political science

- "Skip equations, and try to understand them from the context..."
- "I should be able to get the intuition without knowing the math..."
- "Move on, and try to figure out the next topic..."
- "Do you understand so far? Uhhh... Yes."
- "I put all of the formulae on flashcards to study for the exam..."
- "I am just going to copy down the formula..."
- "What formula am I supposed to use here?"