

# Empirical Etiquette: A Not-So-Modest Proposal

Timothy Simcoe

Boston University and NBER

# The Proposal

- Maintained Assumptions
  - Evidence of causal relationships is more interesting and more publishable than most correlations
  - Experiments are the gold standard for evidence of causation
  - Most management papers will continue to rely on observational data
- Hypothesis: “What we’ve got here is a failure to communicate”
  - The term “endogenous” (as used by many referees) is not very precise
  - Solutions employed by many authors are completely off-point
  - The “identification revolution” == lots of frustration and a little progress
- Proposal: Empirical Etiquette
  - “A code of behavior that delineates expectations”
  - **In practice: a checklist for authors and referees**
  - Disclaimer: old wine in recycled bottles
    - Angrist and Pischke, Leamer, Andrew Gelman, Edward Tufte, etc.

# General Etiquette

- Describe the “notional experiment”
  - To answer the causal question, what is the experiment you would run in a world without financial or other constraints?
    - How would you measure each of the key constructs?
    - What would you randomize/manipulate?
- Describe the *primary* threat to causal inference
  - This is a conceptual point. Don’t say “X could be correlated with e”
  - Does “endogeneity” == Omitted Variables, Selection, Simultaneity or Reverse Causality?
  - Explain the likely direction of bias in an OLS regression
  - Describe (in plain language) how your research design solves the problem
- Help readers interpret results
  - Discuss economic significance
    - Translate results into meaningful units
    - Describe how much variance they explain
  - Don’t start with the super mega-model. Build up from OLS.

# Method-Specific Etiquette

- Articulate Maintained Assumptions
  - What must you believe to accept that X causes Y?
  - Stating assumptions makes you confront their plausibility
  - Key assumptions depend on research design
    - Matching / Regression: Conditional independence
    - Instrumental Variables: First-stage & IV validity
    - Diff-in-diffs:  $\Delta$  Control = Counter-factual  $\Delta$  treated
- Conduct Falsification Tests
  - Impossible to test maintained assumptions directly
  - Can often provide indirect supporting evidence
    - Matching/Regression: Are control/treatment covariates “balanced”?
    - Instrumental Variables: First stage and over-identification tests
    - Diff-in-diffs: Do control/treatment have similar trends prior to “shock”?

# Concluding Thoughts

- Proposing an etiquette is presumptuous, but could have real benefits
  - Greater appreciation that causality is conditional on assumptions
    - Less “proof by citation” and more room for papers that reproduce findings with a better causal research design
  - Improved communication between authors and referees
    - From “has endogeneity problem” to “failed to do X”
  - Cuts down on “endogeneity air time”
    - More time and attention for practical significance and theoretical implications.
- Resources for the interested PDW participant
  - Mostly Harmless Econometrics, Angrist & Pischke
  - Various Survey Papers (e.g. Nichols, Stata Journal 2007)
  - **PhD Class:** Goldfarb, Grennan, Snyder, Simcoe, and Ziedonis
  - My etiquette: [people.bu.edu/tsimcoe/etiquette.html](http://people.bu.edu/tsimcoe/etiquette.html)
- Thanks for attending