Detecting Cause-and-Effect through Triangulation: Some Tips and Examples

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Step 1: Reframe the issue

“Identification PROBLEM”
“Endogeneity PROBLEM”
“Selection PROBLEM”
Be a Social Science Detective!

- I have a theory
- I see clues
- Could something other than my theory explain those clues?

How?

✔+ Find a natural experiment, valid instrument, etc...

✔ Over-assert
  - My theory is A, the clues confirm it!
    - Add a quiet “P.S.” that the clues are consistent with Theories B and C as well
    - Hang your hat on flimsy evidence (2SLS w/o exclusion; IV with no logic)

✔ Refuse the job

✔ Triangulate!
Triangulation

“In the social sciences, triangulation is often used to indicate use of more than two methods in a study with a view to double (or triple) checking the results.”

Also known as “cross-examination”

--wikipedia

Two Examples

Don’t Fence Me In: Fragmented Markets for Technology and the Patent Acquisition Strategies of Firms

Rosemarie Ham Zedonis

Corporate venture capital and the returns to acquiring portfolio companies

David Benson, Rosemarie H. Zedonis

Journal of Financial Economics

Correspondence to: "

[Details of the publications]
Example 1: “Don’t Fence Me In”

- The “Crime”: a surprising surge in patenting by IT companies (Y)
- Theory: a strategic response to market frictions and concerns of hold-up
  - X (external rights) → W (friction) → Y (Self-insure)
- Clues: X, Y but not W
- Alt Theory: X and Y are caused by Z (technological opp), not W

Approach

- Dig deeper!
  - If my theory is correct, what else should I find?
    - Effects = amplified post “regime shift”
    - Effects for Type A firms > than for Type B firms
- Revisit the phenomenon
  - Did a technological shift coincide with the Regime Shift? Or disproportionately affect Type A v. B?
  - Read books & talk with people!
- Find an indirect proxy (trends in same sector in countries w/o “regime shift”)


Example Two

Corporate venture capital and the returns to acquiring portfolio companies. David Benson* and Roseanne H. Ziedonis**

An Anomaly Paper

- Expect Theory A
- Clues AT ODDS with Theory A
- Investigate Theories B, C, and D instead
  - Read books, go talk to people!
- Shift settings and re-test
Summary

- It's cool to be a social science detective!
- To be a good one, you must...
  - Do some digging
  - Be creative
  - Be honest
  - Sharpen your tools...and invest in new ones

Some References

Less Obvious

More Obvious

My Examples