
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!



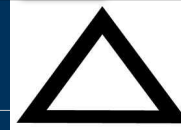
- I have a theory
- I see clues
- Could something other than my theory explain those clues?

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

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

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Corporate venture capital and the returns to acquiring
portfolio companies^{a, c}

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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”)

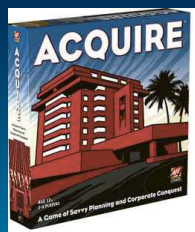
Example Two



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

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More Obvious

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My Examples

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