

FLS 6415 - Causal Inference for the Political Economy of Development

Week 12 - Gradual Institutional Change & Process Tracing

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Process Tracing

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5. Is the evidence consistent with the mechanism for our proposed treatment?
 - ▶ Supportive, but not proof
6. Can we eliminate all other theories (confounders) except our treatment?
 - ▶ Sherlock Holmes' Method of Elimination

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- ▶ But we don't have any counterfactual to compare against
- ▶ So the outcome could instead have been caused by a confounder



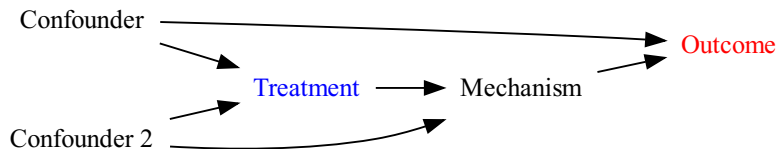
Process Tracing

- ▶ One way to support our theory is to test the mechanisms along the causal path of treatment:
 - ▶ Evidence of Mechanism NOT occurring is proof *D* did NOT have a causal effect
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- ▶ This is a 'hoop' test



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- ▶ One way to support our theory is to test the mechanisms along the causal path of treatment:
 - ▶ Evidence of M NOT occurring is proof *D* did NOT have a causal effect
 - ▶ Evidence of M occurring is consistent with *D* having a causal effect
- ▶ If there are no other possible confounders consistent with this mechanism, this is a 'Smoking Gun' test



Process Tracing

- ▶ We can also test mechanisms on the causal path of confounders:
 - ▶ Evidence of Mechanism X NOT occurring can rule out this alternative theory
 - ▶ Evidence of Mechanism X NOT occurring is consistent with D having a causal effect, but not proof
- ▶ This is a 'straw in the wind' test



Process Tracing

- ▶ Unusually, a mechanism might explicitly separate two theories:
 - ▶ $M = 0$ if treatment is active
 - ▶ $M = 1$ if the confounder is active
- ▶ This is a 'Doubly-Decisive' test



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- ▶ *Note:* the pattern from least to most assumptions as we require more and more prior knowledge to make causal inference: Field experiments, natural experiments, observational studies, comparative cases, process tracing

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 - ▶ Subjective judgment on the weight of each piece of evidence

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- ▶ That is a form of causal inference - if D has caused Y in one case then it must be capable of having some effect in a broader sample
- ▶ But how representative is our case?
- ▶ Will the same causal effect occur in other contexts?
 - ▶ Are causal effects deterministic or probabilistic?

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- ▶ Process tracing is also more useful where causation is complex - with lots of interaction effects, context-specific causation, feedback effects and multiple equilibria that even complex regressions can't deal with

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- ▶ The game might make bad predictions - that suggests this treatment/theory is wrong
- ▶ But the risk is we don't test alternative theories, we just amend our original model slightly

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- ▶ Difference-in-differences evidence that the early announcement of a Democrat victory in Florida led to reduced Republican voting
- ▶ Estimated 10,000 lost Republican votes
- ▶ Is this a reasonable estimate?
- ▶ The only way the causal effect is true is if there is a causal mechanism connecting the treatment to the outcome

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- ▶ Theories of healthcare universalization:
 - ▶ 1988 constitution -> relaxed institutional constraints -> reform
 - ▶ Economic crisis -> Pressure to fix social security budgets -> Reform
 - ▶ Military rural expansion -> Sanitaristas -> Reform
- ▶ A big part of separating these accounts is sequencing/timing

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 - ▶ New actors influenced policy towards universalization

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 - ▶ Existing actors implement reform

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- ▶ **Treatment Assignment Mechanism:**

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 - ▶ Rodriguez Neto as Planning Secretary (1983)

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 - ▶ Rural threats provoked FUNRURAL (more coverage)
- ▶ But these changes just strengthened the private, segmented system
- ▶ And created a vested interest among beneficiaries in the current system

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- ▶ Direct evidence of sanitaristas theory:
- ▶ Evidence Sanitaristas did infiltrate the state:
 - ▶ Rodriguez Neto as Planning Secretary (1983)
 - ▶ Municipal control
 - ▶ University courses
 - ▶ Brazilian Center of Health Studies

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- ▶ Direct evidence of sanitarias theory:
- ▶ Evidence of policy change:
 - ▶ FUNRURAL
 - ▶ 1976 PIASS program constructed 1,900 public health centres in the northeast

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- ▶ Policy had a feedback effect on politics:
 - ▶ Forced intergovernmental coordination
 - ▶ Empowered state health officials (CONASS)
 - ▶ Demonstrated a model for effectiveness and efficiency
- ▶ This made further reform easier - Acoes Integradas de Saude (1983), SUS (1986)

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- ▶ Sanitaristas basically wrote the 1986 National Health Conference report
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- ▶ But this just **codified** existing changes

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 - ▶ It's strength is in refuting the other theories
 - ▶ Evidence of the causal mechanism operating in the 1970s means it couldn't have been due to the constitution or economic crisis alone

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 - ▶ Trusted land rights -> Pre-democracy con-men -> Fake documents -> Politicians copied con-men -> Weak land rights

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- ▶ **Treatment Assignment Mechanism:** Messy history
- ▶ **Outcome:**

Gradual Institutional Change

- ▶ **Population:** Countries developing property rights
- ▶ **Sample:** Kenya
- ▶ **Treatment:** Strong land rights/Con-men (?)
- ▶ **Control:** Weak land rights/No con-men (?)
- ▶ **Treatment Assignment Mechanism:** Messy history
- ▶ **Outcome:** Weak land rights

Gradual Institutional Change

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 - ▶ Crucial difference is whether this process starts **before** democratization
 - ▶ Hard to measure the outcome over time - documents only serve con-men if they retain some credibility
 - ▶ Con-men and politicians weren't enemies of land documents, they *depended* on them

Gradual Institutional Change

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 - ▶ Self-interest of bureaucrats - to protect stolen land

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 - ▶ But remained marginal

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- ▶ But that just further brought the credibility of property rights into question

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 - ▶ Increased clientelist pressure: "mere pieces of paper"
 - ▶ Victims of electoral violence from the opposition not allowed to return home

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- ▶ Democratization seems to have been crucial for shifting negative practices to *incumbent* politicians

Causal Inference

Analysis Types and Assumptions

Week		Researcher Controls Treatment Assignment?	Treatment Assignment Independent of Potential Outcomes	SUTVA	Additional Assumptions
	Controlled Experiments				
1	Field Experiments	✓	✓	✓	
2	Survey and Lab Experiments	✓	✓	✓	Controlled Environment for treatment exposure
	Natural Experiments				
3	Randomized Natural Experiments	X	✓	✓	Compliance with Randomization
4	Instrumental Variables	X	✓	✓	First stage and Exclusion Restriction (Instrument explains treatment but not outcome)
5	Regression Discontinuity	X	✓	✓	Continuity of covariates; No manipulation; No compounding discontinuities
	Observational Studies				
6	Difference-in-Differences	X	X	✓	No Time-varying confounders; Parallel Trends
7	Controlling for Confounding	X	X	✓	Blocking all Back-door paths
8	Matching	X	X	✓	Balance and Overlap

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 - ▶ Parallel trends, no sorting, balance...