

Making Causal Critiques

Day 1 - Deconstructing an Argument

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Causal Critiques

- ▶ Political science is about *explaining* outcomes

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 - ▶ Did voters support President Trump because of jobs lost to immigration?

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Does development lead to democracy?	"No, democracy causes development"
Does democracy prevent war?	"Of course not, India and Pakistan were democracies and had a war in 1999"
Did voters support President Trump because of jobs lost to immigration?	"Obviously not, jobs were lost to technological change"

Causal Critiques

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 - ▶ A comment at a seminar

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 - ▶ A response as a journal referee
 - ▶ Advice to a friend
 - ▶ A worry about your *own* research paper

What makes an Argument Convincing?

- ▶ Explanation requires:
 1. Theory
 2. Evidence

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- ▶ So we have a solution, but do we have an *explanation* for why it stopped working?
- ▶ No! We do not know if the laptop, the charger, the adapter or the socket is the problem. We do not have a *theory* to support our solution

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- ▶ Next time the laptop fails to charge, our wiggling might not be enough and we won't know how to fix it

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 - ▶ Note we cannot *reject* the theory - it may be that both sockets are broken
- ▶ We can design other tests to check the laptop, charger, adapter etc.

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 - ▶ If your friend plugs their own laptop and charger into the socket and it charges fine, we can rule out the socket being a problem
 - ▶ But we still do not know if your own laptop or charger are the problem
- ▶ We need to design tests that *distinguish between* specific theories

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- ▶ Evidence on its own is not enough
 - ▶ The same evidence can be consistent with many possible mechanisms
 - ▶ We need a chain of 'local causality' (Elster 1983)
- ▶ Explanation requires evidence that supports a *specific* theory
 - ▶ And rejects other theories

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 4. **Doubly Decisive Test:** Can confirm a hypothesis and reject all other hypotheses

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 1. **Straw-in-the-Wind test:** If we turn the lights on to check if there is power to the building in general

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 4. **Doubly Decisive Test:** If we test the charger with an entirely new socket and laptop that we have checked work

What makes an Argument Convincing?

- ▶ What caused the reduction in price variation in Kerala's fishing industry?
- ▶ **Hypothesis:** The introduction of mobile phone service
- ▶ **Theory:** Mobile phones allowed people to quickly share the price of fish in different villages, so fishermen got the best prices more consistently
 - ▶ Jensen et al (2007)
 - ▶ A 'smoking gun' test

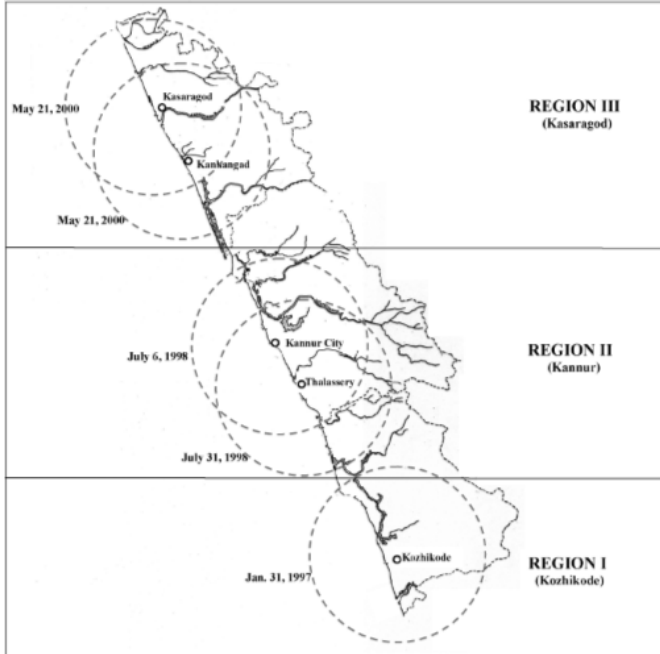


FIGURE II
Spread of Mobile Phone Coverage in Kasaragod, Kannur,
and Kozhikode Districts

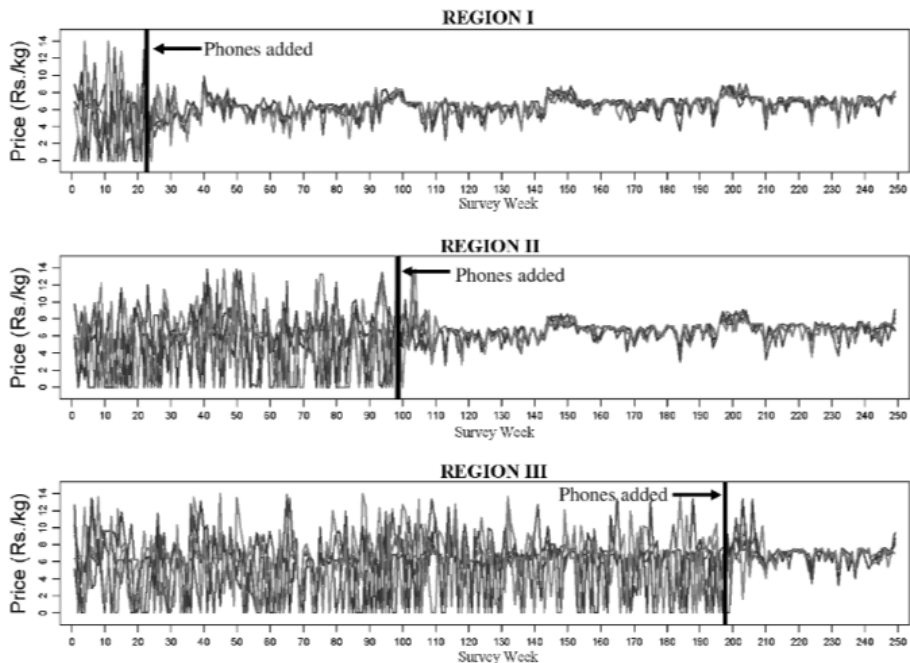


FIGURE IV
Prices and Mobile Phone Service in Kerala

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 1. Humans are complex and unpredictable, unlike the natural sciences
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 4. Ethical constraints on the data we can gather
 5. Political explanations in one place may not work in another

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 - ▶ The presence of a cause does not guarantee an outcome
 - ▶ But raises the probability of an outcome
- ▶ For example, a left-wing party in government may not guarantee the passage of social welfare legislation
- ▶ But it can make it more likely

Consistent Theories

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 - ▶ All policemen wear hats. This person is a policeman. Therefore this person is wearing a hat.

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 - ▶ Formally: $\forall p : h, p \Rightarrow h$

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 - ▶ ~~$\forall p : h, h \Rightarrow p$~~
 - ▶ This is logically inconsistent

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3. **Circular reasoning:** The conclusions just restate the premises
 - Eg. "Abortion should be legal because women have the right to an abortion."

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6. **Appeal to Authority:** Assuming the author is right because they are senior
 - Eg. Assuming that political science professors know what they are doing!

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- 7. **Fallacy of Composition:** Extending what is true of part to being true of the whole

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- ▶ Eg. "If someone stands up at a football match, they can see better. Therefore, if everyone stands up, they can all see better."

Consistent Theories

- ▶ Some political science arguments are logically inconsistent:
 - ▶ Voters are rational - they choose the politician that is best for them. Therefore we always elect the best politicians.

Deconstructing a Political Science Paper

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 - ▶ What is the **scope** of the argument's application?

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 - ▶ **Scope of argument** - Does the argument apply only to democracies, Asian countries, since World War II, only to women?

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 - ▶ **Role of Variables** - Which is the outcome variable and which the explanatory? What controls are used?

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 - ▶ **Evidence** - What evidence does the methodology produce?

Title:			
Authors:		Year:	
Research Question: Answer/Causal Argument: Scope of Argument (in Time, Space, Demographics etc.):			
Concept/Variable	Measure	Unit of Analysis	Role (DV, XV, Control)

Theory: 	Methodology: <input type="checkbox"/> Case Study, Process Tracing <input type="checkbox"/> Comparative Cases <input type="checkbox"/> Regression with Controls <input type="checkbox"/> Matching <input type="checkbox"/> Field Experiment <input type="checkbox"/> Lab/Survey Experiment <input type="checkbox"/> Natural Experiment <input type="checkbox"/> Instrumental Variable <input type="checkbox"/> Regression Discontinuity <input type="checkbox"/> Difference-in-Differences
Evidence: 	

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 - ▶ We can move "up and down the ladder of generality" (Sartori)

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 - ▶ But differentiate from other concepts to be precise
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 - ▶ We can move "up and down the ladder of generality" (Sartori)

Critiquing Measures

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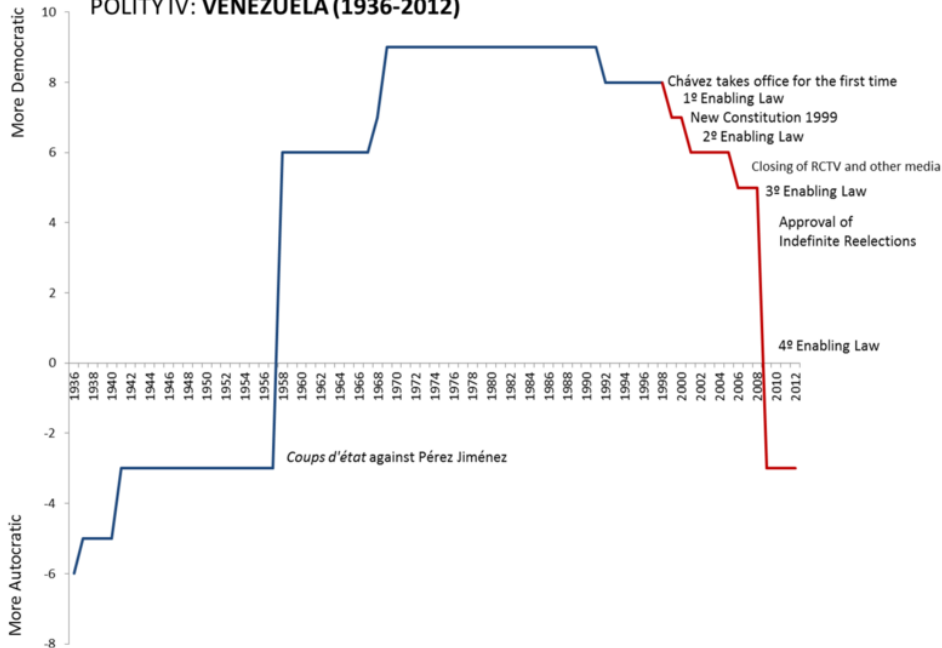
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 - ▶ Are the cases (units) scored correctly? How reliable is the scoring?

POLITY IV: VENEZUELA (1936-2012)



Methodology

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 - ▶ Statistics/statistical model chosen
- ▶ What was the "Data Generating Process"?
- ▶ How does this data help us answer the question?

Methodology

- ▶ Methodologies for gathering evidence:

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- ▶ Observational Studies:
 - ▶ Case Study, Process Tracing

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 - ▶ Difference-in-Differences

Title: Making Democracy Work			
Authors: Robert Putnam		Year: 1993	
Research Question: Why are some parts of Italy governed better than others?			
Answer/Causal Argument: Places with more civic social interactions have better government			
Scope of Argument (in Time, Space, Demographics etc.): Advanced Democracies			
Concept/Variable	Measure	Unit of Analysis	Role (DV, XV, Control)
Civil Society	Density of sports clubs, newspapers, electoral turnout	Region	Explanatory Variable
Government Performance	12 Indicators, eg. Budget on time, number of day care centres per child	Region	Dependent Variable
Wealth	GDP per capita	Region	Control Variable
Theory: Civic interactions between people and groups create trust and more ‘horizontal’ relationships that prevent government from being predatory		Methodology:	
		<input type="checkbox"/> Case Study, Process Tracing	
		<input checked="" type="checkbox"/> Comparative Cases	
		<input type="checkbox"/> Regression with Controls	
		<input type="checkbox"/> Matching	
		<input type="checkbox"/> Field Experiment	
		<input type="checkbox"/> Lab/Survey Experiment	
		<input type="checkbox"/> Natural Experiment	
		<input type="checkbox"/> Instrumental Variable	
Evidence: Regions of Italy with similar institutional rules and similar wealth but with more civil society have, on average, better performing government		<input type="checkbox"/> Regression Discontinuity	
		<input type="checkbox"/> Difference-in-Differences	

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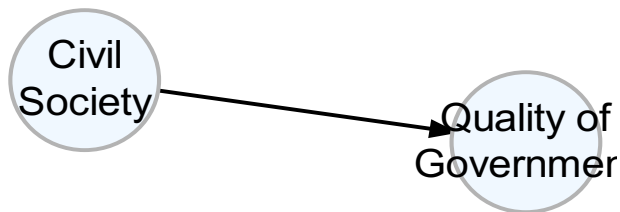
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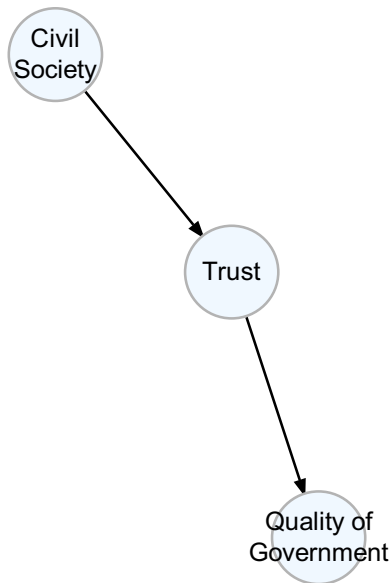
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 - ▶ Write all the variables on the paper
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 - ▶ And also the *threats* to the author's argument
 - ▶ Even if they can't be measured

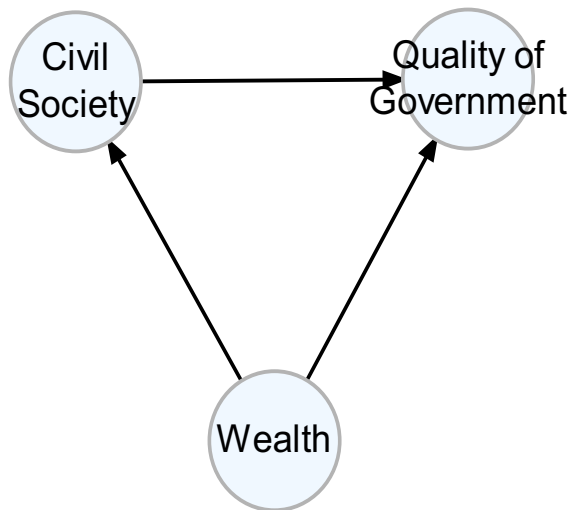
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7. **Granger Causation** - If D causes Y , D must be before Y

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