

# Making Causal Critiques

## Day 1 - Deconstructing an Argument

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# Causal Critiques

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Do parliamentary systems last longer than presidential ones?	"No, Parliamentary systems last longer because they are in Europe, not because they are parliamentary"
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Does democracy prevent war?	"Of course not, India and Pakistan were democracies and had a war in 1999"

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Do parliamentary systems last longer than presidential ones?	"No, Parliamentary systems last longer because they are in Europe, not because they are parliamentary"
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"

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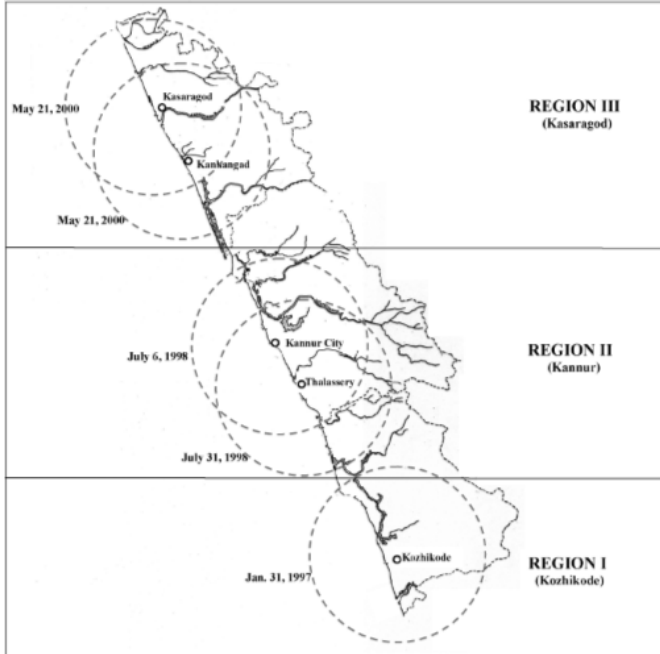
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  4. **Doubly Decisive Test:** If we test the charger with an entirely new socket and laptop that we have checked work

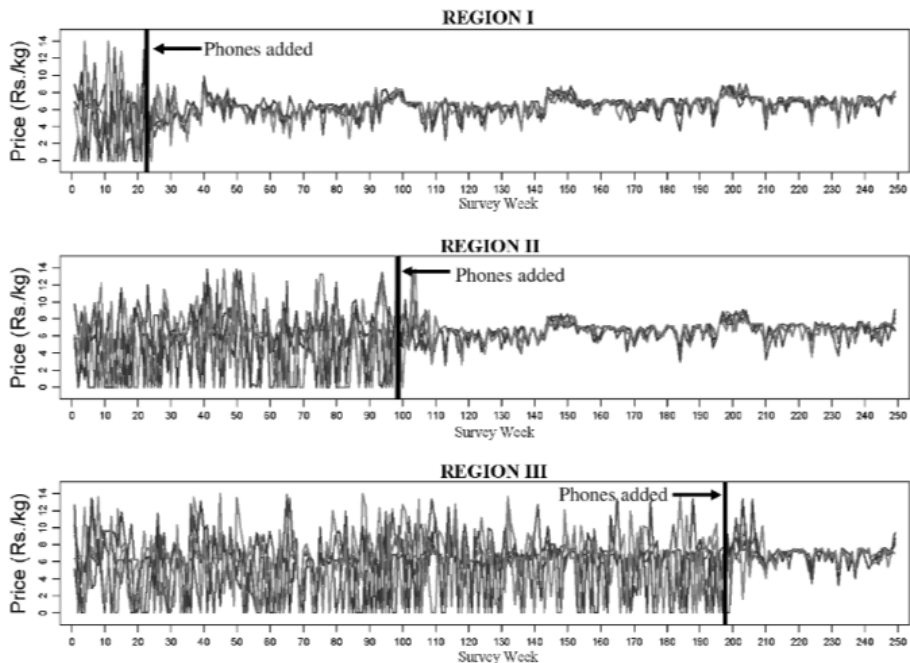
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- ▶ What caused the reduction in price variation in Kerala's fishing industry?
- ▶ **Hypothesis:** The introduction of mobile phone service
- ▶ **Theory:** Mobile phones allowed people to quickly share the price of fish in different villages, so fishermen 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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  4. Ethical constraints on the data we can gather
  5. Political explanations in one place may not work in another



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- ▶ That means we need to treat causation as **probabilistic**
  - ▶ 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

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

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- ▶ 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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  - ▶ Summarize the paper in your own words

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

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  - ▶ **Research question** - the authors are engaging with a specific literature/puzzle
  - ▶ **Answer/Causal argument** - "We argue that D increases Y"
  - ▶ **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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  - ▶ **Methodology** - What strategy do the authors use to gather evidence to evaluate the theory?
  - ▶ **Evidence** - What evidence does the methodology produce?

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

<b>Theory:</b>       	<b>Methodology:</b> <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
<b>Evidence:</b>	

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  - ▶ But avoid conceptual stretching!
  - ▶ We can move "up and down the ladder of generality" (Sartori)
  - ▶ Eg. "competitive regimes" may not be democracies
- ▶ **Measurement Validity** - when scores "meaningfully capture the ideas contained in the corresponding concept"

## Concepts and Measures

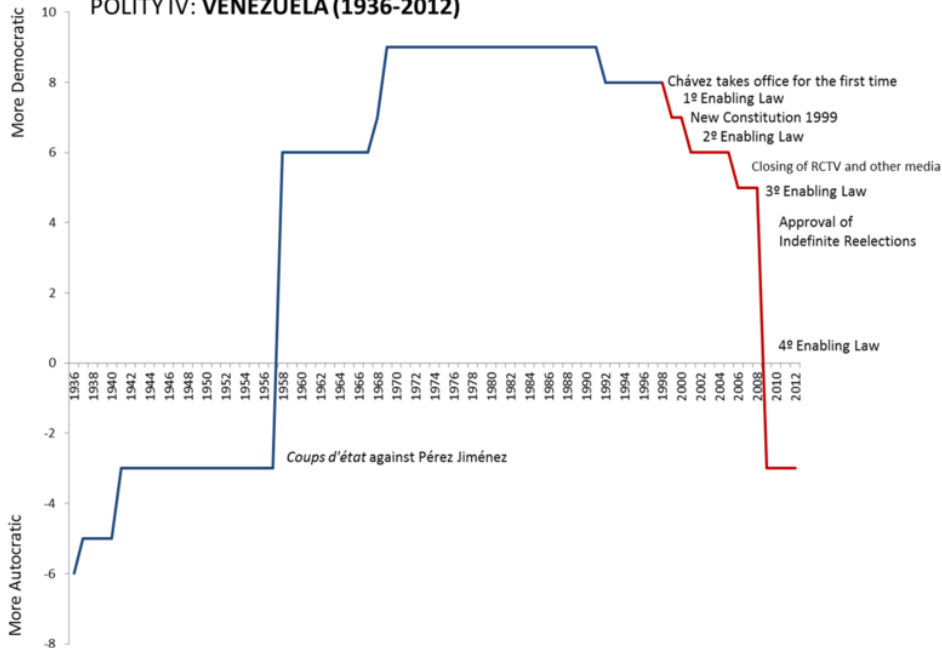
- ▶ **Conceptual Validity** - Competitive authoritarianism vs. Illiberal Democracy
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# POLITY IV: VENEZUELA (1936-2012)



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- ▶ What was the "Data Generating Process"?
- ▶ How does this data help us answer the question?

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  - ▶ Difference-in-Differences



<b>Title:</b> Making Democracy Work			
<b>Authors:</b> Robert Putnam		<b>Year:</b> 1993	
<b>Research Question:</b> Why are some parts of Italy governed better than others?			
<b>Answer/Causal Argument:</b> Places with more civic social interactions have better government			
<b>Scope of Argument</b> (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
<b>Theory:</b> Civic interactions between people and groups create trust and more ‘horizontal’ relationships that prevent government from being predatory		<b>Methodology:</b>	
		<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 <input type="checkbox"/> Regression Discontinuity <input type="checkbox"/> Difference-in-Differences	
<b>Evidence:</b> Regions of Italy with similar institutional rules and similar wealth but with more civil society have, on average, better performing government			

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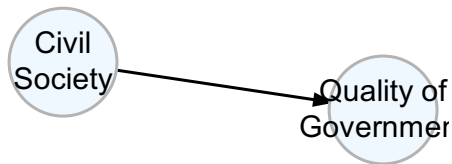
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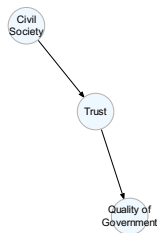
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  - ▶ And also the *threats* to the author's argument
    - ▶ Even if they can't be measured

# Causal Theory

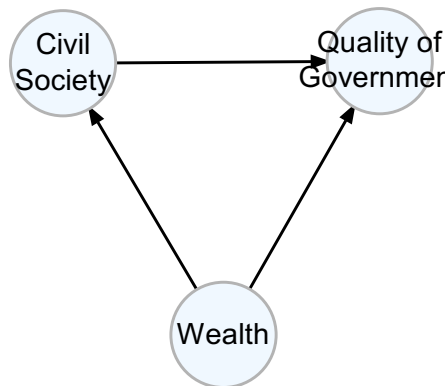


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7. **Granger Causation** - If  $D$  causes  $Y$ ,  $D$  must be before  $Y$



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7. **Replicability** - Can we take the same (or similar) data and reach the same conclusion?