Making Causal Critiques

Day 1 - Deconstructing an Argument

Jonathan Phillips

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Objectives

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5. How can we **Deconstruct** a Political Science Paper?

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3. What Types of **Causation** are there?
4. How do we reach **Consistent** Conclusions?
5. How can we **Deconstruct** a Political Science Paper?
6. What Types of **Critiques** of an Argument can we make?

Causal Critiques

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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"

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  - A worry about your *own* research paper

What makes an Explanation Convincing?

- Explanation requires:
  1. Theory
  2. Evidence

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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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- We might arrive at an argument like:
  - “When an international adapter is used with an old socket, the electrical connection between the wires is weak and unreliable, preventing the laptop from charging. The socket works fine with other laptops, the laptop and charger work fine in newer sockets, and the problem is the same using alternative international adapters.”

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10. **Policy-relevance** - Can the argument help us design better policy?

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- A **Convincing Explanation** requires evidence that supports a *specific* theory
  - And *rejects other theories*

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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 (produce evidence) that *distinguish between* specific theories

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     - If we test the charger with an entirely new socket and laptop that we have previously checked work, *and* similarly for the socket and laptop

Learning from Evidence

- 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): Compare price dispersion with the timing of the introduction of new mobile phone masts
  - A 'smoking gun' test at least

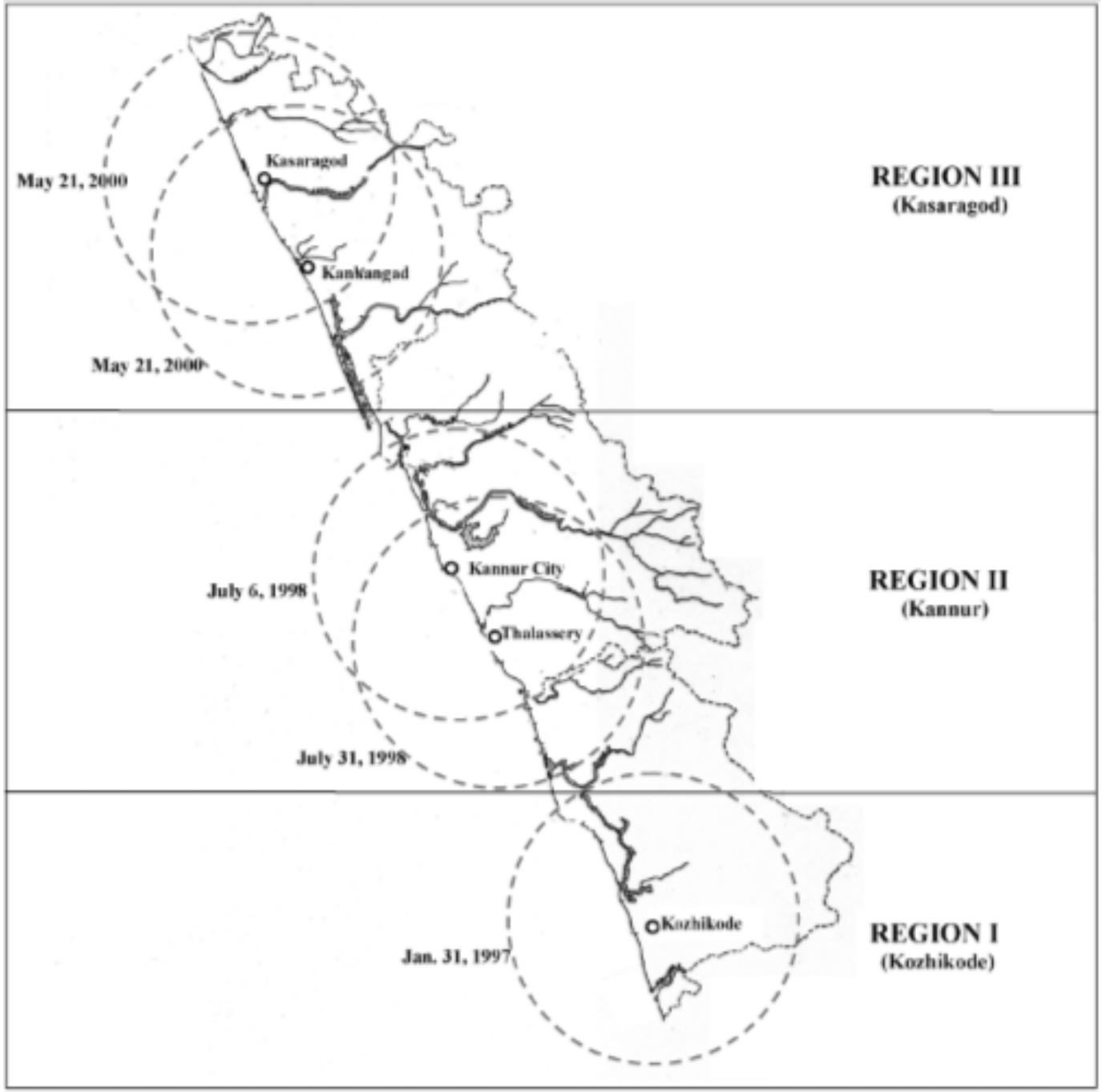

FIGURE II
Spread of Mobile Phone Coverage in Kasaragod, Kannur, and Kozhikode Districts

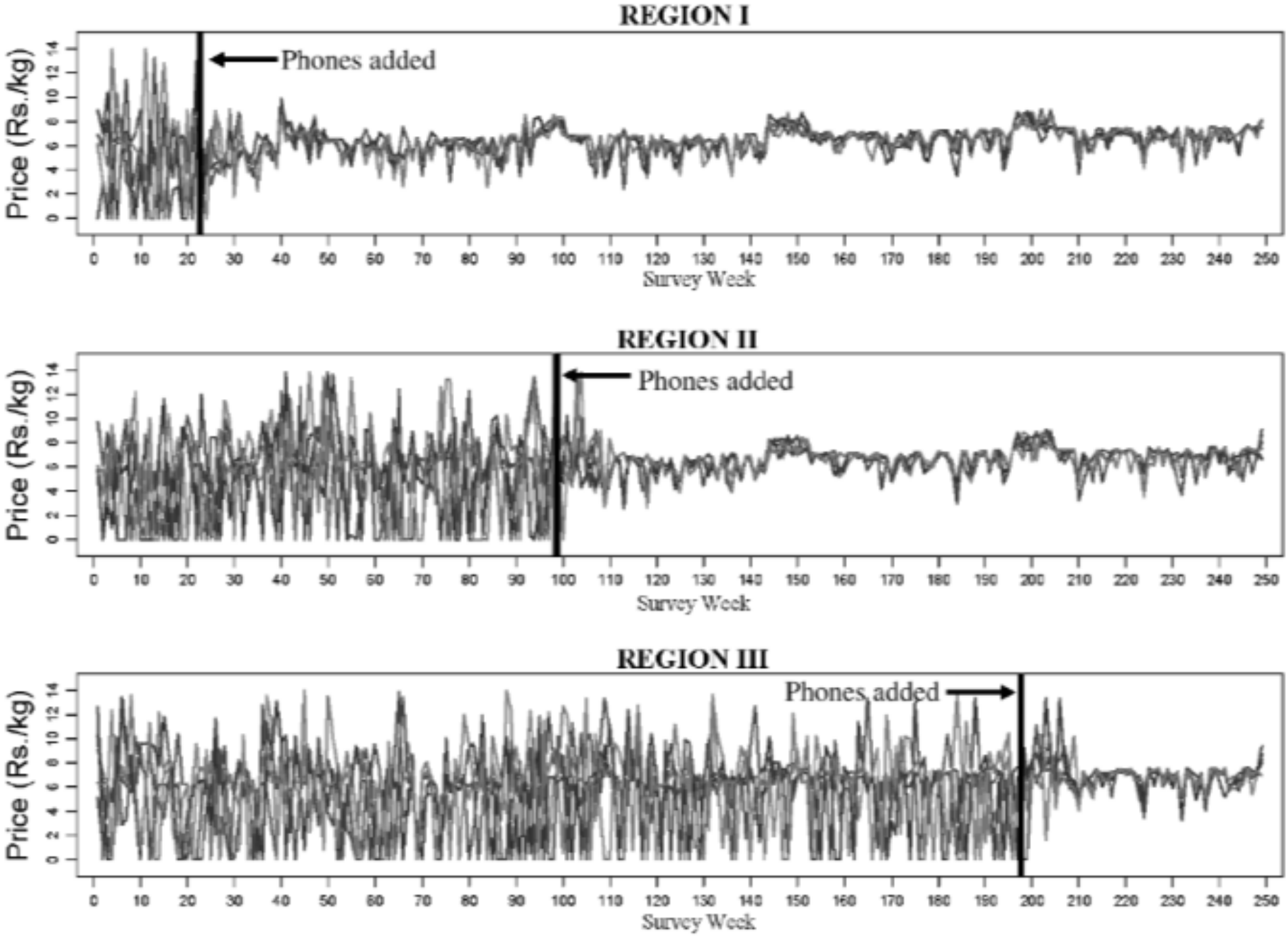

FIGURE IV

Prices and Mobile Phone Service in Kerala

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

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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 charger only worked about half of the time

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  - The presence of a cause does not guarantee an outcome
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- 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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7. **Granger Causation** - If D causes Y, D must be before Y

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  - Write all the variables on the paper
  - Connecting them with arrows to represent the author's **causal** argument
  - And also the *threats* to the author's argument
    - Even if they can't be measured

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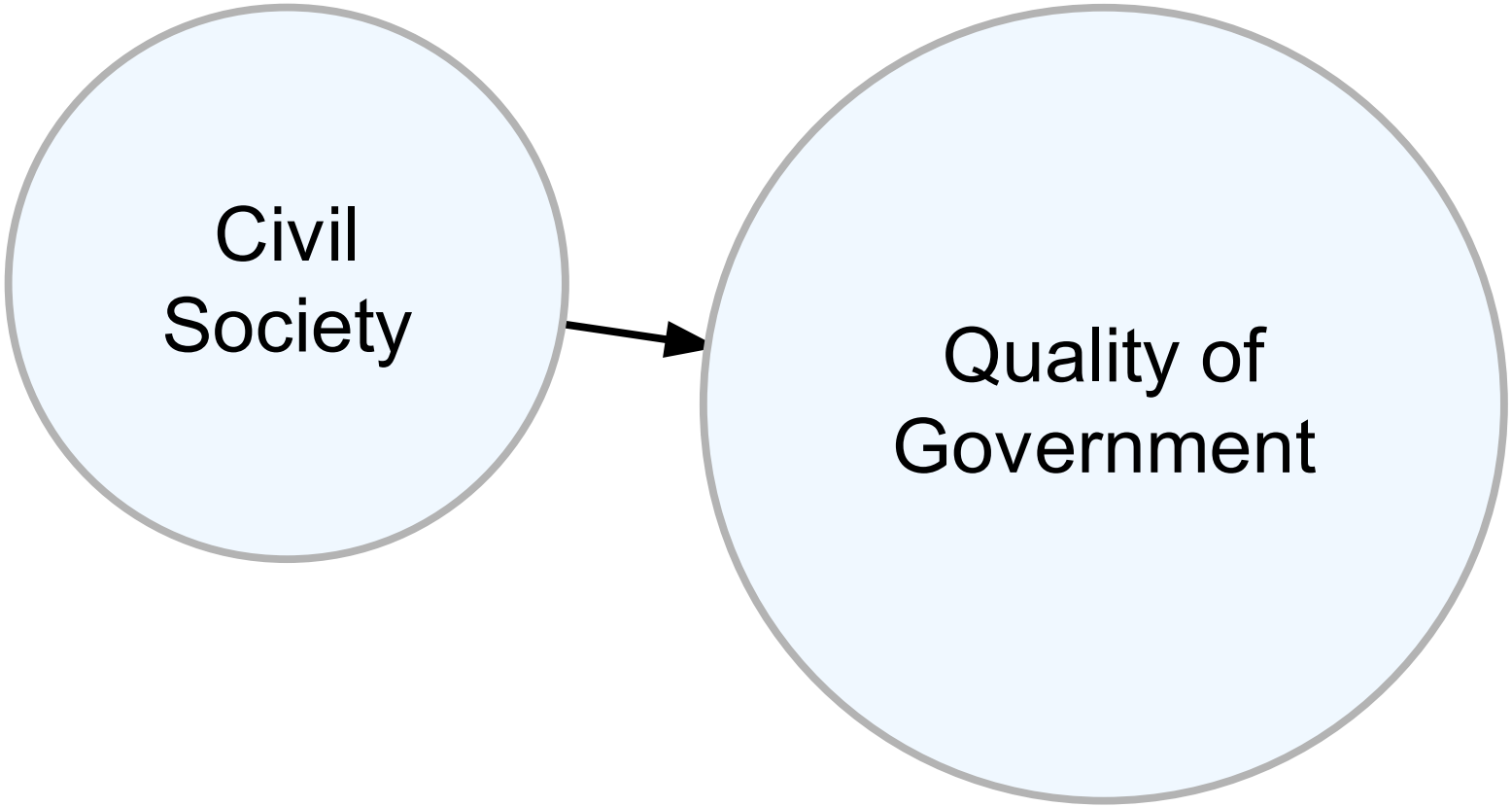

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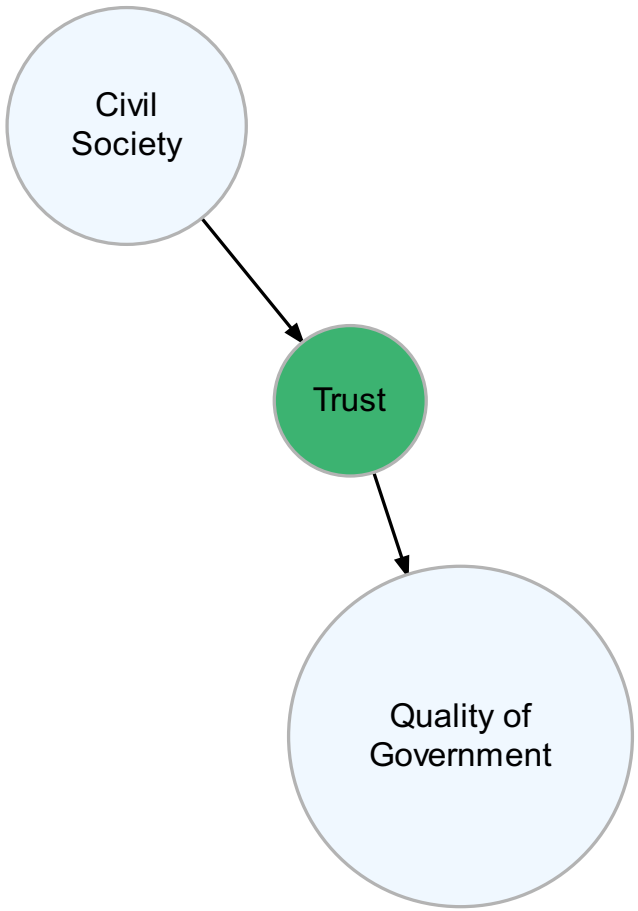

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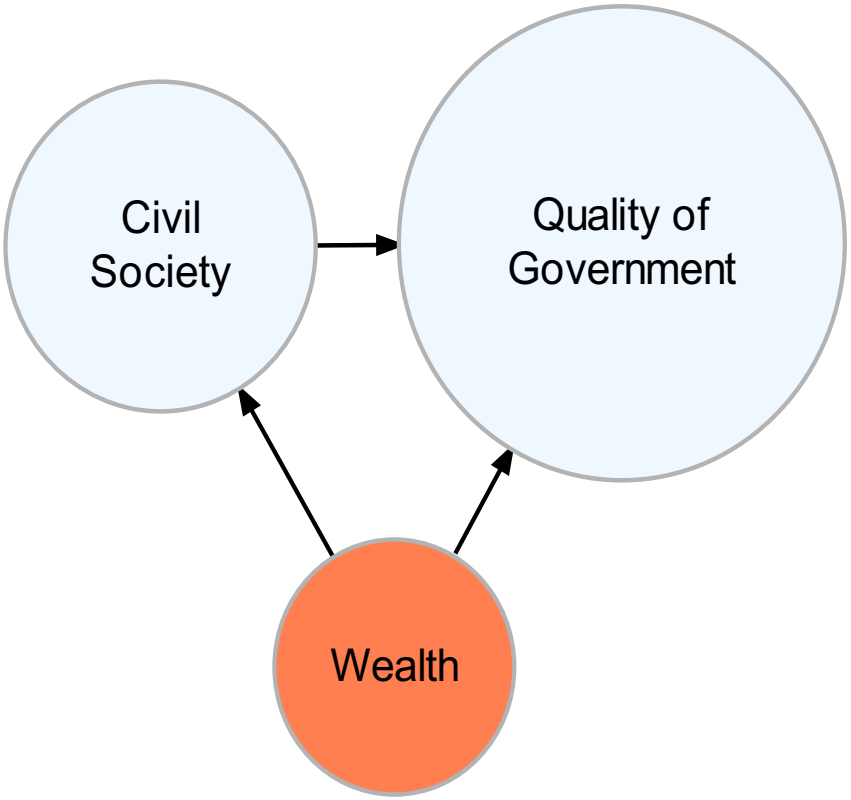

Causal Theory

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- At some point we rely on theory to provide the causal power:
  - Physical processes (gravity, momentum)
  - Behavioural theory (incentives, psychology)

Consistent Conclusions

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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."

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Consistent Conclusions

- 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.
- Of course the other possibility is that the **premise is false**
  - But that's a different critique

Deconstructing a Political Science Paper

- Before we can critique an argument we have to understand its content

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  - What is the **scope** of the argument's application?
- *Causal* critiques depend on understanding the building blocks

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High school education is central to adolescent socialization and has important downstream consequences for adult life. However, scholars examining schooling's political effects have struggled to reconcile education's correlation with both more liberal social attitudes and greater income. To disentangle this relationship, I exploit a major school leaving age reform in Great Britain that caused almost half the population to remain at high school for at least an additional year. Using a fuzzy regression discontinuity design, I find that each additional year of late high school increases the probability of voting Conservative in later life by 12 percentage points. A similar relationship holds when pooling all cohorts, suggesting that high school education is a key determinant of voting behavior and that the reform could have significantly altered electoral outcomes. I provide evidence suggesting that, by increasing an individual's income, education

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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: 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

Evidence: Regions of Italy with similar institutional rules and similar wealth but with more civil society have, on average, better performing government

Methodology:

- ❑ **Case Study, Process Tracing**
- ☒ **Comparative Cases**
- ❑ **Regression with Controls**
- ❑ **Matching**
- ❑ **Field Experiment**
- ❑ **Lab/Survey Experiment**
- ❑ **Natural Experiment**
- ❑ **Instrumental Variable**
- ❑ **Regression Discontinuity**
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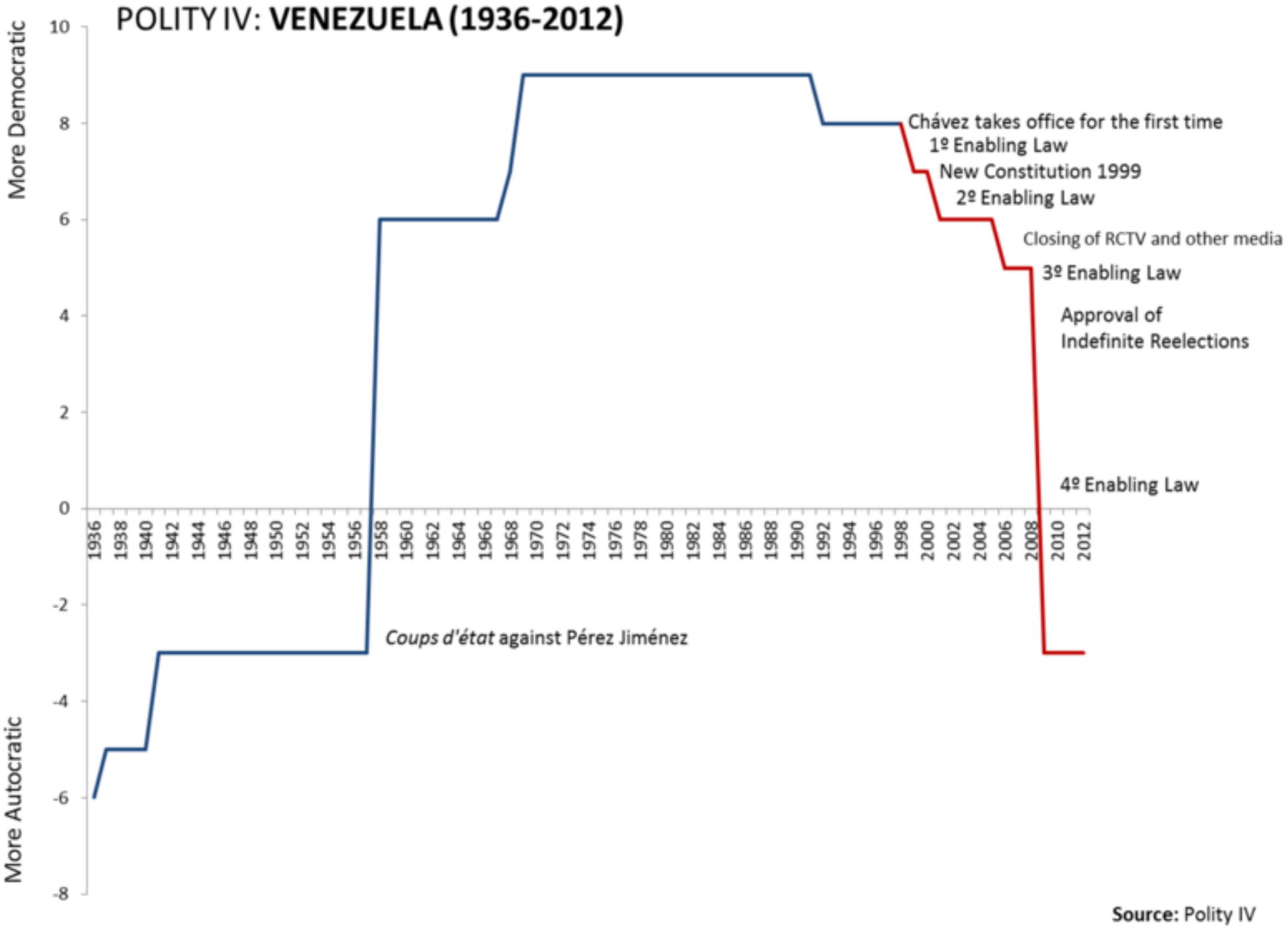
POLITY IV: VENEZUELA (1936-2012)
More Democratic
More Autocratic
10
8
6
4
2
0
-2
-4
-6
-8
1936
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1940
1942
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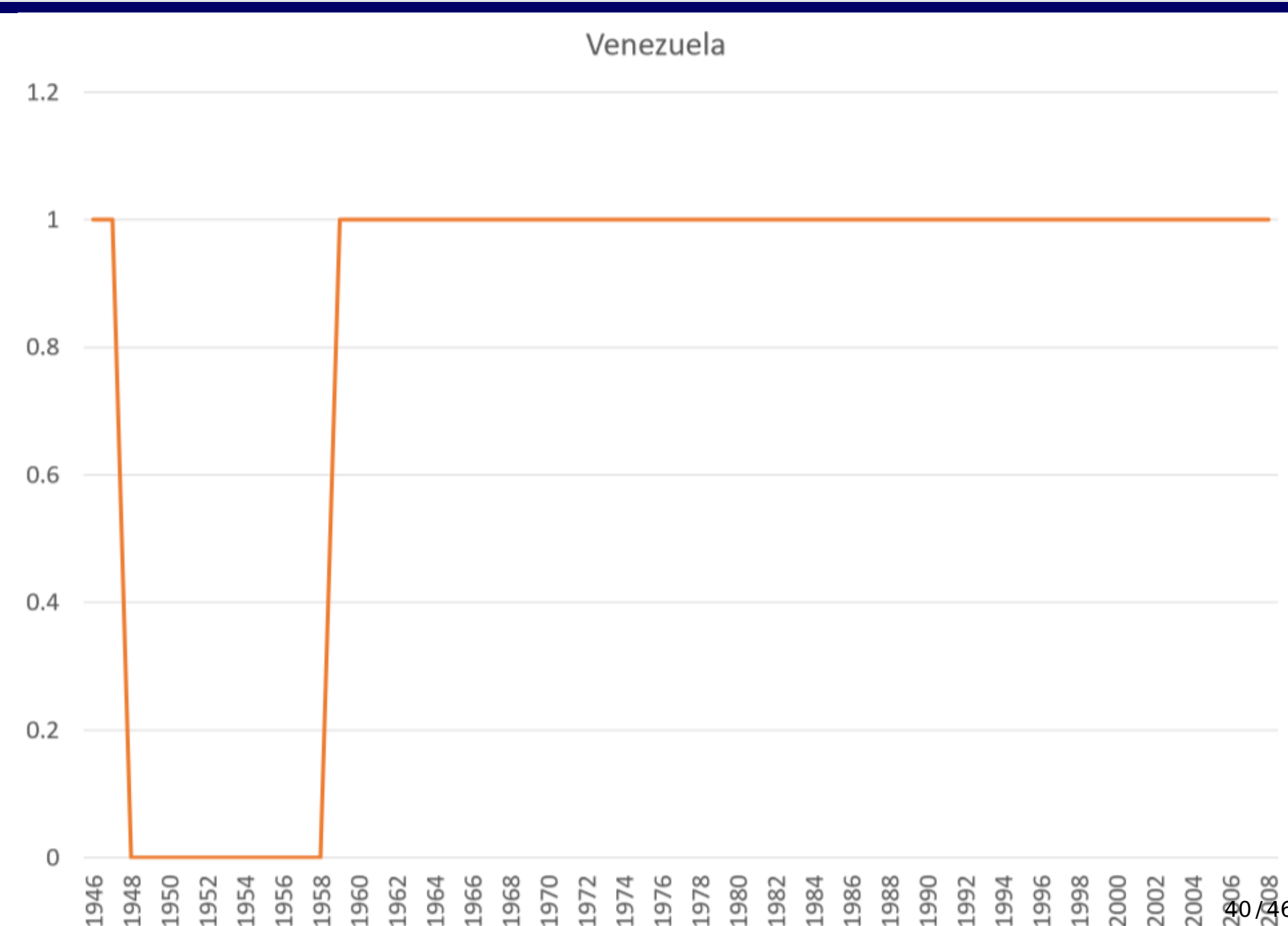
2006
2008
2010
2012
Chávez takes office for the first time
1º Enabling Law
New Constitution 1999
2º Enabling Law
Closing of RCTV and other media
3º Enabling Law
Approval of
Indefinite Reelections
4º Enabling Law
Coups d'état against Pérez Jiménez
Source: Polity IV


Venezuela
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1
0.8
0.6
0.4
0.2
0
1946
1948
1950
1952
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1958
1960
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1972
1974
1976
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1980
1982
1984
1986
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2006
2008

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- Eg. Should we use annual data to assess the effect of Trump's tweets on the stock market?

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- What was the "Data Generating Process"?
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Methodology

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Methodology

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- Quasi-Experimental Studies:

Methodology

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Methodology

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Methodology

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