



Motivation

- May 26, 2020, George Floyd was killed by police officer
- BLM protests erupted across the country
- **15 to 26 million** people attended these protests
- **Largest** protests in US history
- **9 out of 10** voters said protests were “major factor in voting decision”
- How did BLM protests change the outcome of the 2020 election?

Do protests matter?

- 1960s racial justice protests:
 - Increased Democrat vote share if peaceful (Wasow, 2020)
 - Increased Republican vote share if violent (Wasow, 2020)
 - Depressed property values (Collins and Margo, 2007)
 - Lowered economic prospects African Americans (Collins and Margo, 2004)
 - Increased support for Democrats, affirmative action and racial justice 40 years later (Mazumder, 2018)
- Tea party protests increased Republican votes, donations, and policies (Madestam et al., 2013)
- Pro-immigration protests increased support for less restrictive policies (Branton et al., 2015)

Violence seems to be a key determinant



Why do protests matter?

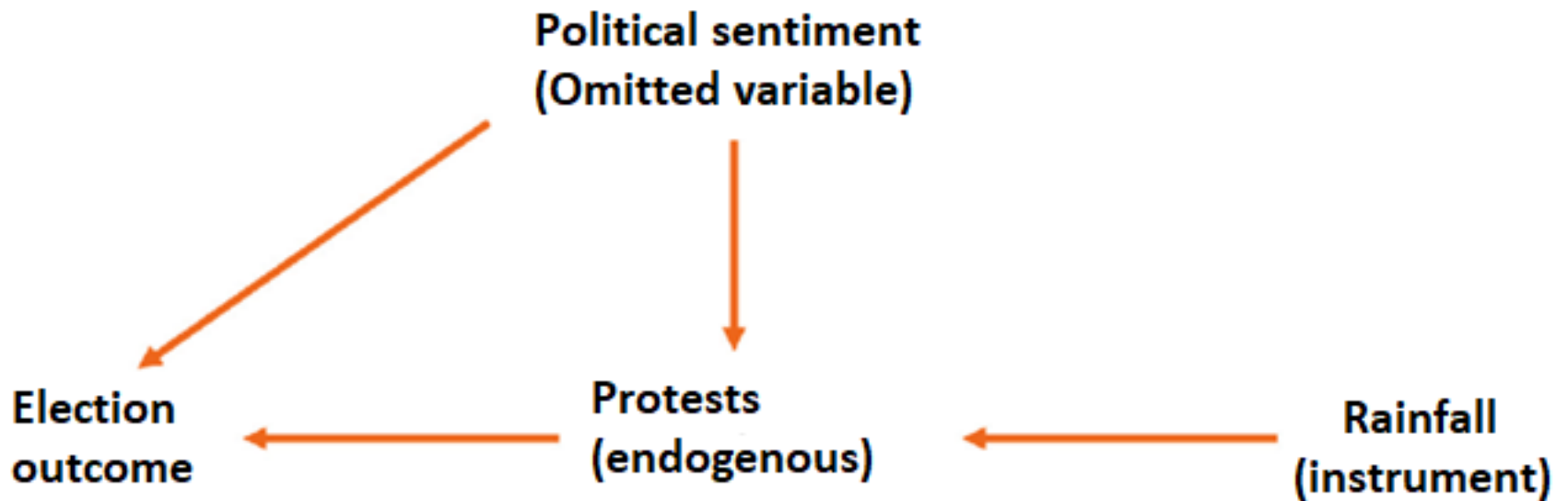
- Protests **reveal** privately held **information** to public (Lohmann, 1994)
 - Reveals extent of racial injustice
 - Shows incorrectness of status quo
- Protests push **new issues** onto news agendas (Wasow, 2020)
- Protests **reveal** political **preferences** to social network
 - People vote like their peers (Quattrone & Tversky, 1988)
 - Social norms affect voting decisions (Gerber et al., 2008)
- Protests make issues **salient**
 - Limited attention
 - Limited cognition

Protests can change both **attitudes** and **turnout**

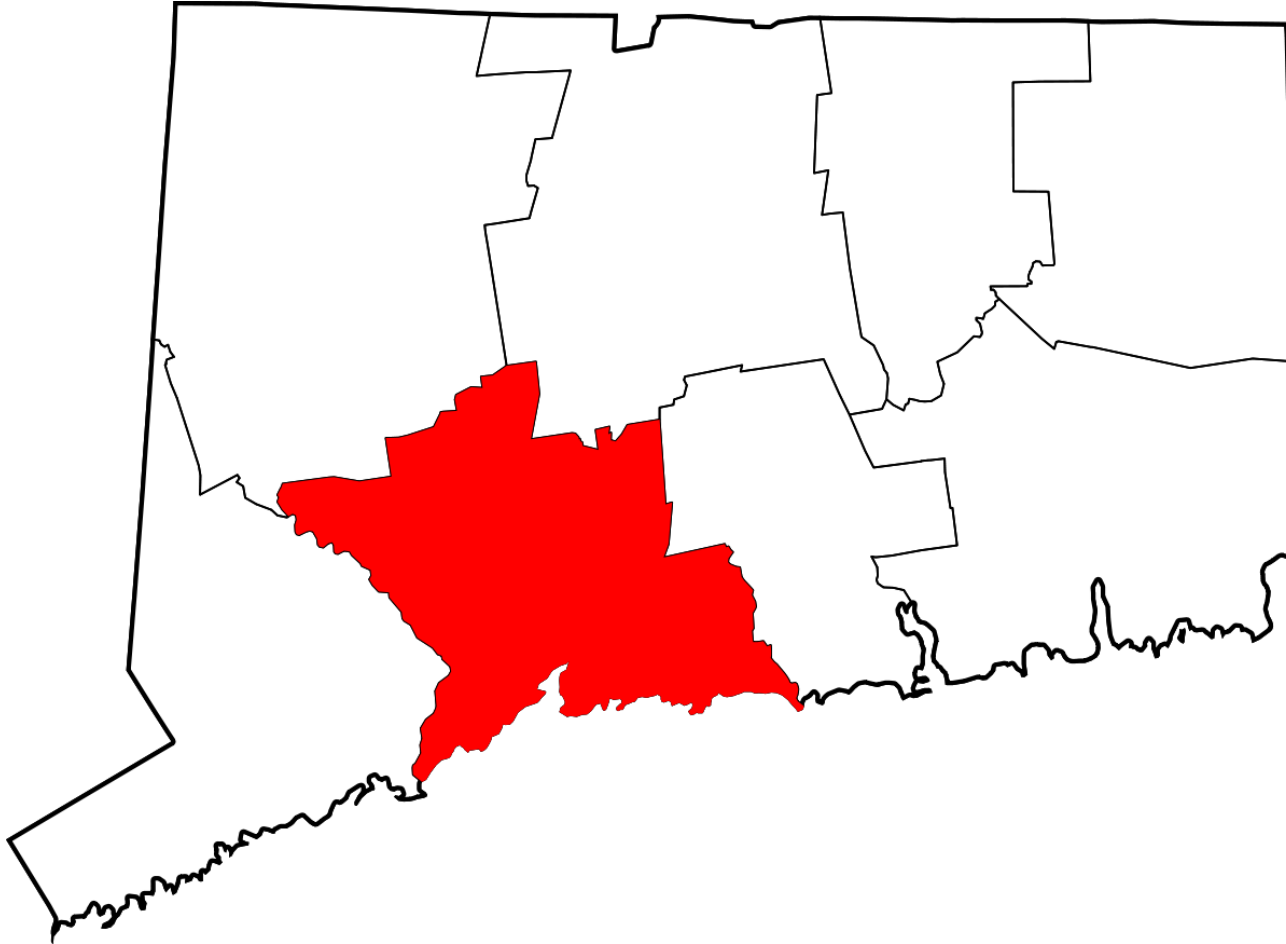
Identification Strategy

- What is the effect of BLM protests on the 2020 presidential election?
- Problem 1: Protests are **endogenous**
- Problem 2: Protests and election outcomes are **spatially correlated**
- Solution: **Spatial two-stage least squares**

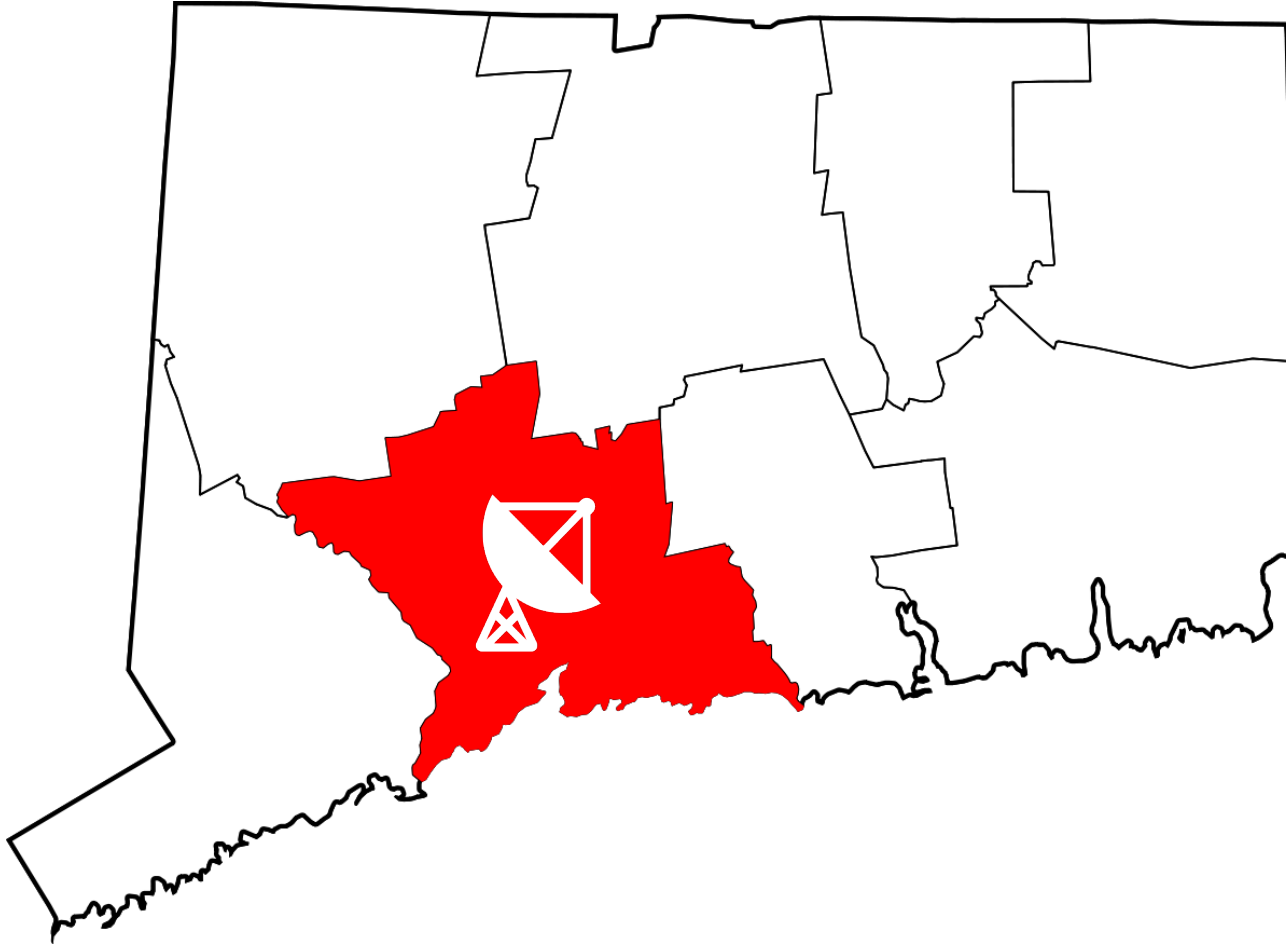
Identification Strategy



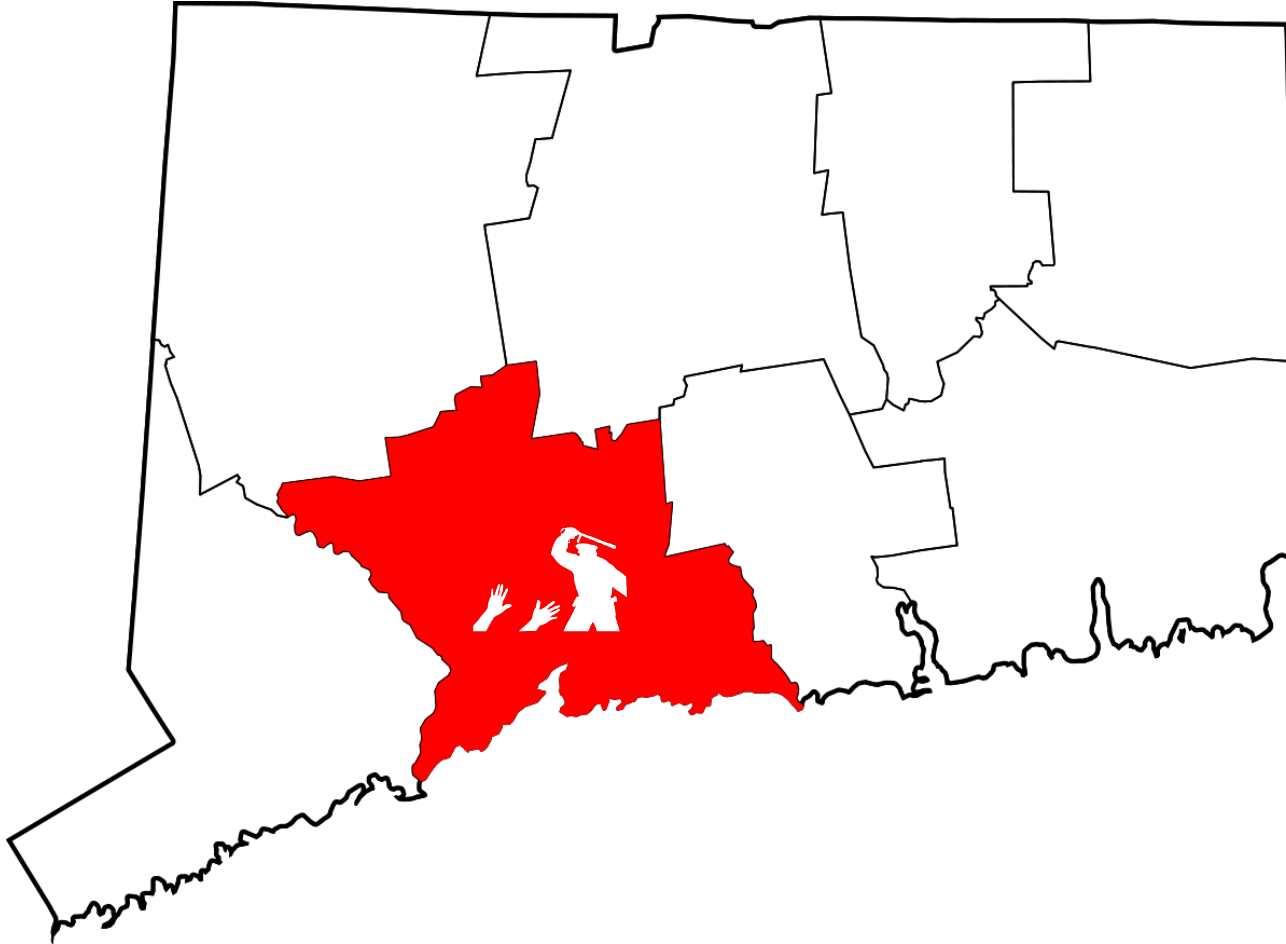
Identification: Spatial spillovers



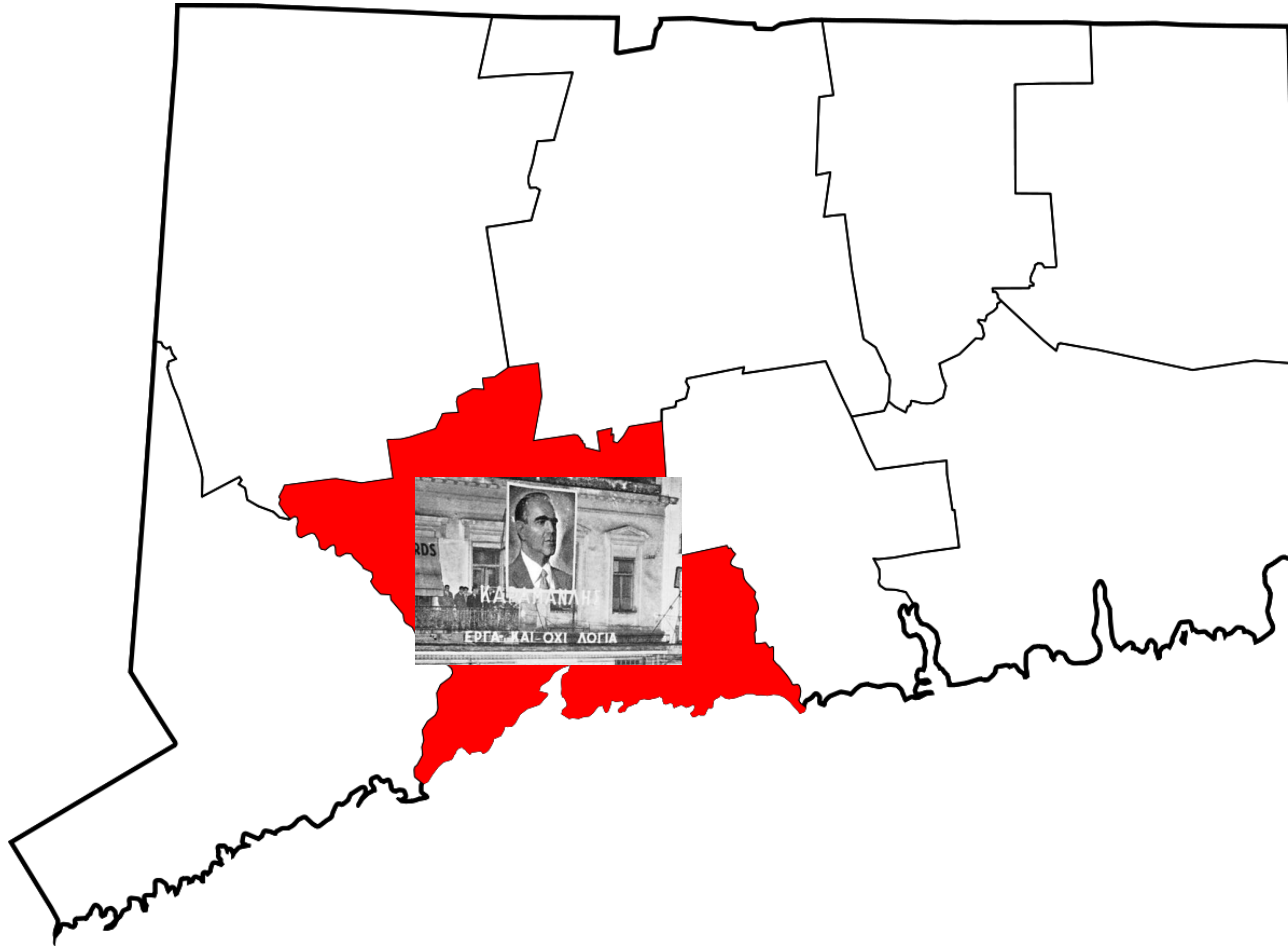
Identification: Spatial spillovers



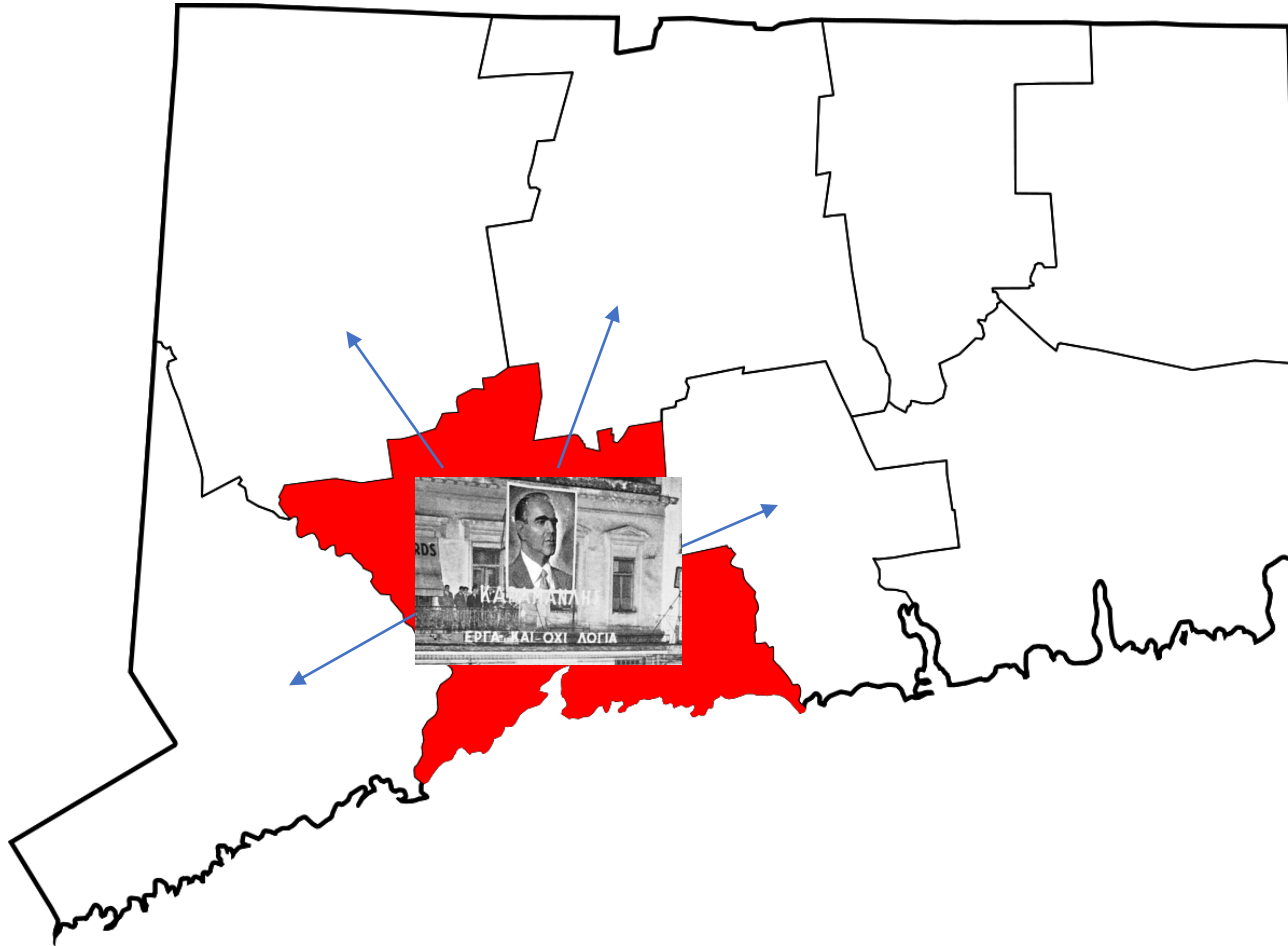
Identification: Spatial spillovers



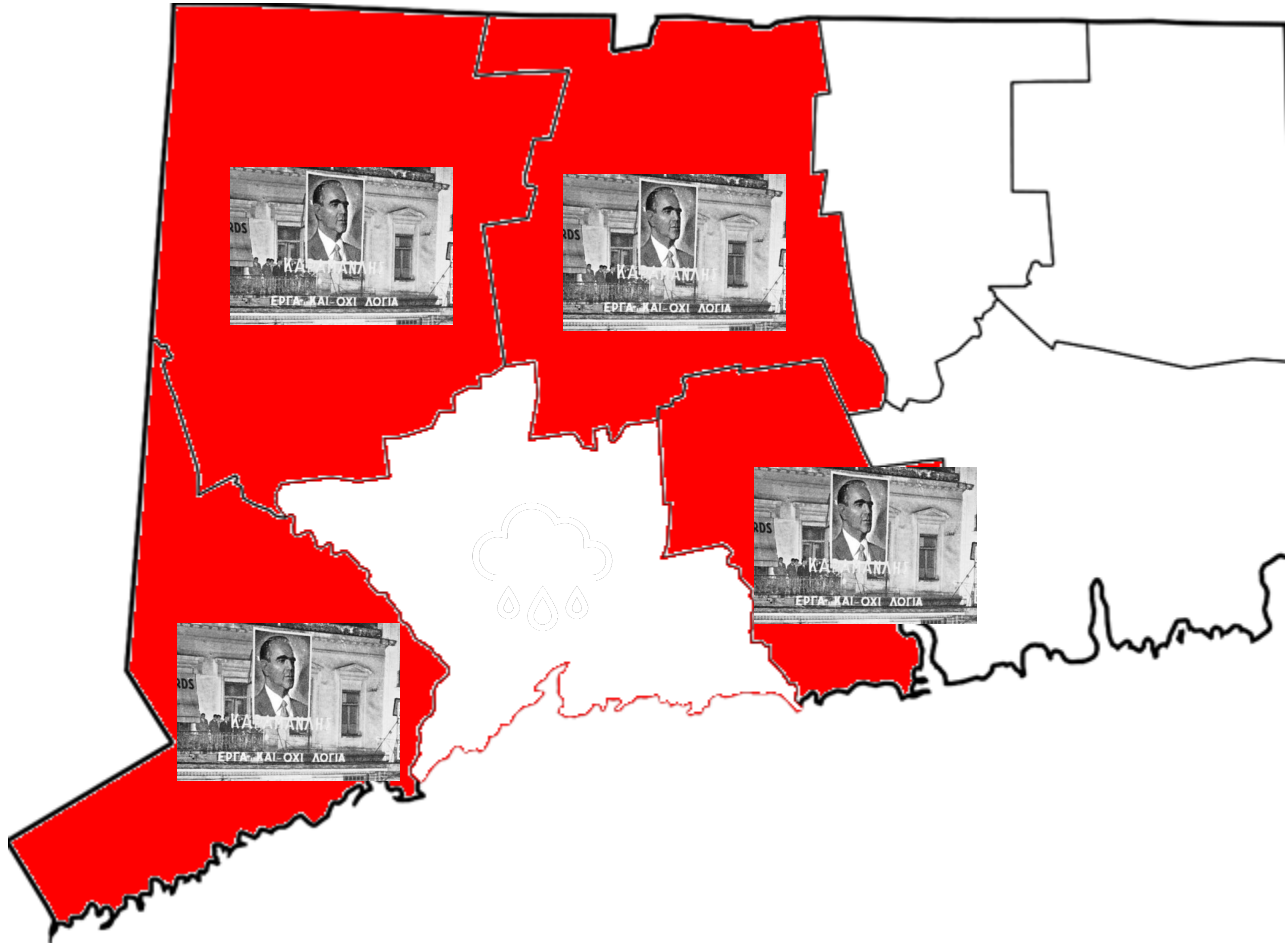
Identification: Spatial spillovers



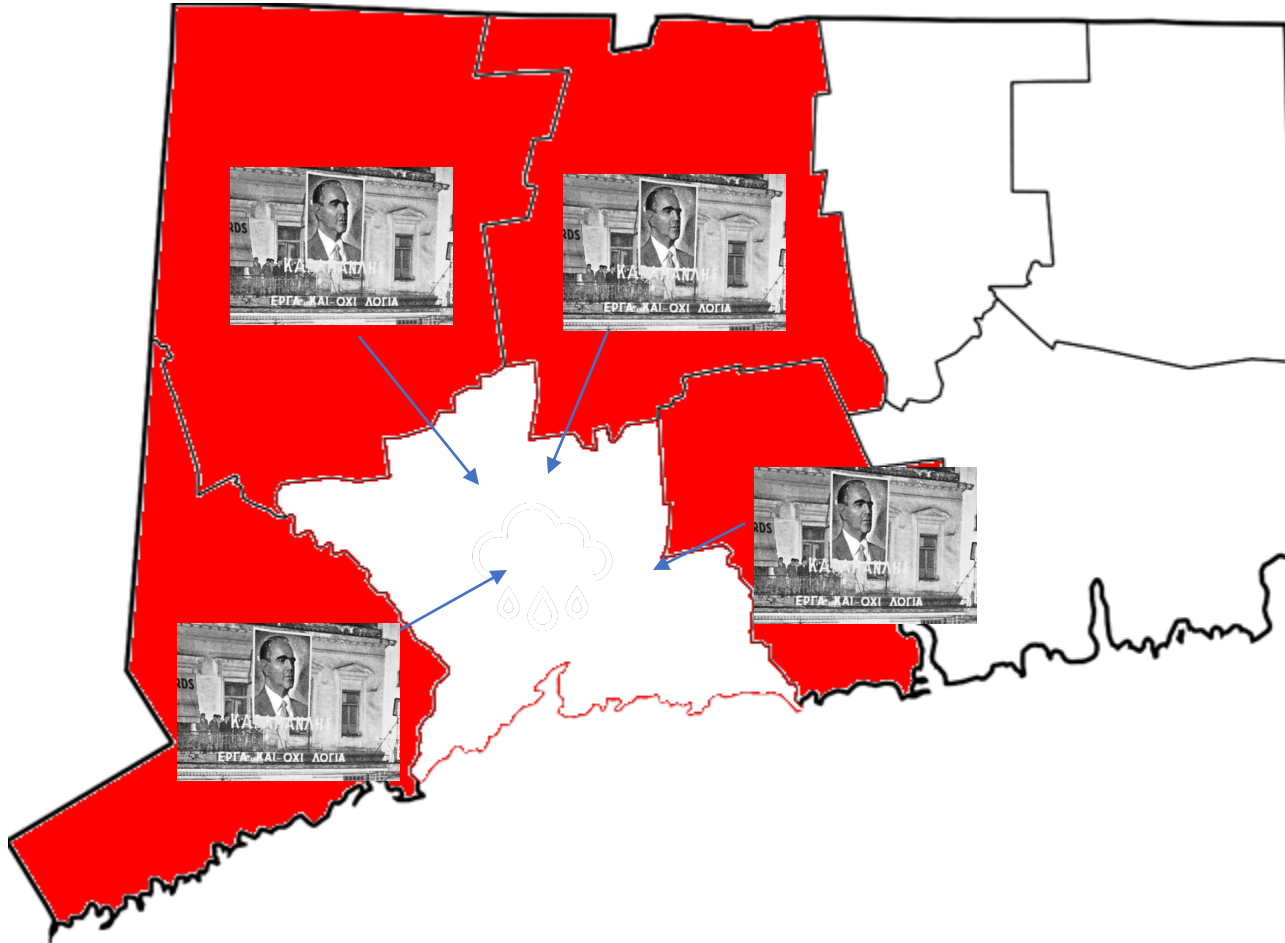
Identification: Spatial spillovers



Identification: Spatial spillovers



Identification: Spatial spillovers



Identification Strategy

- Problem 1: Protests are endogenous
- Solution: Use **rainfall** as instrument for protesting activity
 - Assumption 1.1: Rainfall discourages protests
 - Assumption 1.2: Rainfall does not otherwise affect election outcome (Mellon, 2021)
- Problem 2: Voting behavior, protests, and rainfall are spatially correlated
 - Violates assumption 1.2!
- Solution: **Spatial two-stage least squares**
 - Assumption 2.1: Outcomes and error terms are spatially correlated
 - Assumption 2.2: Spatial dependencies depend on geographical distance between counties

Methodology

$$Y_i = \beta_0 + \lambda \sum_{j=1}^N W_{ij} Y_j + \beta_1 \widehat{Protests}_i + \alpha X_i + u_i$$
$$u_i = \rho \sum_{j=1}^N W_{ij} u_j + \varepsilon_i$$

- **3 outcome variables**
 - Attitudes about discrimination and affirmative action
 - Change in Democratic vote share between 2016 and 2020
 - Change in turnout between 2016 and 2020
- **W:** Spatial weighting matrix
- **Protests:** Days of protests & Attendees/Population
- **X:** Demographic and Economic controls (racial composition, age, income, unemployment)

Data

- George Floyd's death: 25th May 2020
- Main BLM protest window: 26th May – 7th June
- **Protest data:** Crowd Counting Consortium
- **Racial attitude data:** Cooperative Election Study
- **Election data:** MIT Election Data and Science Lab
- **Weather data:** National Oceanic and Atmospheric Administration
- **County-level characteristics:** US Census

Effect of BLM protests on attitudes

Panel C: Blacks should not receive special favors

Days of protests	-0.117** (0.058)	-0.125*** (0.043)	-0.156*** (0.045)			
Attendees/Population				-0.782*** (0.274)	-0.619*** (0.148)	-0.636*** (0.136)
Rain prob.	-0.019 (0.324)	-0.468 (0.334)	-0.374 (0.344)	0.551 (0.427)	-0.331 (0.347)	-0.283 (0.338)
Population (100,000s)	0.013 (0.020)	0.029** (0.013)	0.038*** (0.013)	-0.012 (0.008)	0.001 (0.006)	0.002 (0.006)
λ	0.034 (0.054)	0.209 (0.128)	0.046 (0.049)	-0.047 (0.124)	-0.004 (0.062)	-0.026 (0.050)
ρ	2.967*** (0.893)	1.433*** (0.085)	2.082*** (0.638)	1.462* (0.801)	1.042 (0.724)	0.805 (0.704)
Demographic controls	No	Yes	Yes	No	Yes	Yes
Economic controls	No	No	Yes	No	No	Yes
Observations	2,563	2,563	2,561	2,563	2,563	2,561

Effect of BLM protests on attitudes

Panel D: Slavery caused current disparities

Days of protests	0.142** (0.061)	0.145*** (0.050)	0.152*** (0.044)			
Attendees/Population				0.849*** (0.270)	0.688*** (0.154)	0.640*** (0.136)
Rain prob.	-0.040 (0.341)	0.330 (0.363)	0.382 (0.355)	-0.618 (0.435)	0.189 (0.371)	0.262 (0.353)
Population (100,000s)	-0.018 (0.021)	-0.030** (0.015)	-0.034** (0.013)	0.014* (0.008)	0.003 (0.006)	0.001 (0.006)
λ	-0.020 (0.070)	-0.049 (0.066)	-0.053 (0.095)	0.206 (0.143)	0.003 (0.131)	0.014 (0.060)
ρ	2.983*** (0.784)	2.032*** (0.496)	1.543* (0.857)	1.473*** (0.145)	1.214* (0.667)	0.680 (0.732)
Demographic controls	No	Yes	Yes	No	Yes	Yes
Economic controls	No	No	Yes	No	No	Yes
Observations	2,563	2,563	2,561	2,563	2,563	2,561

Effect of BLM protests on attitudes

- BLM protests caused a shift in racial attitudes.
- People agreed **less** to the statement that *“Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors”*
- People agreed **more** with the statement that *“Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class”*
- Change in racial attitudes might explain part of the shift in voting

Effect of BLM protests on voting

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Panel A: Change in Democratic vote share						
Days of protests	0.012*** (0.002)	0.012*** (0.002)	0.010*** (0.002)			
Attendees/Population				0.088*** (0.017)	0.039*** (0.007)	0.034*** (0.006)
Rain prob.	0.036*** (0.011)	-0.031*** (0.010)	-0.013 (0.010)	-0.026 (0.027)	-0.035*** (0.013)	-0.015 (0.011)
Population (100,000s)	-0.003*** (0.001)	-0.003*** (0.0005)	-0.003*** (0.0004)	-0.001* (0.0004)	0.0001 (0.0002)	-0.0001 (0.0002)
λ	0.854 (0.630)	0.332 (0.446)	-0.122 (0.381)	3.358*** (1.286)	0.970** (0.492)	0.631 (0.428)
ρ	5.200*** (0.500)	5.703*** (0.764)	6.159*** (0.676)	4.972*** (1.041)	5.993*** (1.173)	6.215*** (0.994)
Demographic controls	No	Yes	Yes	No	Yes	Yes
Economic controls	No	No	Yes	No	No	Yes
Observations	3,076	3,076	3,059	3,076	3,076	3,059

Effect of BLM protests on voting

- BLM protests **increased** Democratic vote share
- An additional day of protesting increases Democratic vote share by **1.0 to 1.2 p.p.**
- A 1 p.p. increase in attendees / population increases vote share by **3.4 to 8.8 p.p.**
- 1.7 to 4.4 p.p. increase in Dem. vote share in average protest county.
- Was progressive shift caused by **turnout** or **attitudes**?

Effect of BLM protests on turnout

Panel B: Turnout

Days of protests	0.014*** (0.003)	0.009*** (0.003)	0.007*** (0.003)			
Attendees/Population				0.073*** (0.021)	0.001 (0.011)	0.006 (0.010)
Rain prob.	-0.006 (0.020)	-0.027 (0.017)	-0.014 (0.016)	-0.046 (0.034)	-0.009 (0.017)	-0.002 (0.017)
Population (100,000s)	-0.004*** (0.001)	-0.002** (0.001)	-0.001* (0.001)	-0.001** (0.001)	0.001** (0.0003)	0.0004 (0.0003)
λ	-0.862*** (0.228)	-0.598*** (0.200)	-0.646*** (0.192)	-0.417 (0.288)	-0.916*** (0.233)	-0.820*** (0.223)
ρ	5.360*** (0.430)	4.452*** (0.322)	4.376*** (0.322)	5.703*** (0.698)	4.224*** (0.252)	4.255*** (0.275)
Demographic controls	No	Yes	Yes	No	Yes	Yes
Economic controls	No	No	Yes	No	No	Yes
Observations	3,076	3,076	3,059	3,076	3,076	3,059

Effect of BLM protests on turnout

- BLM protests had mixed effect on turnout
- An additional day of protesting increases turnout by **0.7 to 1.4 p.p.**
- Number of attendees has **no significant effect**
- Turnout does not seem to explain the full progressive shift
- Protests seem to have swayed some voters'

Robustness checks

Rain, Rain, Go Away: 176 potential exclusion-restriction violations for studies using weather as an instrumental variable

Jonathan Mellon (University of Manchester)

2021-04-21

Abstract

Instrumental variable (IV) analysis assumes that the instrument only affects the dependent variable via its relationship with the independent variable. Other possible causal routes from the IV to the dependent variable are exclusion-restriction violations and make the instrument invalid. Weather has been widely used as an instrumental variable in social science to predict many different variables. The use of weather to instrument different independent variables represents strong prima facie evidence of exclusion violations for all studies using weather as an IV. A review of 217 social science studies reveals 176 variables which have been linked to weather, all of which represent potential exclusion violations. I conclude with practical steps to systematically review existing literature to identify possible exclusion violations when using IV designs. I demonstrate how sensitivity analysis can quantify the vulnerability of a particular IV estimate to exclusion restriction violations in the literature.

Robustness checks

- 100s of papers use rainfall as an instrument
- Many of these papers provide potential exclusion restriction violations for ours
 - Crime
 - Mood
 - Productivity
- Compare reduced form estimates during protest window to same-length windows prior to George Floyd's death
- Effect of rainfall on voting 100 times larger during BLM protest window
- Additional placebo tests show no effect on previous elections

Robustness checks

- Did we omit election-relevant factors?
- Estimate additional placebo regressions of rainfall on previous elections
- We find no effect

Robustness checks

- What happens when we ignore spatial autocorrelation?

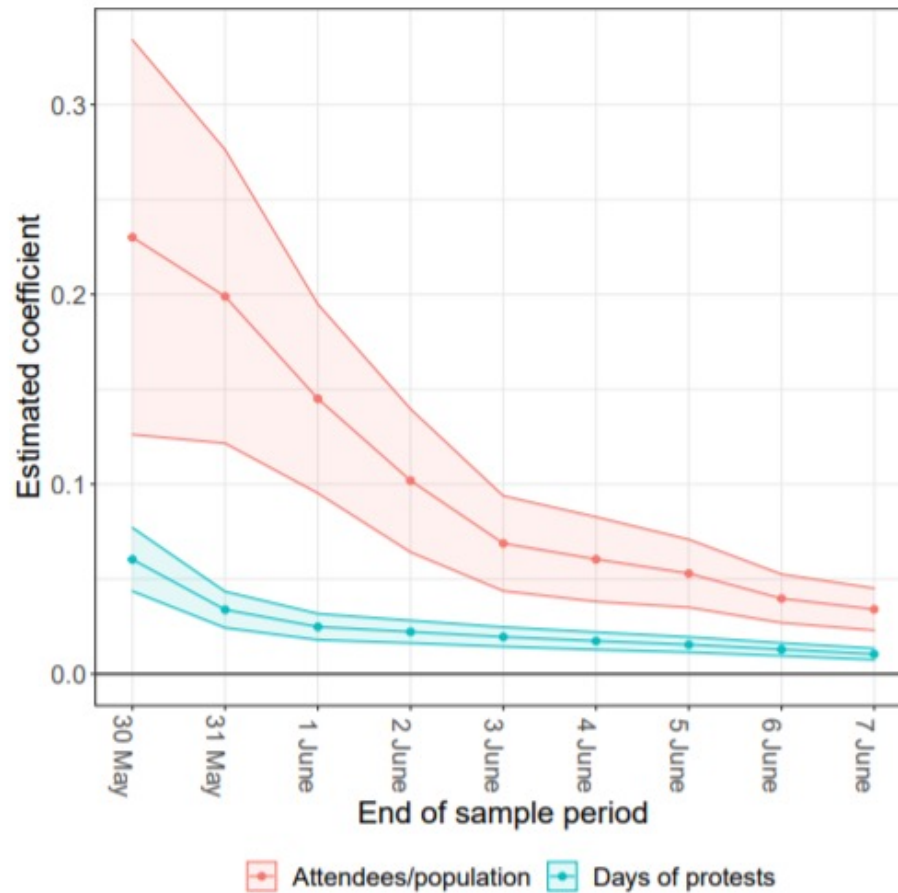
Panel B: Ignoring spatial autocorrelation

Days of Protests	0.072*** (0.020)	0.059*** (0.018)	0.054*** (0.019)			
Attendees/Population				0.151*** (0.035)	0.120*** (0.031)	0.102*** (0.029)
Rain prob.	-0.102** (0.050)	-0.205*** (0.063)	-0.188*** (0.066)	-0.062* (0.033)	-0.115*** (0.034)	-0.100*** (0.030)
Population (100,000s)	-0.027*** (0.008)	-0.017*** (0.005)	-0.015*** (0.006)	-0.003*** (0.001)	-0.001* (0.001)	-0.001** (0.001)
Observations	3076	3076	3061	3076	3076	3061
Demographic controls	No	Yes	Yes	No	Yes	Yes
Economic controls	No	No	Yes	No	No	Yes

- Effect sizes grow by factor 6!
- Raises questions about prior protest research

Robustness checks

- Choice of protest window



Conclusion

- BLM protests largest collective action ever in the US
- Protests caused a progressive shift in the 2020 election
- Only part can be explained by increased turnout
- Protests caused a shift in racial attitudes
- Protests can engender change!

Questions?
Suggestions?



Download the paper here:

