THE UNIVERSITY OF CHICAGO
Harris Public Policy

Isolation and Insurrection:

How Partisanship and Political Geography Fueled January 6, 2021

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January 6, 2021 in Washington, DC.

Question

- Who were the protesters that come to DC on January 6, 2021?
- Why did they come?

What We Do

- Track mobile devices of visitors to learn about the communities they come from.
- Build a theory that explains how isolation led to higher participation in the January 6 protest.
- Further analyze data to understand more about protesters' motivations.

Empirical Findings

- Participation increases with Trump vote share.
- Marginal effect of political isolation on participation increases with vote share.
- Participation increases with proximity to a *Proud Boys* chapter.
- Participation increases with local *Parler* use prior to the insurrection.
- Results robust across various fixed effects (state, county).

- Participation increased sharply in states with narrow Trump losses and in counties with a Trump-to-Biden swing in the election-night voter tally.

The *Big Steal*

- President Trump lost elections decisively, but relatively narrowly.
  - To win, he would need a swing of 10,000 votes (0.3%) in Arizona, 12,000 votes (0.2%) in Georgia, and 20,000 votes (0.6%) in Wisconsin.

- Before the elections, both in 2016 and 2020, candidate Trump told his voters that if he loses, then it is likely because of fraud.
- There was a factor that amplified fraud concerns.
  - Because of pandemic, a lot of states relied massively on early and mail vote.
  - States differed in ways they counted these votes. Some states did not start counting these votes until the election day.
  - Since early and mail votes have different partisan composition from the election day vote, the overnight swing in vote tally was expected by political analysts in many states.

The *Big Steal*, ctd.

- Our finding that protest participation increased sharply in states with narrow Trump losses and in counties with a Trump-to-Biden swing in the election-night voter tally is evidence that protesters were in part motivated by the genuine desire to "stop the steal".

- The "defend democracy" might not provide Democrats an electoral advantage as a rallying cry.

Theory

- In our model, information is acquired not only from one source such as radio, a website, or a newspaper directly but also indirectly from other members of a network.
- After obtaining information about the state of the world whether or not the election was stolen, each agent decides whether or not to go to Washington, DC to protest or stay home.
  - So, agents protest if they believe that votes were stolen, or stay home if there was no suspected election fraud.

Model

- There is one sender (the leader) and many receivers (potential protesters) in communities that are connected in a network.
- A citizen wants to protest if there is election fraud and stays home if not.
- The leader is willing in citizens' participation in the protest regardless of circumstances.
- Leader commits to an information design. Information is transmitted via this information design.
  - In the case of the 2020 elections, e.g., by using personnel appointments.
  - We use Bayesian persuasion with full commitment, but a partial commitment would do as well.

Persuading One Receiver

- Two states of the world $s \in \{0,1\}$
- Receiver
  - action $a \in \{0,1\}$
  - utility $u(a = 1, s = 1) = 1 - q, \qquad 0 < q < {}^{1}/_{2}$

    $$u(a = 0, s = 0) = q$$

    $$u(a = 1, s = 0) = u(a = 0, s = 1) = 0.$$

  - has to pay $c > 0$ to consume info.
- Sender
  - maximizes the probability that $a = 1$.
- Common prior $P(s = 1) = \mu$.
  - $\mu \leq q$, so $a = 0$ is the default action by the receiver.

A Simple Example of Bayesian Persuasion, *ctd.*

- Sender's signal structure:

  $s = 1 \rightarrow \hat{s} = 1$

  $s = 0 \rightarrow \hat{s} = (1 - \beta) \cdot [0] + \beta \cdot [1]$

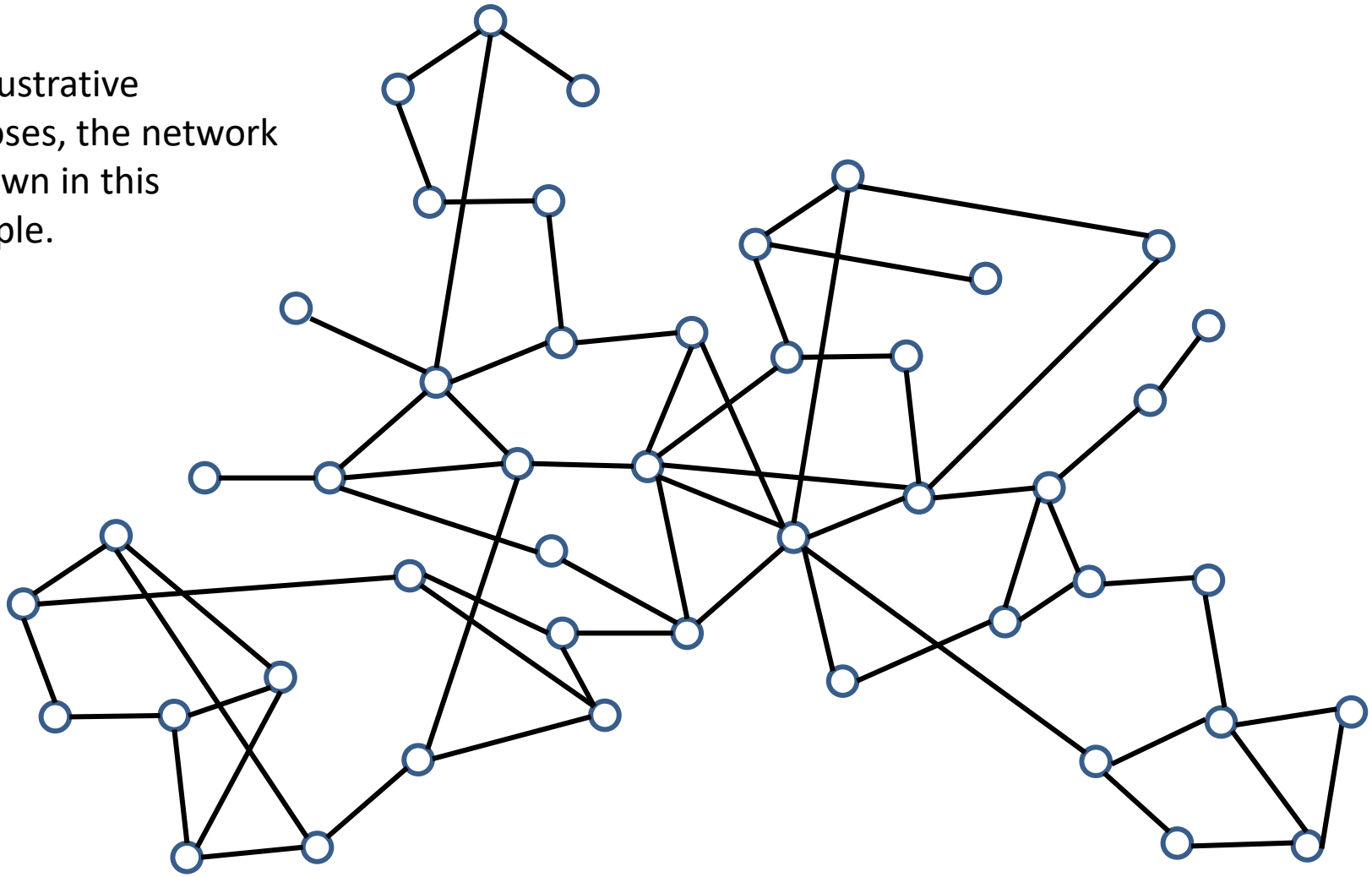
- In equilibrium, Receiver follows the signal:
  - action $a = \hat{s}$.
- $V(\beta) = \mu(1 - q) - (1 - \mu)\beta q$ is the value of information for the receiver.
- The incentive compatibility constraint is $V(\beta) \geq c$.
- The sender maximizes $\mu + (1 - \mu)\beta$.
- Sender-optimal $\beta^{max} = \frac{\mu(1-q)-c}{(1-\mu)q}$.

Introducing a Network

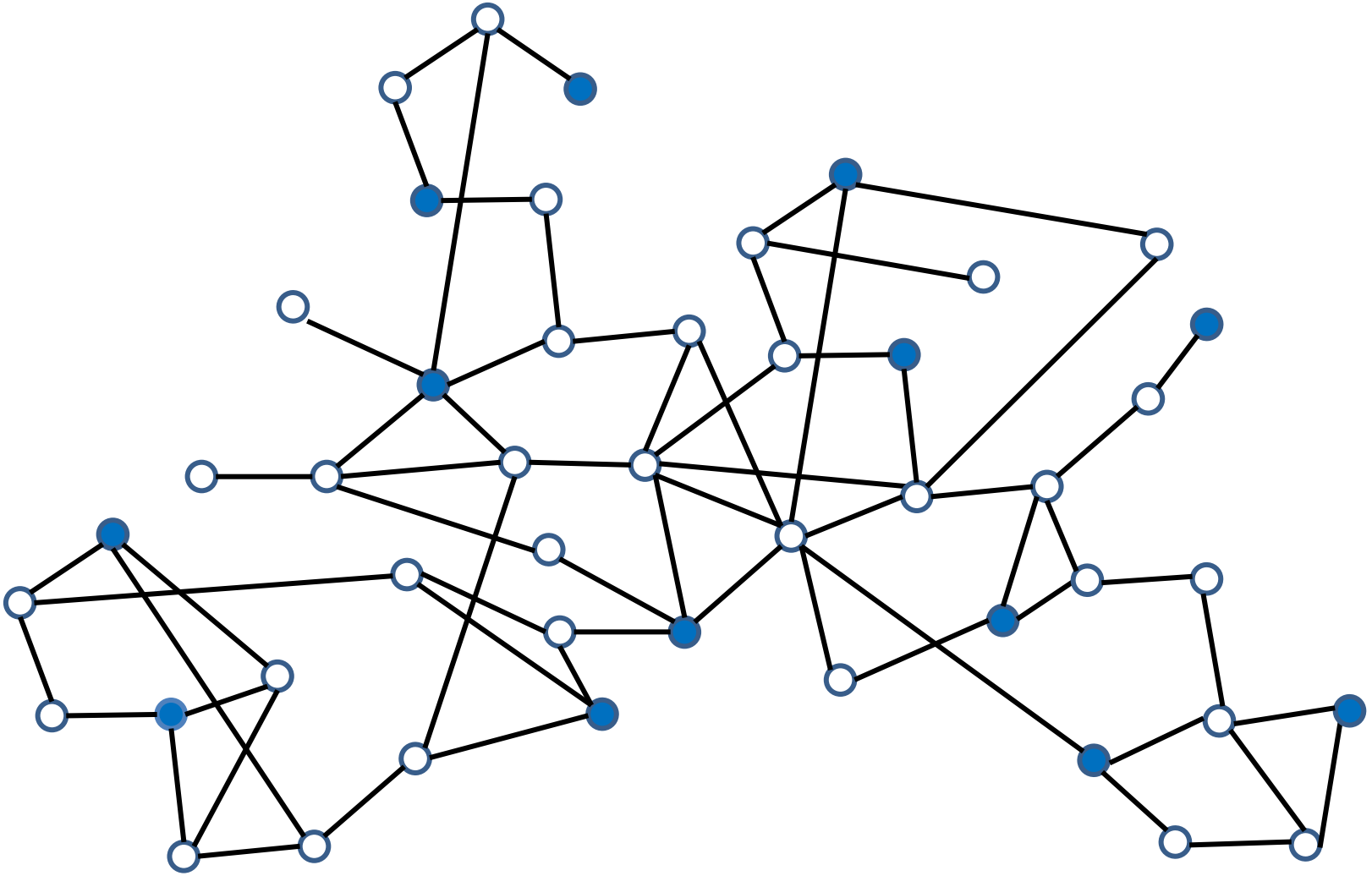
- The set of agents X is a finite undirected graph, $E(X)$ is the set of edges of X.
  - Each agent has the utility function and prior as above.
- Agents do not know the whole network, but know their own degree (number of connections) and the degree distribution.
  - Galeotti, Goyal, Fernando-Redondo, Jackson, and Yariv (2010)
- If $x, y \in X$ and there is an edge $(x, y) \in E(X)$, then with probability $p \geq 0$ agent y learns the same information that agent x has.
- Before the signal is sent, each agent $x \in X$ decides whether or not to get information from the sender ("subscribe") or to rely on her network links.

Example: A Network

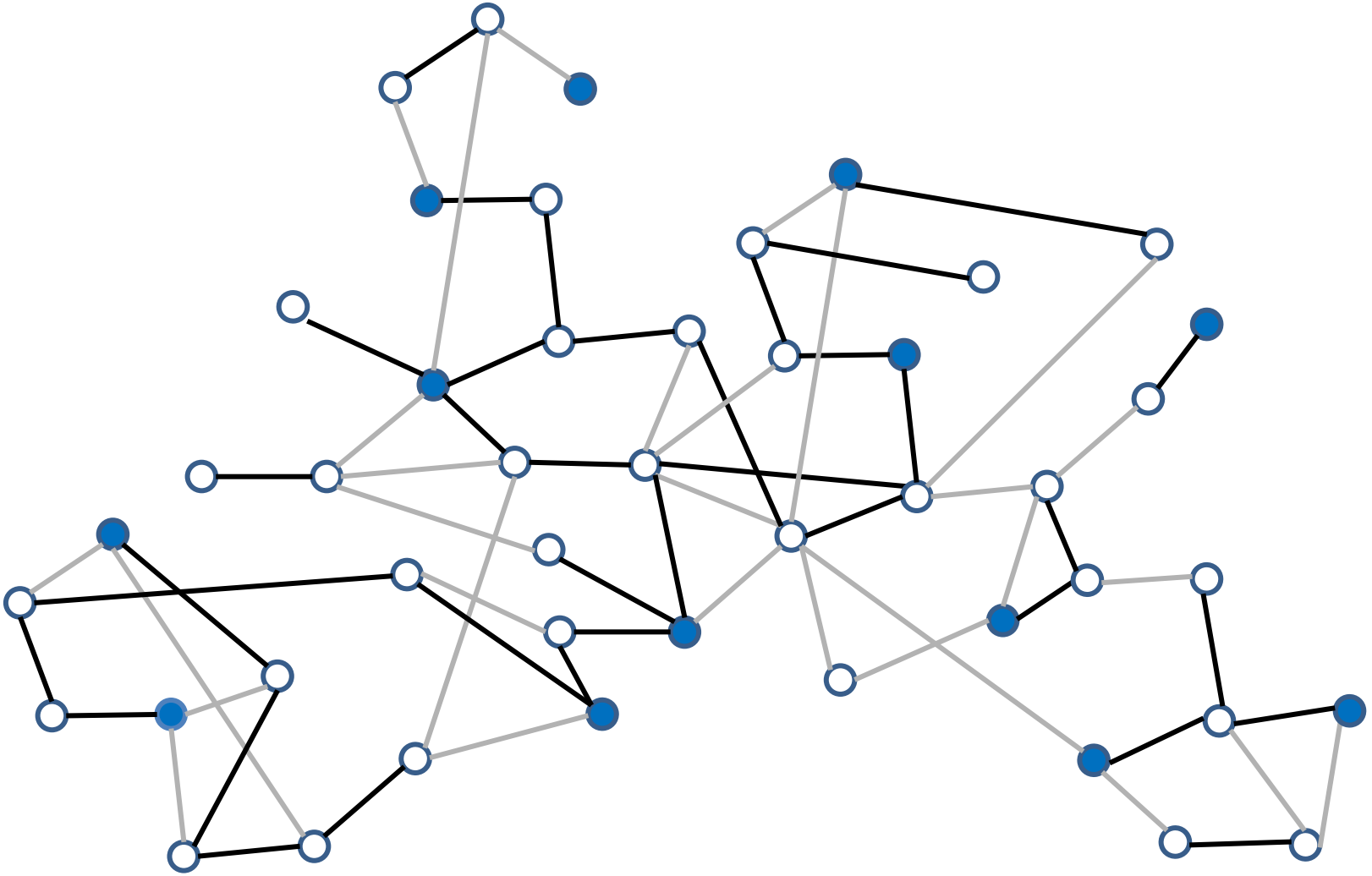
For illustrative purposes, the network is known in this example.



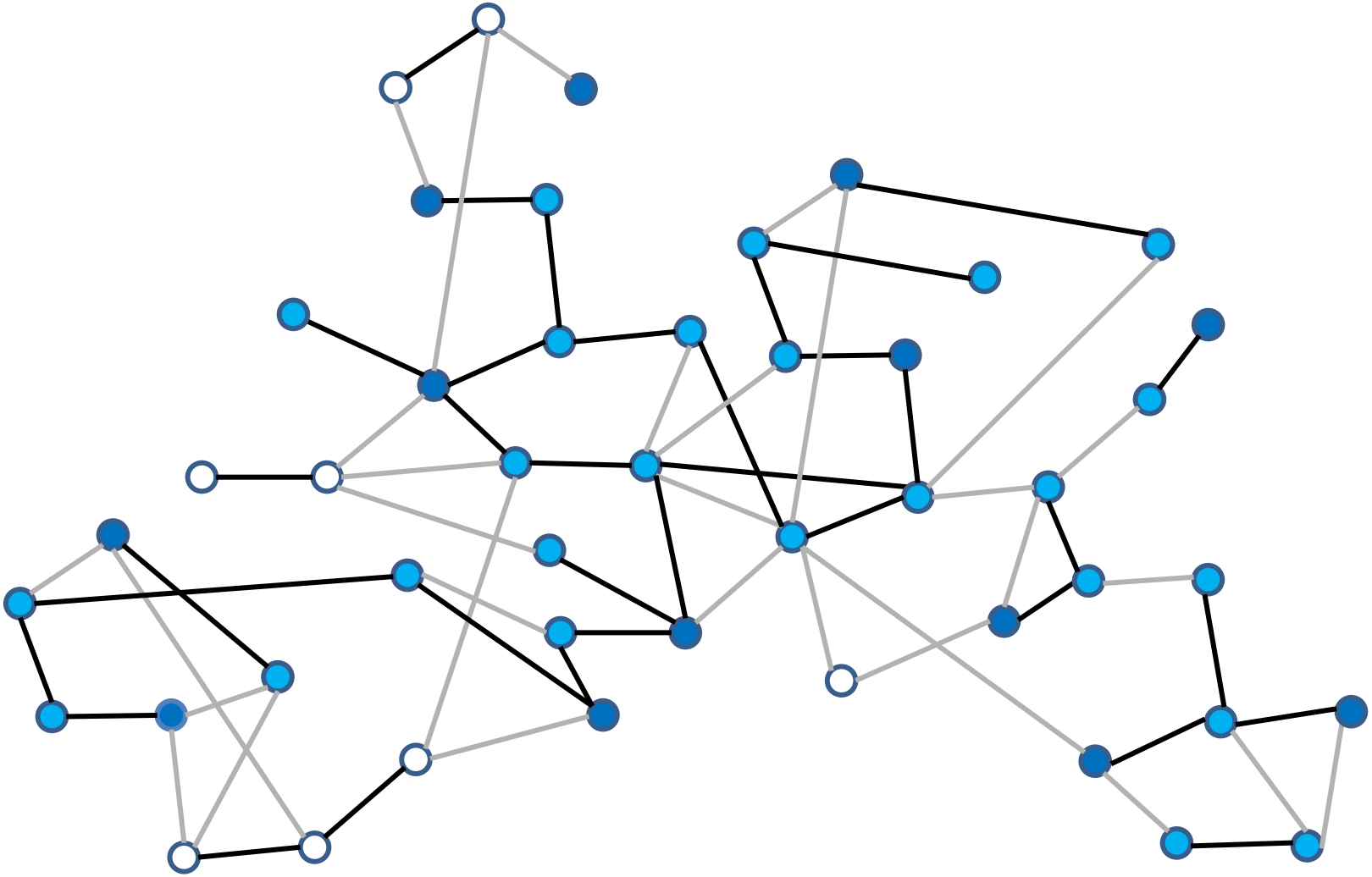
Example: Subscribers



Example: Random Connections, A Realization



Example: A Realization, Informed Agents



The Game

- Timing
  - Sender chooses the slant β.
  - Agents decide whether or not to acquire costly information.
  - The network X realizes.
  - Payoffs.

- An *equilibrium* is the sender-optimal β and the subscriber set $S(X)$ such that
  - for any $x \in S(X), V(\beta) \geq c$,
  - for any $x \in X \backslash S(X), V(\beta) < c$.

Persuasion on a Very Simple Network

- Network

- One subscriber (pays cost)

  - Sender-optimal $\beta^{max} = \frac{\mu(1-q)-c}{(1-\mu)q}$
  - Total expected action is

$$(1+p)(\mu+(1-\mu)\beta) = (1+p)\frac{\mu-c}{q}$$

- Two subscribers

  - IC constraint for a subscriber $V(\beta) - c \geq pV(\beta)$.
  - Sender-optimal $\beta = \frac{\mu(1-q)-c(1-p)^{-1}}{(1-\mu)q}$
  - Total expected action is

$$2(\mu+(1-\mu)\beta) = 2\frac{\mu-c(1-p)^{-1}}{q}$$

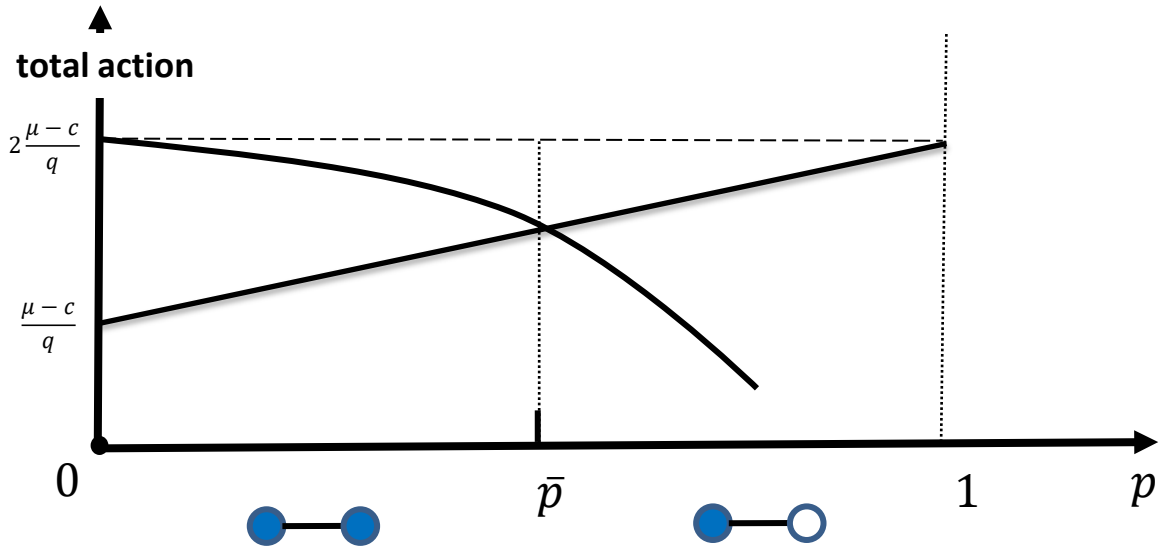
Persuasion on a Very Simple Network, *ctd.*

- One subscriber

  - Total expected action is $(1+p)\frac{\mu-c}{q}$

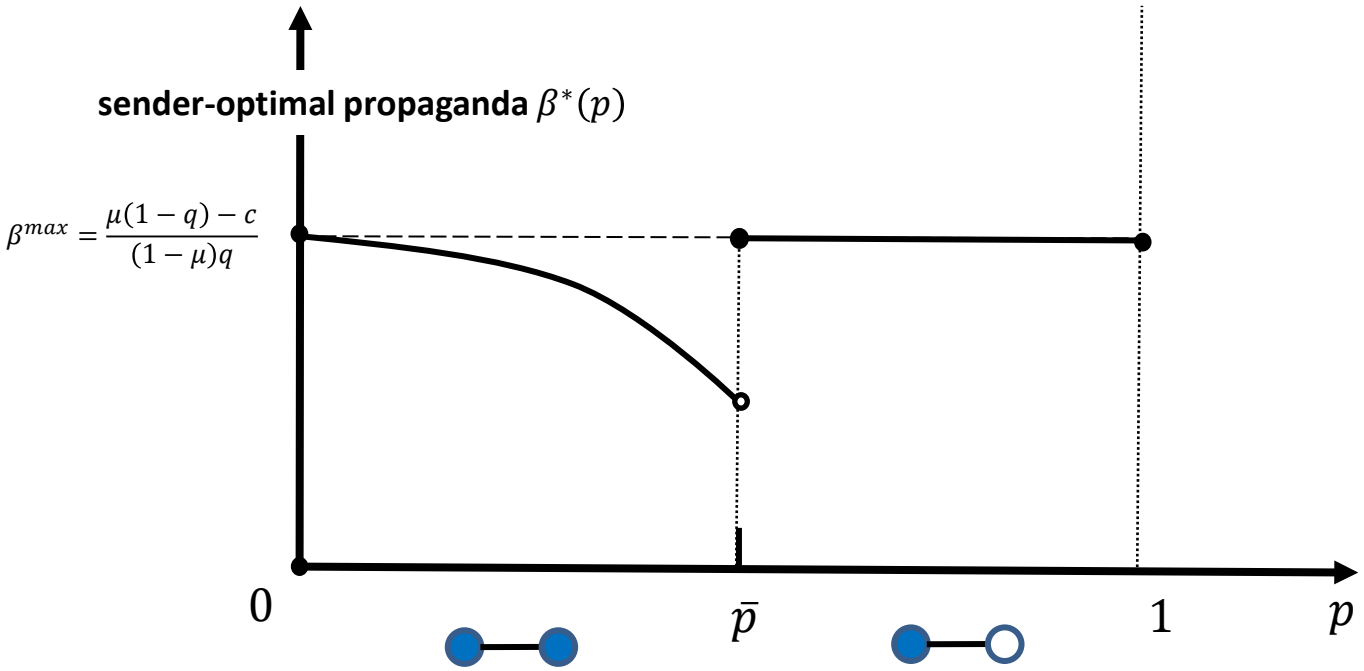
- Two subscribers

  - Total expected action is $2\frac{\mu-c(1-p)^{-1}}{q}$

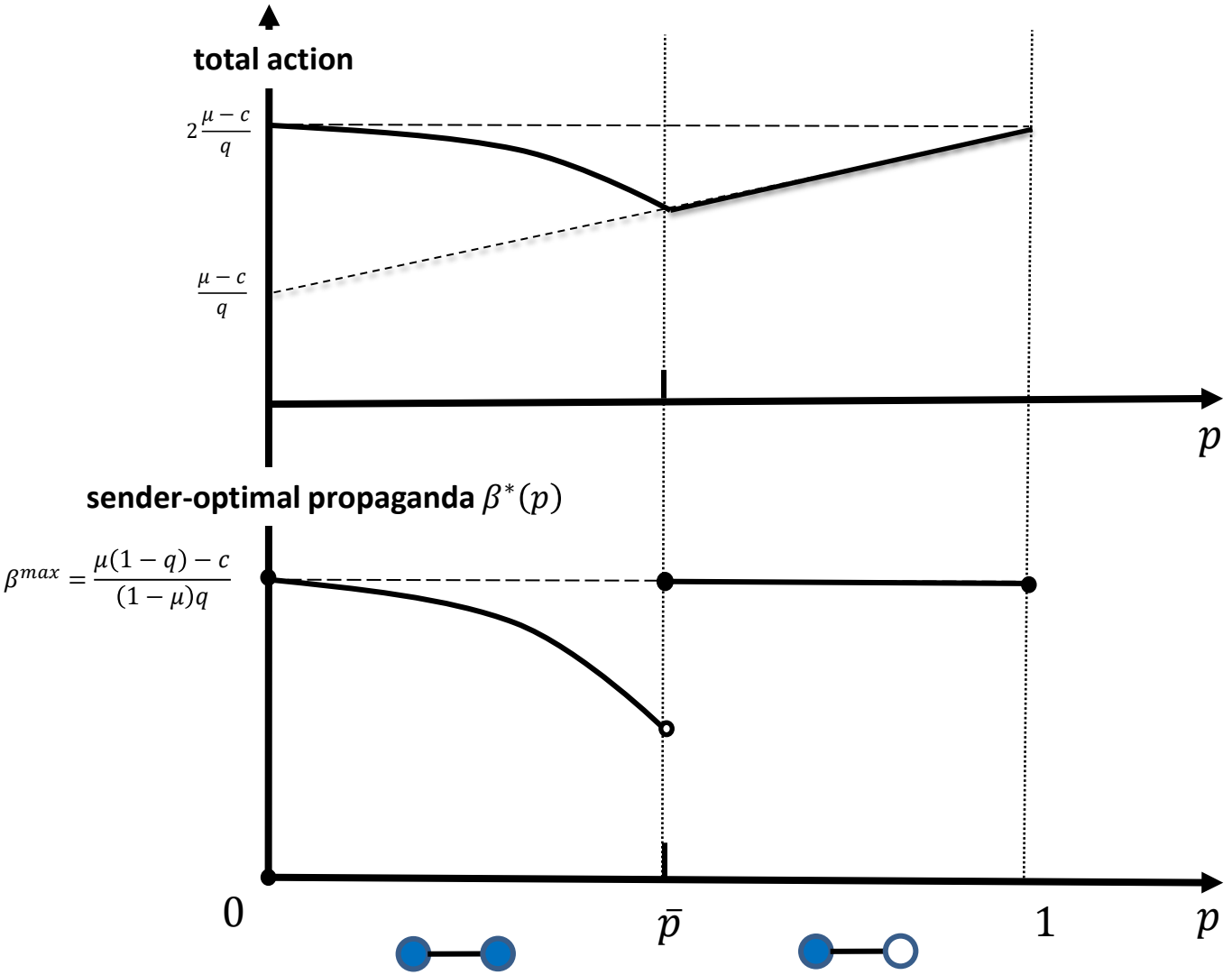


Persuasion on a Very Simple Network, *ctd.*

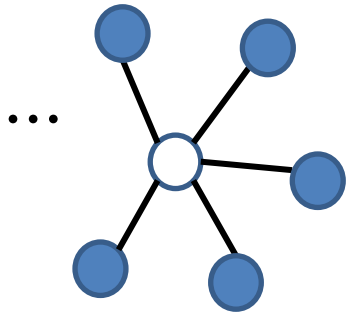
- Optimal bias
  - when $p \leq \bar{p},\ \beta^*(p) = \frac{\mu(1-q)-c(1-p)^{-1}}{(1-\mu)q}$
  - when $p > \bar{p},\ \beta^*(p) = \beta^{max} = \frac{\mu(1-q)-c}{(1-\mu)q}$



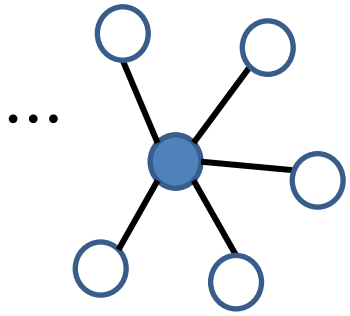
Persuasion on a Very Simple Network, *ctd.*



Isolated Yet Receiving Signal with a Higher Probability



low p



high p

- When p is close to 0, everyone is a subscriber.
- When p is close to 1, only one subscriber is possible.
- With p increasing, the number of subscribers in the sender-optimal equilibrium goes down.
- When p is not large, the isolated nodes have a higher probability to receive the signal.

Agents from Isolated Communities Receive Their Signals

- Recall that agents do not know the network, just their own degree and the overall degree distribution.
  - As in Galeotti, Goyal, Fernando-Redondo, Jackson, and Yariv (2010), their strategy is a function of their degree.

- *When p is low, in the sender-optimal equilibrium, there exists K^* such that*
  - *"the most isolated communities", i.e., those that have a network degree less than K^* rely on their own costly information acquisition;*
  - *"the least isolated communities" rely on free network information;*
  - *a fraction of communities with degree K^* randomizes.*

Consequences of Isolation

- *People in more isolated communities are more likely to receive a signal from the leader that elections were fraudulent and choose to participate in the protest.*
- A higher ex ante probability that $s = 1$ (the elections were stolen), results, in equilibrium, in a higher probability of a protest. Empirically, we find that partisanship is robustly correlated with protest attendance.
- The higher willingness to protest conditional on knowing that the elections were stolen, leads to a higher willingness to acquire information, and thus a higher probability of participation. Empirically, we find that local engagement with online extremist content and proximity to hate groups are correlated with protest attendance.

Measuring Participation

- It is a challenge to characterize those who participate in collective action because of possible selection on the dependent variable, representativeness, social desirability bias, and preference falsification.
  - Ethnographic and survey-based approaches typically embed researchers in movements or near sites.
  - Researchers may ask direct questions about participation in a given event.
- Focusing on communities rather than individuals, the problem is often the spatial proximity if protesters reside in the area where the event occurs.
  - This was different with the January 6, 2021 protest.
- Social media posts and device location(e.g., Sobolev at al, 2020) have been used to validate other measures of protest participation.

Data

- We use anonymous aggregated data from a panel of 40 million mobile devices, spread across the United States.
  - The dataset is aggregated from raw GPS pings from an underlying, demographically representative sample of input devices drawn from thousands of data merchants.
  - We do not use any individual device characteristics or any uniquely identifying information.
- About each device we know the community where the device typically resides (CBG of origin).
  - A CBG contains on average 40 blocks with typically 600-3,000 residents.
  - In total, there are 219,334 CBGs.
- We use historical data to distinguish between devices passing through the identified protest CBG to participate in the MASA event and tourists, security, US Congress members, etc.

January 6, 2021

Other Factors

- Internet archive (2016-2021) of *Parler*, a prominent alt-right social media platform.
- Southern Poverty Law Center data on locations of local *Proud Boys* chapters, a far-right, neo-fascist hate group.
  - *Proud Boys* were famously told by Trump to "stand back and stand by" during the September 2020 presidential debate.
- Voting patterns at the CBG origin level.
  - We intersect precinct-level shapefiles produced by the Voting and Election Science Team with CBG boundaries.
  - Data is available for most states and overlap between census blocks and precincts is significant (more than 95 percent).
- Additional demographic and socio-economic data are derived from the 2016 ACS.

Political Isolation

- For each CBG, we use Queen's Adjacency to identify the communities that form the exterior shell.
- We pool voting records and consider CBGs where Trump support was higher than the surrounding community to be isolated (`island').

Regression-Based Results

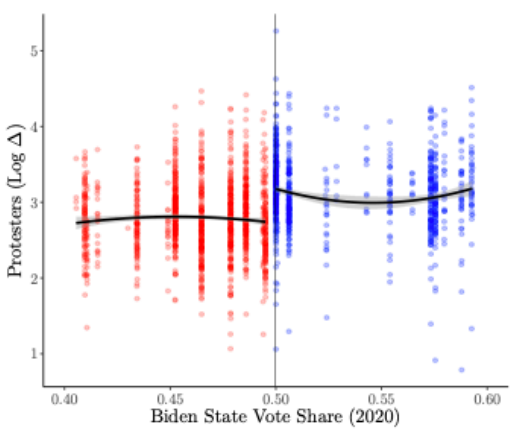
	Protesters (Log Δ), $1m$					
TRUMP						
Trump Share	0.139***	(0.0234)	0.143***	(0.0270)	0.106***	(0.0127)
Island=1	-0.0164*	(0.00920)	-0.0163**	(0.00732)	-0.0109**	(0.00545)
Island=1 × Trump Share	0.0358**	(0.0158)	0.0335**	(0.0132)	0.0251**	(0.0103)
CENSUS BLOCK GROUP						
Dist. to Proud Boys (Log)	-0.00675**	(0.00267)	-0.0105***	(0.00325)	0.0000707	(0.00274)
# Parler Videos (Log)	0.0144***	(0.00389)	0.0122***	(0.00372)	0.00909**	(0.00365)
Median HH Income (Log)	-0.0171	(0.0150)	-0.00219	(0.00848)	0.0186***	(0.00301)
SHARE OF CBG POP:						
Male	-0.0223	(0.0176)	-0.0227	(0.0158)	-0.0215	(0.0142)
White	0.0299	(0.0191)	0.0483**	(0.0221)	0.00443	(0.00839)
Black	-0.0101	(0.0354)	0.0420	(0.0349)	0.00407	(0.0102)
Hispanic	-0.0172	(0.0118)	-0.0408***	(0.0130)	-0.0102	(0.00767)
High School Diploma	-0.00898	(0.0190)	-0.0436***	(0.0135)	-0.0302**	(0.0121)
Public Assistance	0.0705**	(0.0301)	0.0942***	(0.0285)	0.0703***	(0.0206)
Unemployed	0.0446*	(0.0236)	-0.00560	(0.0216)	0.0122	(0.0148)
SUMMARY STATISTICS						
Outcome Mean	0.0127		0.0127		0.0127	
Outcome SD	0.391		0.391		0.391	
MODEL PARAMETERS						
Fixed Effects	None		State		County	
MODEL STATISTICS						
No. of Observations	157160		157160		157115	
No. of Clusters	2598		2598		2553	
R^2	0.0106		0.0261		0.0775	

Notes: SEs clustered at county level *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

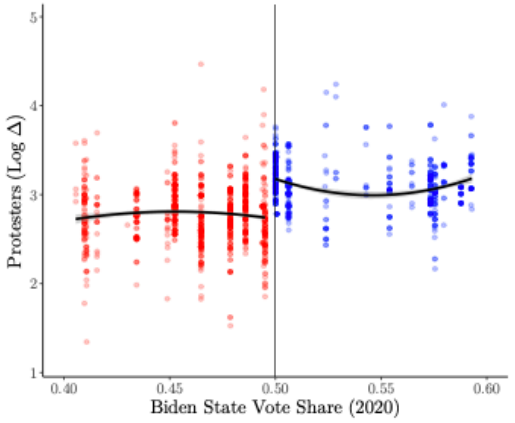
Regression-Based Results

- Participation increases with Trump vote share.
- Marginal effect of political isolation on participation increases with vote share.
- Participation increases with proximity to a *Proud Boys* chapter.
- Participation increases with local *Parler* use (prior to the insurrection).
- Results are robust across various fixed effects (state, county), though *Proud Boys* is imprecise in the most demanding specification.
- Find similar evidence using a tertiary measure of isolation.
- Results are robust to many alternative parameters, time periods, etc.

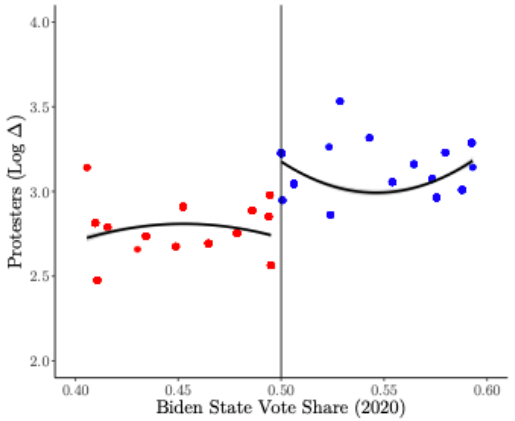
RD Close States



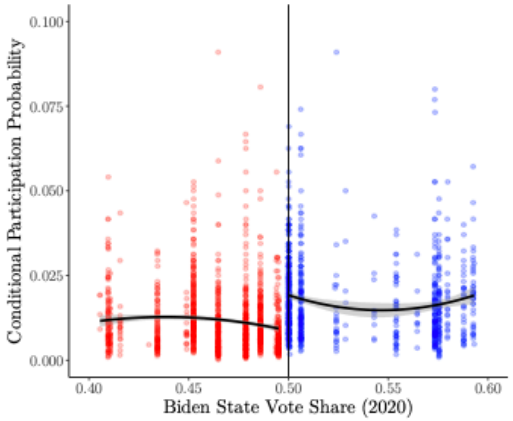
(a) Protesters (Log Δ): CBG



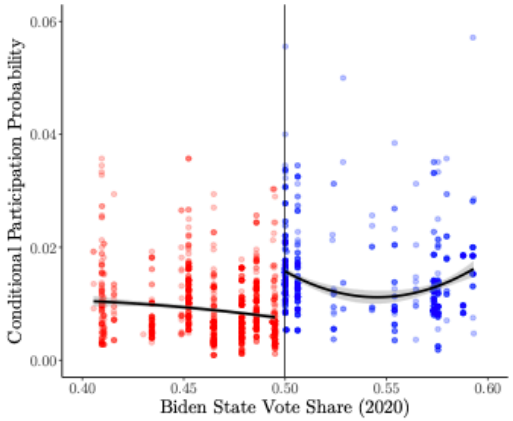
(b) Protesters (Log Δ): County (Avg.)



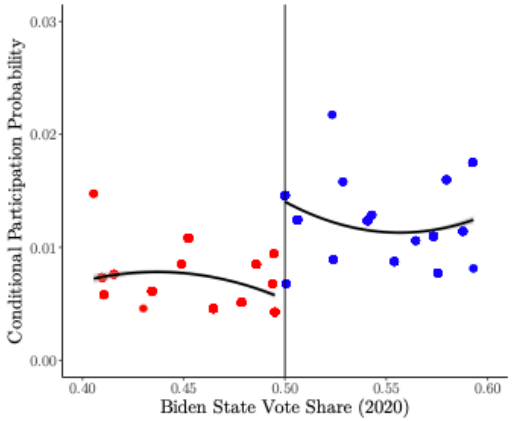
(c) Protesters (Log Δ): State (Avg.)



(d) Participation Prob.: CBG

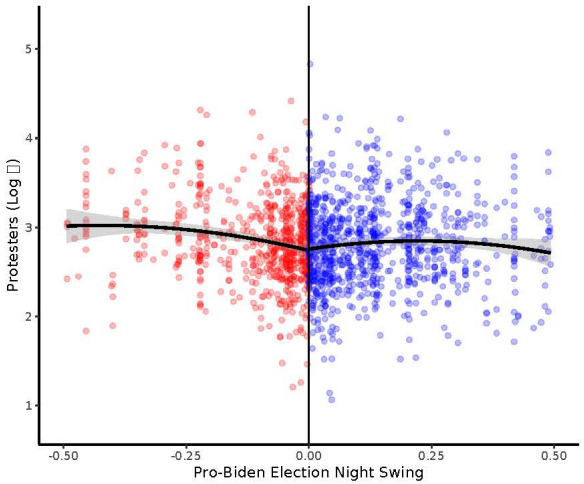


(e) Participation Prob.: County

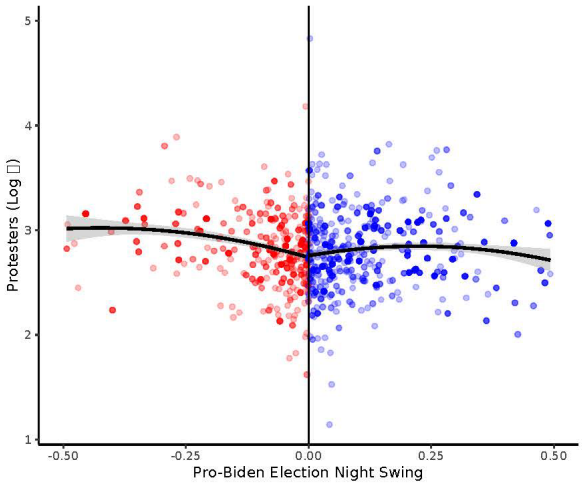


(f) Participation Prob.: State

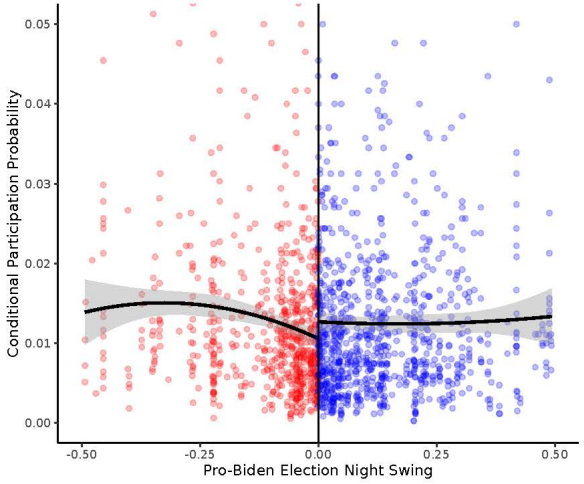
RD Trump-to-Biden Overnight Swing



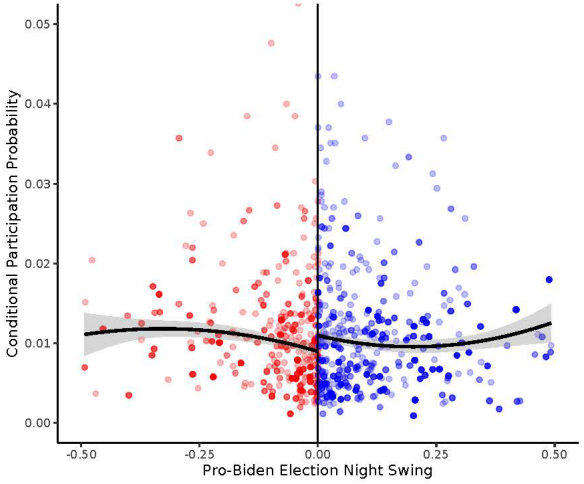
(a) Protesters (Log Δ): CBG



(b) Protesters (Log Δ): County (Avg.)



(c) Participation Prob.: CBG



(d) Participation Prob.: County

Conclusion

- We use date on cell device movements to infer where January 6, 2021 protesters came from.
- January 6, 2021 protesters came from Trump-supporting, isolated communities with high engagement with extremist social media platform and proximity to a prominent hate group.
- Protesters came disproportionally from communities that Trump barely lost and that saw the Trump-to-Biden overnight swing in the vote tally.