

## Data

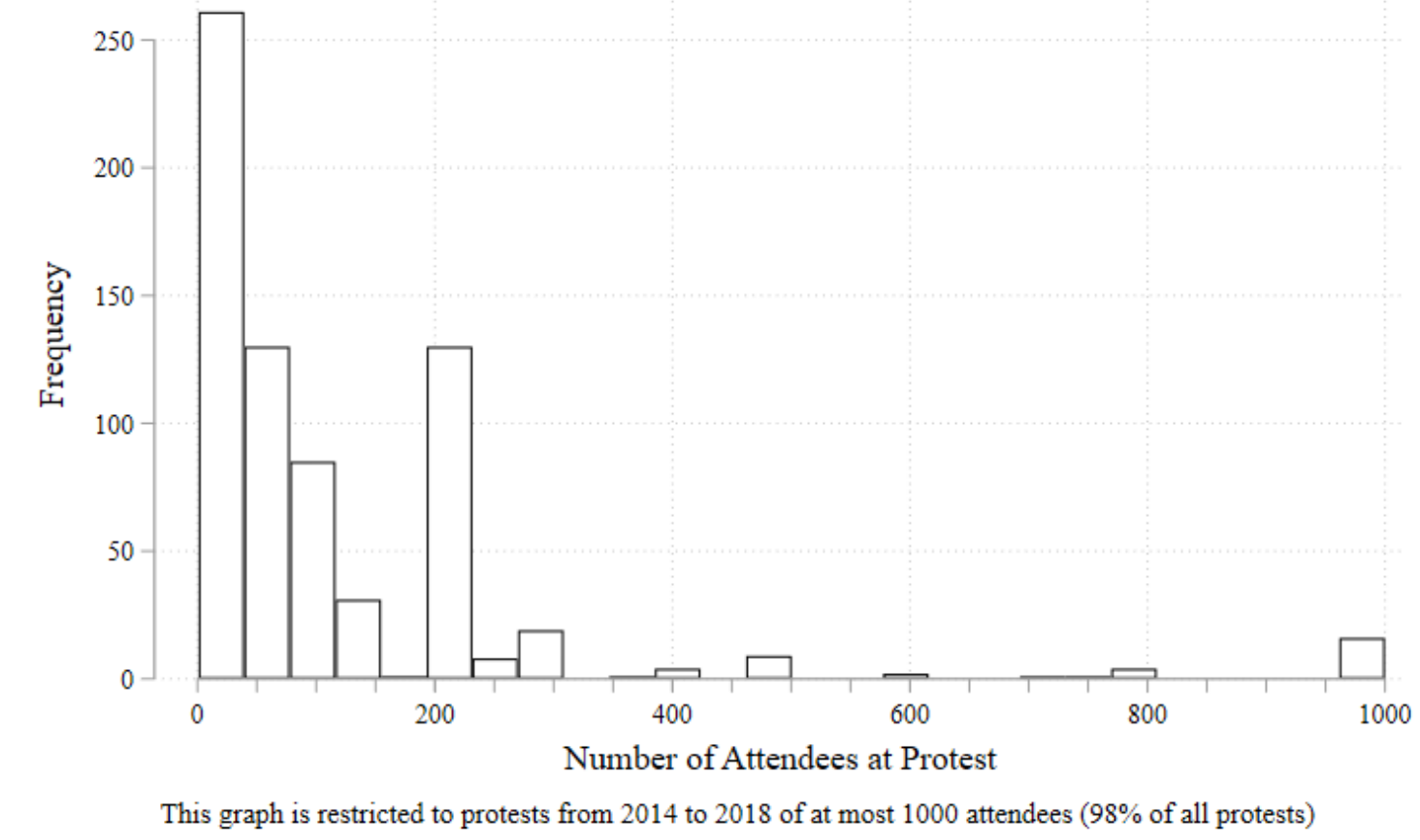
**Police Traffic Stops:** data on individual stops of drivers by state patrol in 17 states comes from the Stanford Open Policing Database (Pierson et al., 2020). Individual stops are collapsed to give county-month stops and stops of drivers who are reported as being black.

**BLM Protests:** elephrame.com, a website listing all Black Lives Matter Protests since 2014, is scraped. Protests outside of the United States are excluded.

**Key Demographics:** county-level population, racial population shares, and population density come from the U.S. Census Bureau. 2012 federal election vote shares come from the MIT Election Lab.

## Defining a Protest

Figure 1: Distribution of Protest Size



Three attendance cutoffs are chosen as required for an event to be defined as a protest:

- at least 50 attendees
- at least 100 attendees
- **at least 200 attendees**

All results presented here are for protests of at least 200 attendees. Results for the 50 and 100 cutoffs are presented in robustness checks.

## Summary Statistics

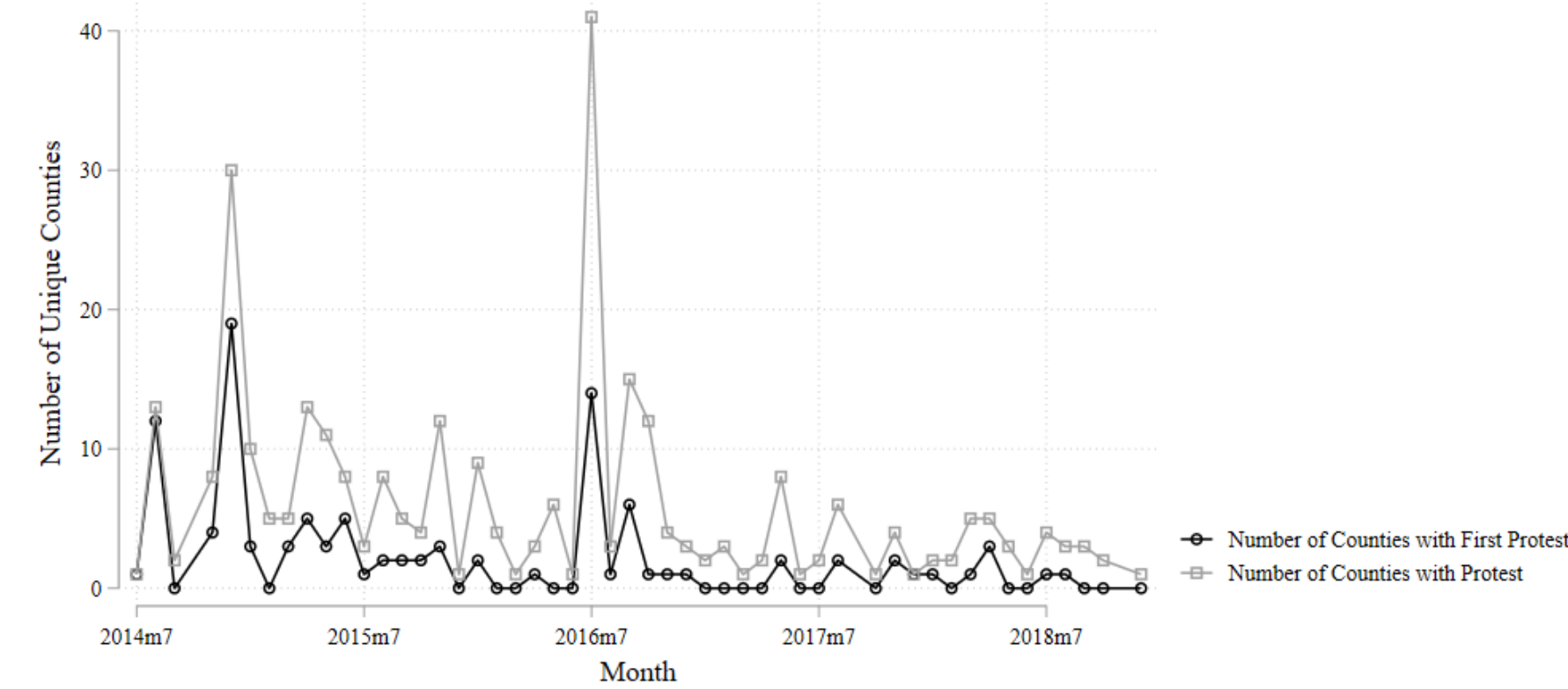
Table 1: Mean of Key Outcomes at the County-Month Level

Protests with at least...	50 participants		100 participants		200 participants	
	Counties with no protests	Counties with at least one protest	Counties with no protests	Counties with at least one protest	Counties with no protests	Counties with at least one protest
Total Stops	777.78 (1,335.34)	4,705.30 (8,268.74)	818.40 (1,460.87)	4,513.99 (8,854.33)	855.72 (1,548.08)	4,630 (9,762.03)
Total Stops per 100 Capita	2.14 (5.10)	0.66 (0.56)	2.13 (5.08)	0.63 (0.56)	2.12 (5.05)	0.60 (0.56)
Black Stops per Total Stops	0.13 (0.15)	0.19 (0.15)	0.13 (0.15)	0.19 (0.14)	0.13 (0.15)	0.19 (0.14)
Number of Counties	1,132	79	1,142	67	1,156	53
Observations	129,396	8,764	130,610	7,214	132,124	5,700

This table shows the mean total stops, stops per 100 capita, and percentage of total stops that are of black drivers each month across counties and time, both for counties with and without any protests ever, where a protest is defined for three separate attendance thresholds.

## Variation in Protest Timing

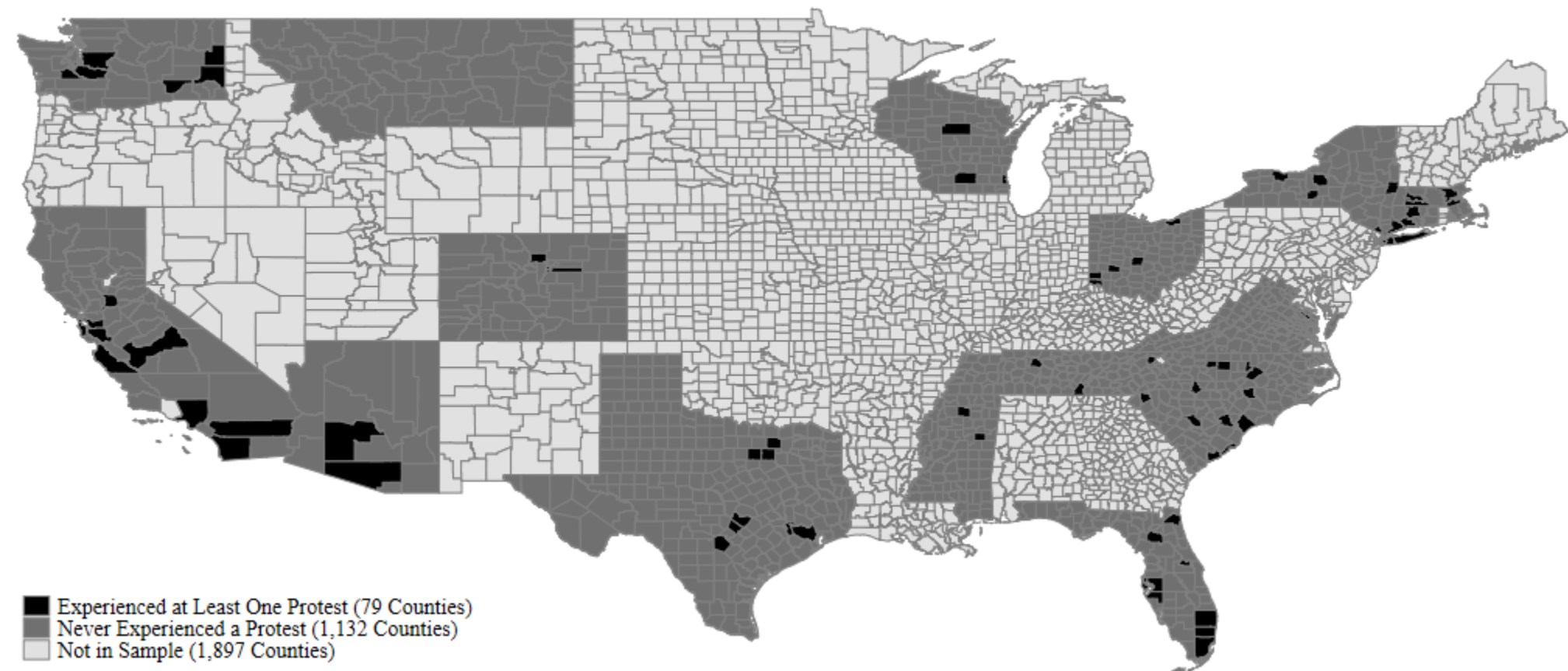
Figure 2: Number of Counties with BLM Protests in Each Month



This graph is limited to protests with at least 50 attendees which occurred from 2014 to 2018 for the 17 states in the sample (pictured below).

## Variation in Protest Location

Figure 3: Counties With vs. Without Protests



This map is limited to protests with at least 50 attendees which occurred from 2014 to 2018.

# Protest and Prejudice: The Impact of Black Lives Matter Protests on Police Behaviour

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## Background

Black Lives Matter was first sparked as a movement with the death of Trayvon Martin in 2013. Since then, protests have occurred sporadically across the United States. Generally, the protests have scrutinized police behavior deemed unjust and policing in the United States more generally, with calls for de-policing and reduction in racial prejudice of officers (Campbell, 2021).

## Empirical Strategy (Stacked DID)

Effect of first protest in a county on stops:

$$Total\ Stops_{g,c,t} = \beta AfterFirst_{g,c,t} + \alpha_{g,c} + \theta_{g,t} + \varepsilon_{g,c,t}$$

Effect of first protest in a county on the percentage of stops that are of black drivers:

$$\frac{Black\ Stops_{g,c,t}}{Total\ Stops_{g,c,t}} = \beta AfterFirst_{g,c,t} + \alpha_{g,c} + \theta_{g,t} + \varepsilon_{g,c,t}$$

$g$  is a group,  $c$  is a county and  $t$  is a month: there are 20 groups representing the 20 months where at least one county has its first protest, with each group containing counties experiencing their first protest in that month as well as all counties which never experience a protest).

$AfterFirst_{g,c,t}$  is a dummy taking on 1 if a county is experiencing or has already experienced its first protest.

$\alpha_{g,c}$  is a county-group fixed effect.

$\theta_{g,t}$  is a month-group fixed effect.

## Research Questions

1. What is the impact of Black Lives Matter (BLM) protests from 2014-2018 on police traffic stops of Americans generally and black Americans specifically?
2. Do the protests have differential effects when comparing Democrat and Republican counties (proxied for by 2012 presidential election vote shares)?

## Empirical Strategy (Stacked Event Study)

Dynamic effect of first protest in a county on stops:

$$Y_{g,c,t} = \sum_{k=-12}^{k=-2} \beta_k^{pre} D_{k,g,c,t} + \sum_{k=0}^{k=24} \beta_k^{post} D_{k,g,c,t} + \alpha_{g,c} + \theta_{g,t} + \varepsilon_{g,c,t}$$

Dynamic effect of first protest in a county on the percentage of stops that are of black drivers:

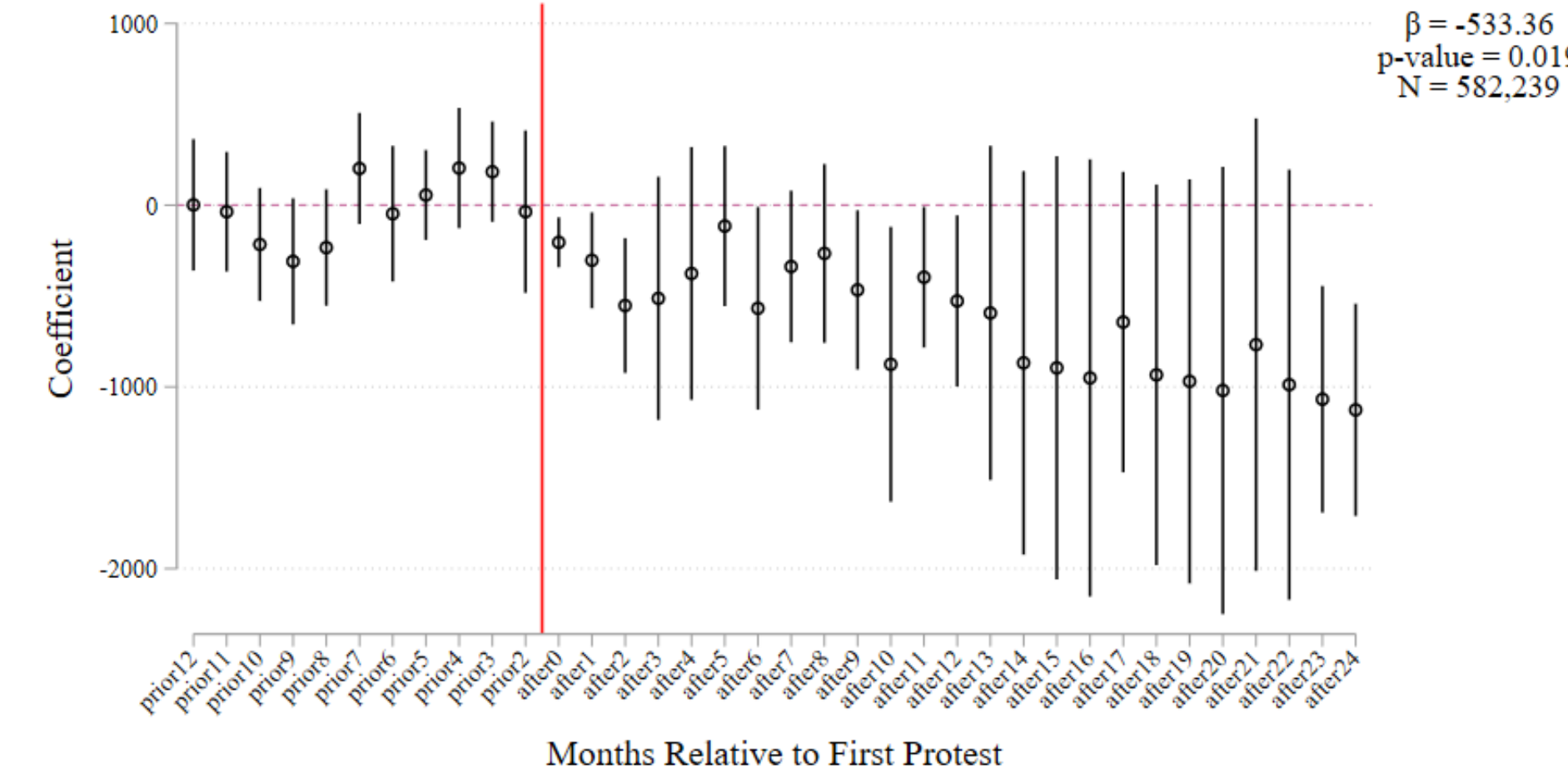
$$\frac{Black\ Stops_{g,c,t}}{Total\ Stops_{g,c,t}} = \sum_{k=-12}^{k=-2} \beta_k^{pre} D_{k,g,c,t} + \sum_{k=0}^{k=24} \beta_k^{post} D_{k,g,c,t} + \alpha_{g,c} + \theta_{g,t} + \varepsilon_{g,c,t}$$

The reference is the month prior to a county's first protest ( $k = 1$ )

Identifying Assumption: in the absence of a protest, counties with and without protests would have trended similarly in terms of their total stops per month and percentage of these stops of black drivers.

## Results

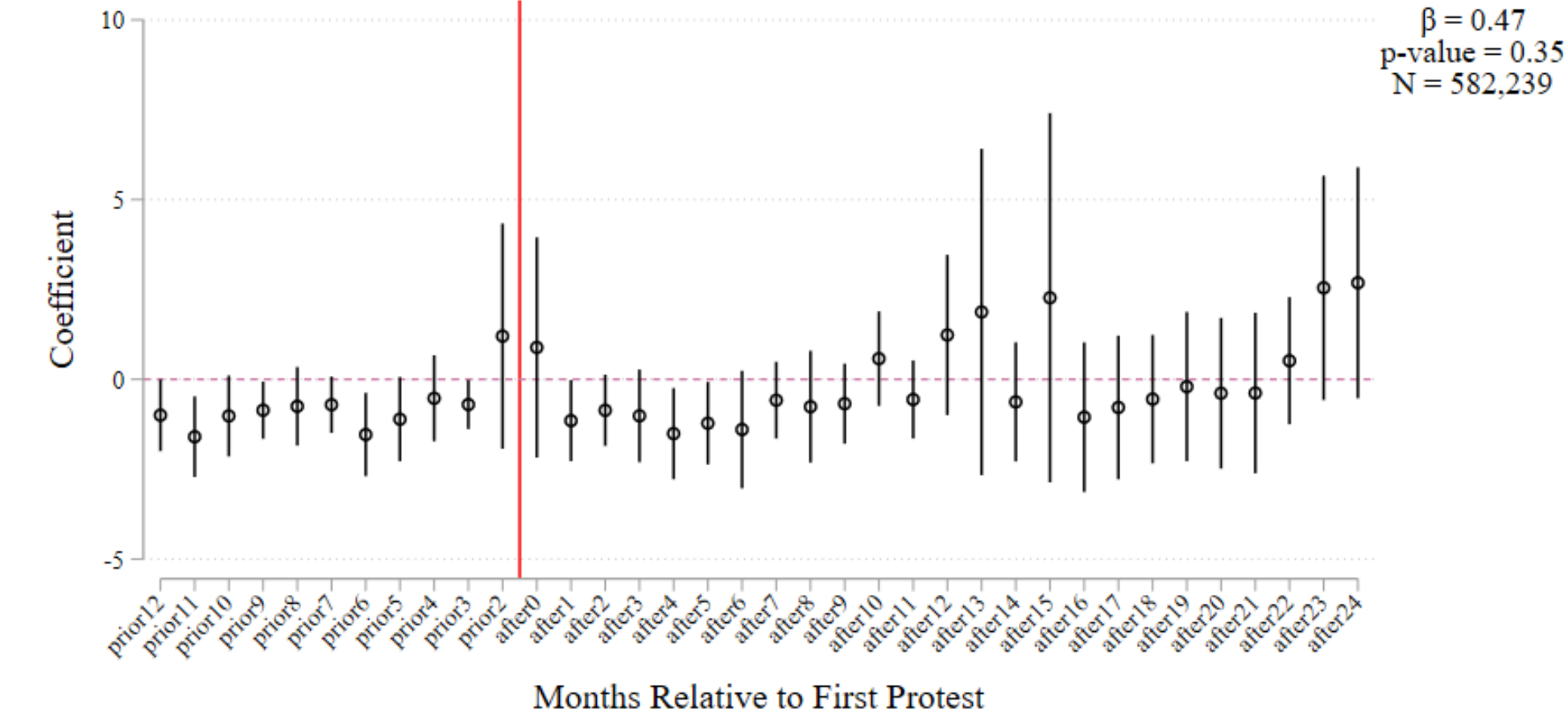
Figure 4: Dynamic Effect of First Protest on Total Traffic Stops



The following event study is limited to protests with at least 200 attendees. Standard errors are clustered at the county level.

## Results

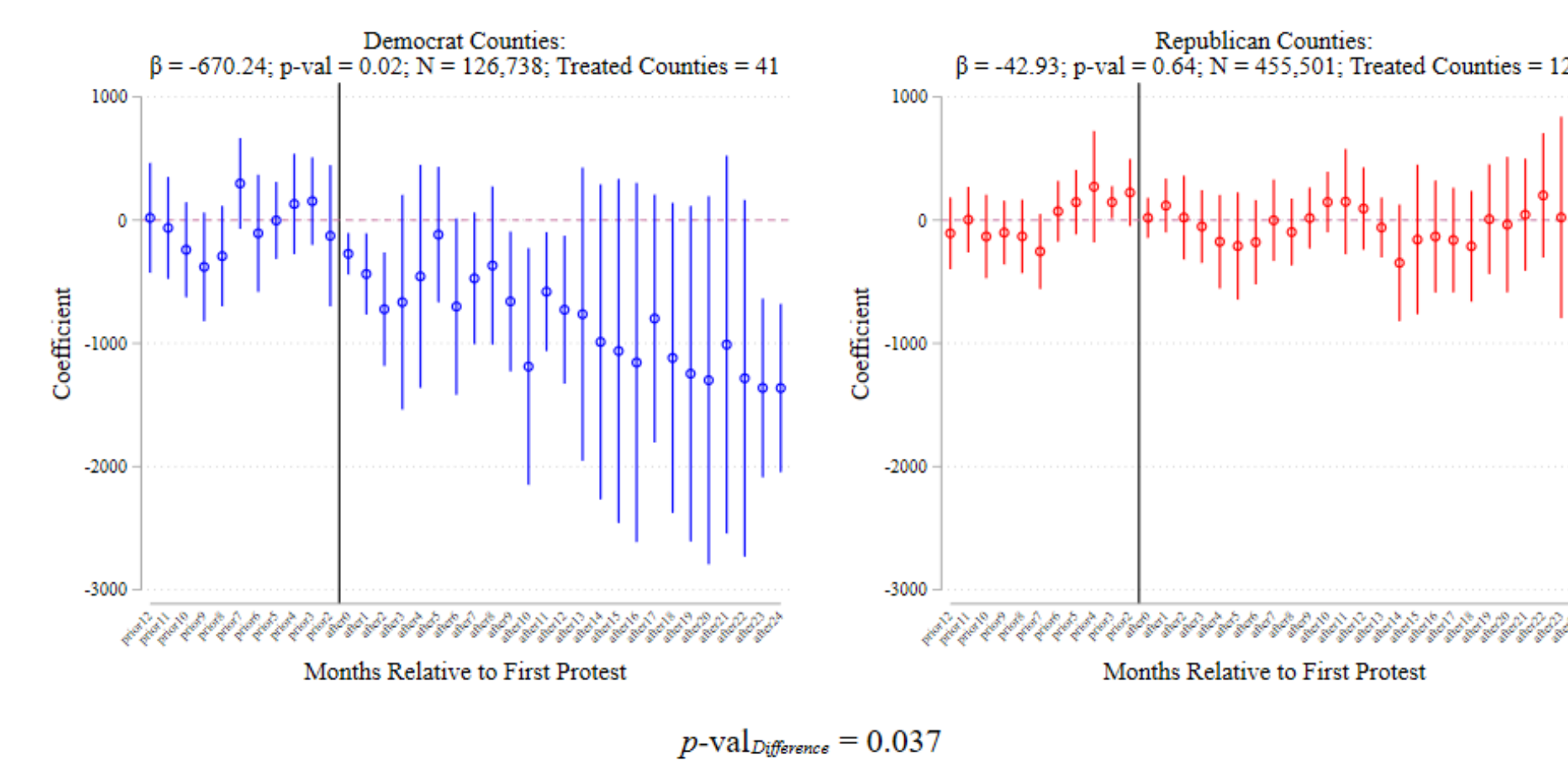
Figure 5: Dynamic Effect of First Protest on Percentage of Total Traffic Stops that are of Black Drivers



The following event study is limited to protests with at least 200 attendees. Standard errors are clustered at the county level.

## Heterogeneity

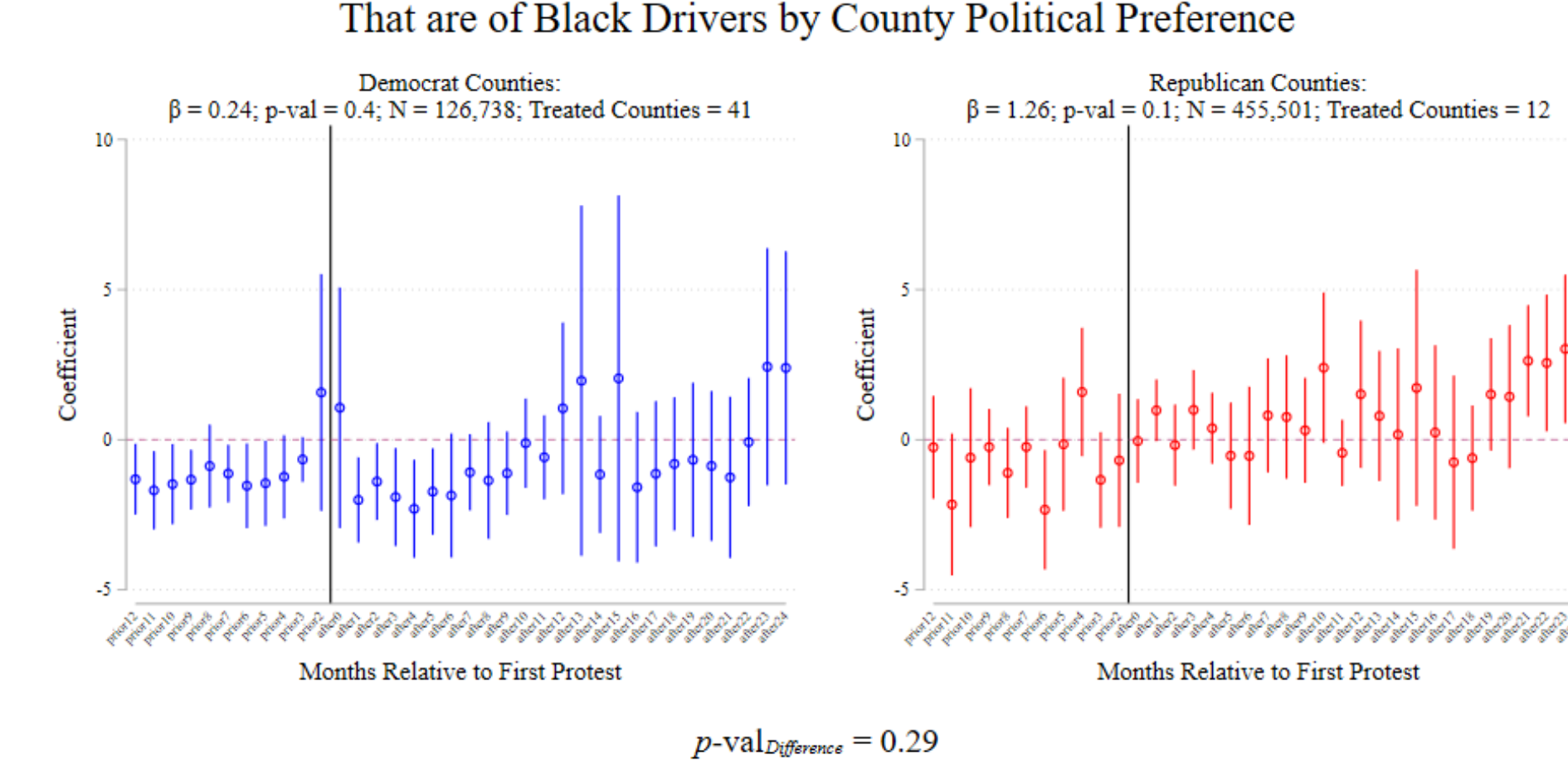
Figure 6: Differential Effect of First Protest on Total Stops by County Political Preference



The following event study is limited to protests with at least 200 attendees. Standard errors are clustered at the county level.

## Heterogeneity

Figure 7: Differential Effect of First Protest on Percent of Total Stops That are of Black Drivers by County Political Preference



The following event study is limited to protests with at least 200 attendees. Standard errors are clustered at the county level.

## Contributions

The effect of American Black Lives Matter protests on non-violent interactions such as police traffic stops of civilians (Bolas, 2022; Cassella et al., 2022; Wang, 2022; Shjarback et al. 2017) has been limited to specific protests or specific cities, finding results ranging from decreases in stops to no changes in stops to decreases in stops for only specific racial groups.

This paper tests the external validity of the above papers by examining the aggregate effect of the protests across space/time. It also uniquely compares the effect of the protests by a county's political preferences and examines efficiency

## Public Scrutiny of Police Mechanism

Table 4: Effect of First Protest on Stops at Day vs. Night in Texas

Dependent Variable:	Total stops					
	Day (5 AM - 12 AM) (1)	Night (12 AM - 5 AM) (2)	Day (6 AM - 11 PM) (3)	Night (11 PM - 6 AM) (4)	Day (7 AM - 10 PM) (5)	Night (10 PM - 7 AM) (6)
First Protest	-207.8 (128.05)	20.27 (26.55)	-203.13 (123.7)	15.59 (22.72)	-198.04* (117.59)	10.5 (20.94)
Pre-Treatment Mean	1367.61	131.19	1287.2	211.6	1177.39	321.41
Dependent Variable:	Total stops per 100 Capita					
	Day (5 AM - 12 AM) (1)	Night (12 AM - 5 AM) (2)	Day (6 AM - 11 PM) (3)	Night (11 PM - 6 AM) (4)	Day (7 AM - 10 PM) (5)	Night (10 PM - 7 AM) (6)
First Protest	-0.052** (0.025)	-0.0029 (0.0028)	-0.051** (0.024)	-0.0043 (0.0037)	-0.048** (0.022)	-0.0078 (0.0064)
Pre-Treatment Mean	0.45	0.039	0.42	0.067	0.38	0.1
Observations	59,268	59,268	59,268	59,268	59,268	59,268

This table compares the effect of a first protest in counties in Texas on total stops and stops per capita in a county-month. Three distinct definitions of day v.s. night stops are used in the analysis. Standard errors are clustered at the county level. \*p < 0.1; \*\* p < 0.05; \*\*\*p < 0.01.

Results from the state of Texas tentatively suggest that the decrease in stops was motivated by increased police caution or fear of public scrutiny, which is seen in stops decreasing far more during the day (high supervision) than at night (low supervision).

## Takeaways and Implications

Protests of at least 200 people led to:

i) a decrease in the number of total stops, at the county level, in line with predictions of some decreases in everyday police activity as a result of the protests. This is driven by decreases in stops in Democrat counties.

ii) insignificant changes in the rate at which black drivers are stopped relative to other drivers.

*This decrease in overall stops facilitated an increase in police efficiency: there was a 10% increase in the probability of a stopped driver carrying contraband, indicative of the decrease in stops being due to a decrease in stops of marginal drivers.*

## Robustness

Results are similar in sign and smaller in magnitude for protest thresholds of 100 and 50 attendees. **The ability of protests to decrease overall stops weakens as the attendance condition for what constitutes a protest weakens.**

Results for total stops are generally robust to use of total stops per capita as an outcome. Results for percentage of stopped drivers who are black remain similar and insignificant when black stops per black capita is used.

## References

- Bolas, T. (2022). Fewer Stops, But No Less Bias: The Effect of the 2020 Black Lives Matter Protests on Traffic Enforcement in California.
- Campbell, T. (2021). Black Lives Matter's effect on police lethal use-of-force. *Available at SSRN 3767097*.
- Cassella, C., Epp, D., Fredriksson, K., Roman, M., & Walker, H. (2022). The George Floyd Effect: How Protests and Public Scrutiny Change Police Behavior in Seattle.
- Pierson, E., Simoiu, C., Overgoor, J., Corbett-Davies, S., Jensen, D., Shoemaker, A., Ramachandran, V., Barghouty, P., Phillips, C., Shroff, R., & Goel, S. (2020). A large-scale analysis of racial disparities in police stops across the United States. *Nature human behaviour*, 4(7), 736-745.
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- Wang, X. (2022). The Effect of Black Lives Matter Protests on Racial Disparities in Nonfatal Police-Civilian Interactions. *Available at SSRN 4158042*.