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Don't Rain on My Protest: The Effect of Anti-Racism Protests on Democratic Vote Shares in Midwestern Suburbs

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Abstract

After George Floyd was murdered in May of 2020, a massive wave of anti-racism and anti-police brutality protests erupted across the United States. In addition to matters such as racial prejudice and awareness of racial discrimination, some studies have measured the effect of those protests on the 2020 presidential election. Previous research has shown that higher protest attendance in specific geographic areas causes increased vote shares in those areas for candidates aligned with the protests. We expand on this research, employing an instrumental variable (IV) model with rainfall as an exogenous source of variation in protest attendance to assess the effect of anti-racism protests in the summer of 2020 on vote shares in the 2020 presidential election in Midwest metropolitan areas. We use town and city level election results and protests within each city's metropolitan statistical area (MSA). Furthermore, we group towns and cities by the proportion of white residents to compare the effect of protest attendance on vote share across different racial demographic groups. Contrary to previous literature, we find that greater protest attendance decreased the Democratic vote share in suburbs surrounding six midsize Midwestern cities at a statistically significant level. However, the effect is not significantly different across the demographic groups.

Introduction

Several racial justice and anti-racism protests, often associated with the Black Lives Matter movement (BLM), erupted across the United States in summer of 2020 following the murder of George Floyd. The BLM movement became highly politicized; Democrats, including Joe Biden, generally supported the movement, incorporating themes of racial justice and police reform into their platforms, while Republicans, including Donald Trump, tended to criticize the protests for turning violent while downplaying racial justice narratives. This politicization, combined with the presidential election later that year, creates an opportunity to study the effect of the anti-racism protests on the 2020 election.

In this paper, we answer the question: what was the effect of anti-racism protest attendance in midsize rustbelt and Midwest cities on Biden's vote shares in areas surrounding those cities? Further, how does this effect vary between areas with different racial demographics? We hypothesize that greater attendance at anti-racism protests in Midwest cities leads to greater vote shares for Biden in surrounding suburbs, and that the effect is more positive in areas with lower proportions of white residents. We anticipate this since it aligns with the existing literature as well as the anti-racism protests aiming to address the unjust and inequitable treatment of black people, and areas with a larger white population might be more resistant for changes towards racial justice than areas with a smaller white population.

[1] We would like to thank the CWRU Journal of Economics for providing us with this research opportunity, and especially Henry Blyth and Annie Castagnero for helping us with our project as editors.

We see two important implications of our results. First, we contribute to existing research on how demonstrations affect election results, specifically looking at anti-racism protests in Midwest cities and election results in the cities' suburbs. Second, by comparing the protest-to-vote-share effect between areas with different racial demographics, our results could be used by political activist groups to better target their efforts.

Literature Review

The following literature delves into how anti-racism protests may have shifted Democratic vote shares and examines the intersections between racial demographics and political outcomes. One study measured protest impact and attitude shifts using a nationally representative survey and propensity scores. It found that the heightened movement caused by the death of George Floyd caused an increased perception of discrimination, decreased favorability of police, and racial prejudice, as well as supported conclusions regarding how social protests have power to shift attitudes and policy preferences (Curtis, 2021). Another study specifically analyzes how effective BLM protests were by using county level survey data on prejudice and police reform. The findings included that prejudice was not reduced but a mix of violent and non-violent protests caused more conservatives in liberal areas to want police reformation than just nonviolent protests. Results from the study also showed that in areas with low Trump vote shares, there was a positive effect of violent and nonviolent protests and for areas with high Trump vote shares, there was a negative effect of violent and nonviolent protests, which helps conclude that conservatives were affected by BLM protests (Shuman et al., 2022). It is important to acknowledge that this literature segment used Trump vote shares by country rather than precinct/MSA areas.

The next relevant literature measures the effect of protests on the 2020 election using an instrumental variable regression with rain as the instrument. The study employed spatial weighting matrices and GMM to analyze biases from surrounding areas' influence. Again, BLM protests were found to positively influence Democratic vote share which highlights the importance of considering spatial effects on political attitudes/behaviors in surrounding regions (Teeselink & Meliosk, 2023). Our choice of using rainfall as an instrument was also inspired by a study that demonstrated how rainfall's exogenous variability provided a natural method of measuring the influence of rally size on political engagement and policymaking for the Tea Party movement in 2009 (Madestam et al., 2013).

Data

The scope of our study is six midsize Midwest cities — Cincinnati, Cleveland, Columbus, Milwaukee, Minneapolis, and Pittsburgh — and their suburbs. We defined suburbs as all jurisdictions (cities, townships, and villages) whose center is within a 30-minute drive from the major city's downtown. The list of jurisdictions for each city was obtained from Gigasheet and the driving distance was calculated via the Google Maps Routes API.

We gathered the following data for our primary results: precinct-level presidential election results in 2016 and 2020 from the MIT Election Lab and the Redistricting Data Hub; protest attendance estimates from May 25th, 2020 to June 25th, 2020 from the Crowd Counting Consortium; daily rainfall (in mm) by major city from May 25th, 2020 to June 25th, 2020 and average monthly rainfall (in mm) from May 25th to June 25th from the National Oceanic and Atmospheric Administration; jurisdiction-level population demographics from the U.S. Census Bureau; and shapefiles of the jurisdictions of Ohio, Minnesota, and Pennsylvania through each states' Department of Transportation and Wisconsin through the Legislative Technology Services Bureau.

From the election results, we group votes by jurisdiction and take the percentage of votes for Joe Biden. For protest attendance, we group protests by the MSA they occur in and normalize by the population of the MSA. To assess how the protest to vote share effect varies between areas with different racial demographics, we divide the jurisdictions into four groups based on how large their percentage of white residents is compared to the first quartile, median, and third quartile.

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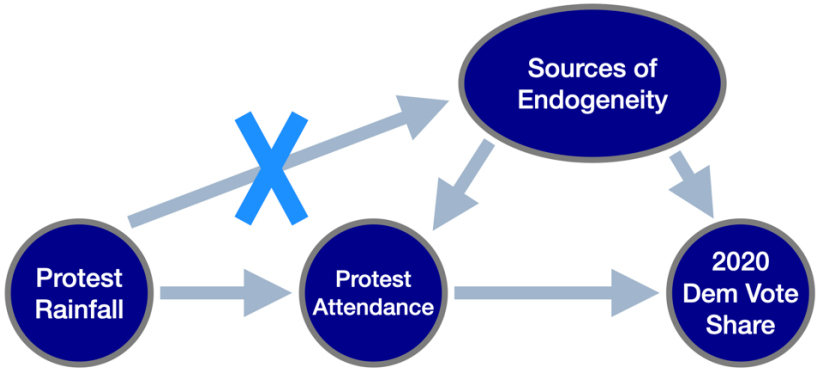
Table 1. Summary Statistics of Variables

Variable	N	Mean	SD	Min	Max	25th Percentile	50th Percentile	75th Percentile
2020 Democratic Vote Share	11912	0.5585615	0.1403553	0.1822581	0.9709035	0.4733467	0.54233	0.6400145
2016 Democratic Vote Share	11912	0.5104228	0.1456763	1.642036	0.9738652	0.4157303	0.4951299	0.579716
2020 Total Votes	11912	8331.613	11235.28	30	65109	1259	3891	9814
Protest Attendance	11912	0.0001877	0.0003705	4.79E-07	0.0047627	0.0000422	0.0000813	0.0001687
% of White Residents	11912	0.7646465	0.184649	0.0313293	0.9635417	0.7124682	0.8218168	0.8865503
Protest Rainfall	11912	1.654432	4.56968	0	22.4	0	0	0.3
Average Rainfall	11912	103.4982	4.916874	93.98	110.24	101.35	101.35	107.95

Methodology

To estimate the effect of protest attendance on Democratic vote share, we used an IV model with rainfall as an instrument. Protest attendance is likely endogenous in its effect on Democratic vote share, meaning there are unobserved variables that both affect protest attendance and Democratic vote share. The amount of rainfall on the day of the protest will likely decrease protest attendance as people may not want to go outside to protest the harder it rains, and the effect of a single day of rainfall will likely not impact the election results outside of affecting the protest attendance for that one day. Thus, rainfall on the day of the protest is likely relevant and exogenous, so it is a natural choice for our instrument.

Figure 1. Internal Validity Model Diagram



Note: A visual description of our IV regression. The arrows represent causality, and for the instrument to work, the only path from the rainfall to Democratic vote share must be through protest attendance.

We estimated the following first stage and reduced-form equations:

$$X = \alpha_0 + \alpha_1 Z + \alpha_2 DemVoteShare_{2020} + \alpha_3 White\%_{2020} + \alpha_4 Pop_{2020} + \alpha_5 AvgRain$$

$$Y = \beta_0 + \beta_1 Z + \beta_2 DemVoteShare_{2020} + \beta_3 White\%_{2020} + \beta_4 Pop_{2020} + \beta_5 AvgRain$$

Here, X is protest attendance, Y is Democratic vote share in 2020, and Z is rainfall on the day of the protest. In addition to our endogenous variable and instrument, we included the Democratic vote share in 2016, the percentage of the jurisdiction that is white in 2020, the population of the jurisdiction in 2020, and the average rainfall during the month as controls. We also run additional regressions that place weights on each jurisdiction equal to the total number of votes in the jurisdiction in 2020, and ones that use the total protest attendance for each MSA in the month and the total rainfall on protest days rather than the attendance and rainfall for each individual protest.

Results

We found that the IV coefficient of protest attendance on Democratic vote share in 2020 was negative and significant at the 1% level. Furthermore, this effect persisted in both the weighted and unweighted regressions. The magnitudes of the effect are extremely large, which is due to protest attendance being very small relative to Democratic vote share on average. To better interpret the coefficients, we can look at the effect of an increase in the standard deviation of protest attendance, or 0.00037 percentage points. An increase of this amount in protest attendance leads to around a 0.02 percentage point decrease in Democratic vote share in 2020 per jurisdiction. The coefficient of the weighted regression cannot be interpreted in the same way, although it did increase compared to the unweighted one, suggesting that the effect was larger for populous jurisdictions.

Table 2. Regression Results

	2020 Democratic Vote Share (Unweighted)	**2020 Democratic Vote Share (Weighted)**
Protest Attendance	-54.07**	-54.07**
	(-2.71)	(-2.71)
2016 Democratic Vote Share	1.018***	1.018***
	(211.2)	(211.2)
% of White Residents	0.0796***	0.0796***
	(25.46)	(25.46)
Population	5.73e-7***	5.73e-7***
	(16.79)	(16.79)
Average Rainfall	0.00315***	0.00315***
	(42.54)	(42.54)
Constant	-0.346***	-0.346***
	(-32.59)	(-32.59)

Note: Unweighted and weighted results. Both the unweighted and weighted F-statistics were greater than 10, indicating that rainfall on the day of the protest was relevant for both regressions.

Separating by racial demographics, we find that none of the coefficients are significant. Furthermore, none of them have an F-statistic greater than 10, indicating rainfall is a weak instrument when the sample is divided into the demographic groups. As a result, this provides no evidence that jurisdictions with higher white populations were affected by the protests differently than jurisdictions with lower white populations.

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Table 3. Regression Results by Groups

	2020 Democratic Vote Share (Group 1)	2020 Democratic Vote Share (Group 2)	2020 Democratic Vote Share (Group 3)	2020 Democratic Vote Share (Group 4)
Protest Attendance	-99.11	-1.929	-46.81	-62.67
	(-1.6)	(-0.1)	(-1.59)	(-1.27)
2016 Democratic Vote Share	0.973***	1.001***	1.046***	1.026***
	(99.4)	(182.38)	(135.48)	(56.88)
% of White Residents	0.0728***	0.0243***	0.240***	0.603***
	(8.81)	(1.5)	(7.83)	(12.16)
Population	5.44e-7***	1.81e-7***	7.24e-7***	5.72e-7***
	(9.74)	(3.75)	(9.18)	(6.69)
Average Rainfall	0.00315***	0.00379***	0.00329***	0.00209***
	(12.72)	(36.31)	(24.64)	(11.5)
Constant	-0.303***	-0.357***	-0.516***	-0.721***
	(-12.4)	(-22.91)	(-14.87)	(-14.16)

Note: Our results when dividing the sample into groups based on the percentage of white residents in the jurisdiction. Jurisdictions with a percentage less than the first quartile of jurisdictions were placed in Group 1, jurisdictions with a percentage in between the first quartile and median were placed in Group 2, jurisdictions with a percentage in between the median and the third quartile were placed in Group 3, and jurisdictions with a percentage greater than the third quartile were placed in Group 4.

When estimating the effect of the total protest attendance throughout the month using total rainfall on protest days throughout the month as an instrument, we find a negative and significant effect for the unweighted regression. However, the instrument was weak, so we are unable to conclude anything about the effect of total protest attendance in the observed month. The weighted regression also contained a weak instrument and did not have a significant result.

Table 4. Collapsed Regression Results

	2020 Democratic Vote Share (Unweighted)	2020 Democratic Vote Share (Weighted)
Protest Attendance	-19.88*	-26.9
	(-2.25)	(-1.5)
2016 Democratic Vote Share	0.990***	0.976***
	(28.03)	(16.56)
% of White Residents	0.0909***	0.0882*
	(3.32)	(2.11)
Population	5.69e-7**	0.00000014
	(3.12)	(0.78)
Average Rainfall	0.00598***	0.00648**
	(4.08)	(2.64)
Constant	-0.492***	-0.466***
	(-4.66)	(-3.39)

Note: Our results for the unweighted and weighted IV regression of Democratic vote share in 2020 on total protest attendance throughout the month as a percentage of the population of the MSA, using rainfall during the protest as an instrument.

Conclusion

Our paper investigated the effect of the anti-racism protests following the murder of George Floyd on the result of the 2020 election in Midwest suburbs. We found that protest attendance was negatively correlated with Democratic vote share when using rainfall on the day of the protest as an instrument. Furthermore, we did not find evidence to support that this effect varied with the percentage of white residents in an area. Our research suggests that the anti-racism protests in May and June of 2020 shifted the results of the 2020 election to be more conservative, which runs contrary to the prior literature on the protests and our hypothesis. One potential explanation of this effect could be a conservative backlash to the protests that was more focused on rallying support for the 2020 election than rallying for institutional change.

Our paper has a few limitations that restrict how much can be generalized from our results. Although we believe our instrument to be exogenous, there is the potential of rainfall on certain days being correlated to an unobserved variable such as crime rate. If this is the case, our findings only suggest a correlation between protest attendance and Democratic vote share. We had missing data for a couple of jurisdictions, but a very small number. We also had to reduce the scope of our study, as we initially planned to cover Detroit, Indianapolis, and Buffalo suburbs as well. This restriction was due to time and data limitations, and likely impacted our ability to find significance when we restricted our sample size by the demographic groups. Finally, our data for protest attendance was not perfectly accurate, since it was obtained through crowd counting and some protests did not have crowd estimates. Future studies could address these limitations, as well as investigate a potential conservative backlash to the anti-racism protests.

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