# Georeg Floyd protests' impact on the election result

Shirui Zhou

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## Literature and report review

Amid the era of political polarization and media decentralization, protest performs not only as an avenue for citizens to communicate their perspectives on key issues but also acts as a determinant to influence electoral outcome. Comparing the elite discourse, the bottom-up grass-root movements are more likely to have the potential to frame citizens' perception over particular topics, since they seem to more representative of the mass opinion. Also the "information cues" disseminate by the protest may form echo after received by the homogeneous group (Page and Shapiro, 1992 cited in Gillion, 2008). Shifting the focus to local level, protest occurring in proximate district are shaping citizens' view though "casual observation" and "slow drip of everyday life". (Gillion, 2008). To understand the casual relationship between protest and voting behavior, Gillion (2018) uses the election returns from the U.S. House of Representative from 1960 to 1990 as dependent variable, and more than 23000 protests reported in New York Times from 1960 to 1990 as independent variable to quantify the result. After implementing auto-regressive distributed lagged model, the result shows a liberal protest with a saliency score of 50 (measured by the size, duration, damage, police presence, injury, etc.) are likely to increase the vote share for Democratic by 2 percent, while it tend to decrease the Republican vote share by 6 percent, and vice versus for a conservative protest. Another noticeable finding is that protests has a "vulnerability effect": the ignorance and blindness of incumbent towards issues raised by protest behavior offering a platform for challenger candidates to emphasize the failure of sitting politicians.

Wasow (2017) further explore the mechanism which empowers protests to influence media and politics, and subsequently yield difference in voting result. In Wasow's (2017) agenda seeding model, "subordinate minority" employs violent or non-violent tactics to seek media attention. Media is the main platform for the agenda setting and issue framing, enabling the movement to enter elite discourse, sway public opinion and impact voting share. However, through different "frame construction", protests may define as "rights" or "riot and disorder", induces divergent consequence in public discussion and voting behavior. Using Dynamic of Collective Action (DCA) data covering 1995-1995 both violent and non-violent protest activities and democratic vote share to proxy the mass attitudes towards the black interests, Wasow (2017) shows there an approximately 1.6 percent increase presented in democratic vote share if a country is presented by non-violent protests, and 2.2 to 5.4 decrease if it's exposed to violent protests, implicates an "eye for an eye" tactic may not the best strategy to obtain public empathy.

A recent study by Heaney (2020) aiming to explore political consequence of protest using the case of Black Lives Matter (BLM) movement, which triggered by the tragedy death of George Floyd and fueling by the opposition of police brutality against Black people. Heaney (2020) identifies three motivations behind these massive social mobilizations: institution illegitimacy causing citizen to hold susceptible attitude towards the authority's operation; polarization rendering government are more likely to root in the edge of political spectrum; decentralization of communication media amplifying the marginalized voice. Although Heaney (2020) merely mentions implicatedly, the foreseeable legacy of protest coulf undermine the trust towards Trump government, as Lisette (2020) from Forbes reports that 61% of respondents in a poll disapproves of Trumps handling, echoing the "vulnerability affect" proposed in Gillion (2018) paper.

# Events study

To further examine the causal effect between social mobilization and voting behavior, this paper would use series of BLM protests as example to study their impact on the 2020 election. Using the county-level voting share for Democrat as a proxy for black interest, this paper expects protest occurrence to lower the voting share for Donald Trump as candidate for Republican, while this reduction may be slightly smaller when protest escalated into violence and even involved police altercation. This paper would first demonstrate the location and intensity of protest, and them employ simple linear regression to quantify the influence of mobilization. To increase the robustness and rigorousness of result, fixed effects regression would be used treating county's demographic features as time-invariant variable. Still, the possible weaknesses may exist due to the endogeneity of protest, general equilibrium effect and dynamic of interaction between protesters and government, etc.

Open-source data enable this paper to visualize the features of George Floyd protest on the county-level basis (see the appendix). From the visualization, it's obvious that while the death of Geroge Floyd ignited the mobilization movement, the movements around racial discrimination and racism hatred have organized across the whole country. Among 1451 recorded protests in our data, 885 of them are evolved into large size, 346 of them escalated into violence, and 309 of them involved police altercation. Based on a larger data size, ALCED (2020) reports there are more than 10,600 demonstrations occurring in 2020, and more than 80% of them are closely connected to the Black Lives Matter movement or the COVID-19 pandemic. According to ALCED (2020), nearly 95% of them involved peaceful protesters, and fewer than 570 incites violence. However, due to political orientation and biased media framing, citizens may perceived some protests as "riot" or "terrorism", which can lead to a voting behavior that favoring Republican and against the intention of mobilization, which aims to protest the interest of the black.

# Model Design

To identify the casual effect of mobilization on voting behavior, this paper first estimate following 2 linear models:

$$\text{tp\_share} = \beta_0 + \beta_1(\text{pct\_male}) + \beta_2(\text{pct\_high\_school}) + \beta_3(\text{pct\_assistance}) +$$
$$\beta_4(\text{pct\_black}) + \beta_5(\text{pct\_unemployed}) + \beta_6(\text{occur}) + \beta_7(\text{escalate}) +$$
$$\epsilon$$

$$\text{tp\_share} = \beta_0 + \beta_1(\text{pct\_male}) + \beta_2(\text{pct\_high\_school}) + \beta_3(\text{pct\_assistance}) +$$
$$\beta_4(\text{pct\_black}) + \beta_5(\text{pct\_unemployed}) + \beta_6(\text{freq}) + \epsilon$$

where "tp_share" indicates vote share for President Donald Trump and an opposite result of BLM movement, protest occurrence and escalation act as independent variable in the first linear model , frequency of protest act as independent variable in the second linear model. Employing API to access ACS5, other demographic features as percentage of male, percentage of citizen's who graduates from high-school, percentage of citizens receiving public assistance, percentage of citizens unemployed are also brought to models as other potential factors which may have impact on the electoral result.

```
##
## =======================================================================
## Dependent variable:
## --------------------------------------------------
## tp_share
## (1) (2)
## -----------------------------------------------------------------------
## pct_male 0.369*** 0.421***
## (0.089) (0.090)
```

```
##
## pct_high_school          1.301***               1.385***
##                          (0.040)                (0.039)
##
## pct_assistance           1.102***               1.125***
##                          (0.060)                (0.061)
##
## pct_black                -0.369***              -0.373***
##                          (0.015)                (0.015)
##
## pct_unemployed           -2.966***              -2.977***
##                          (0.235)                (0.238)
##
## occur                    -0.075***
##                          (0.007)
##
## escalate                 -0.057***
##                          (0.012)
##
## freq                                            -0.014***
##                                                 (0.001)
##
## Constant                  0.024                 -0.033
##                          (0.050)                (0.050)
##
## -------------------------------------------------------------------
## Observations              3,115                  3,115
## R2                        0.536                  0.526
## Adjusted R2               0.535                  0.525
## Residual Std. Error   0.111 (df = 3107)      0.112 (df = 3108)
## F Statistic       512.303*** (df = 7; 3107) 574.706*** (df = 6; 3108)
## ===================================================================
## Note:                                   *p<0.1; **p<0.05; ***p<0.01
```

The result of multiple linear regression shows that the occurrence of protest tend to lower the voting share for Donald Trump as the candidate for the Republican by 7.4%, which is consistent with the theory proposed by Gillion (2018), that people's voting behavior is shaped by their observation on surrounding environment, and the grass-root mobilizations occurring in the proximate district have significant impact on their attitudes towards social topic. However, if protests ending up escalating and evolved into violence as what's framed by media, it's likely to have the reversal impact and slightly decrease voting share for the Democrats by 1.8%, which is compatible to the agenda seeding model by Wasow (2017), that people may be more conservative and lean to Republican, when the feelings of insecurity provoked by the framing of violence overwhelm the desire to protect the disadvantages and construction of more egalitarian society. Coefficients indicates the influence of demographic features, such as gender, education, public assistance, race, employment status, on voting result are statistically significant and are relatively larger than protest occurrence in absolute value.

Despite statistical significance, it's noticeable that the r square of this regression indicates that only 53.6% of variation in the voting result could be explained by the factors listed in the model above. It may lead to concerns about the omitted variable biases, that some variables with the potential to exert significant influence on voting result may included in the error term, causing the endogeneity problem. One possible solution to this problem is to use time fixed effect and unit fixed model, while the former enables us to eliminate the potential impact of the unit-invariant factors, the latter allows us to avoid the possible influence of the time-invariant factors. This paper would adopt unit-fixed effect, since the available data only includes cross-section observation but not time-series observation. To study the within-state variation, we may use

unit-fixed effect to eliminate the time-invariant factors, such as political environment and orientation within state, to demean the unit observation by varying the intercept across unit.

## Unit-fixed effect model

```
##
## ================================================================
##                                Dependent variable:
##                    ----------------------------------------------
##                                    tp_share
##                          (1)                    (2)
## ----------------------------------------------------------------
## pct_male                0.338***               0.342***
##                         (0.069)                (0.069)
##
## pct_high_school         1.253***               1.306***
##                         (0.036)                (0.034)
##
## pct_assistance          0.501***               0.492***
##                         (0.050)                (0.051)
##
## pct_black               -0.676***              -0.678***
##                         (0.015)                (0.015)
##
## pct_unemployed          -1.961***              -1.944***
##                         (0.188)                (0.188)
##
## occur                   -0.040***
##                         (0.005)
##
## escalate                -0.023***
##                         (0.009)
##
## freq                                           -0.007***
##                                                (0.001)
##
## occur:escalate
##
##
## Constant                0.320***               0.302***
##                         (0.039)                (0.039)
##
## ----------------------------------------------------------------
## Observations            3,115                  3,115
## R2                      0.758                  0.757
## Adjusted R2             0.754                  0.753
## Residual Std. Error   0.081 (df = 3057)        0.081 (df = 3058)
## F Statistic    168.103*** (df = 57; 3057) 170.329*** (df = 56; 3058)
## ================================================================
## Note:                                *p<0.1; **p<0.05; ***p<0.01
```

From the result of unit-fixed model, the r squared are increase from the initial level of 0.536 to the current level of 0.758, indicating the goodness of fit of model has been largely improved, and model have more explanatory

power to the variation in the voting result. The impact of the occurrence, escalation and frequnecy of the protest have been downsized after including the time-invariant variable, which suggests simple linear model overestimates the coefficients due to the omitted variable bias.

## Concerns

However, although applying fixed effect model may eliminate the impact of time-invariant and unit-fixed factors on result, there are other concerns with measuring the casual effect of protest. First, the places where the protests occur may be not at random, that is the areas with higher intensity of black population are more likely to have the intention and resource to protest, and this areas are tend to have higher voting share for the Democrats who are relatively more representative of black interest no matter whether protests occur or not. In other words, the cross-county and cross-state analysis cannot provide direct evidence to validity the existence of casual effect. One possible solution to use Random Control Trails: by picking pairs with high-degree of homogeneity, and randomly assign the treatment to one object in the pairs. Wasow (2017) choose five county-level features, including black, foreign born, urban, log of the total population, and whether the county is in the Deep South, to do the balance test to check whether the pairs in the pre-treatment condition have high similarity to each other. Furthermore, Wasow (2017) use rainfall as a proxy to random assignment mechanism, which serves as instrument variable in the adopted two-stage least squares model.

Another concern may arise due to the general equilibrium effect, that the mobilization may have spillover effect on the proximate counties. Counties with the conservative as the majority surrounding by the movement may become an isolated "island", thus citizens may feel political isolated and threatened by the counter party, and move to the more extreme side on the political spectrum. To put it in other words, the measured impact may be overestimated due to the general equilibrium and spillvoer effect.

## Conclusion

Using the case of George Floyd protest, this article performs a quantitative analysis to estimate the casual effect of social mobilization on the citizen's voting behavior. Results from both simple linear model and fixed-effect model are consistent with the prediction of previous studies: the occurring of grass-root movement aiming for construing a more egalitarian society may sway public opinion and favor the parties covering the interest of the vulnerable and marginalized group. This impact can be reversed when the protest escalated into violence, as the "riot" framed by media may trigger the feeling of insecurity among voters with the white as the majority, which will later reflected by a increasing voting share for more conservative party. However, although the unit-fixed effect model partially solve the endogeneity problem, the direct casual effect can not be separated and measured without employing the instrumental variable. Finally, due to the spillover effect of protest, general equilibrium effect may appear and render overstimation.