# Appendix: Suppressing Black Votes: A Historical Case Study of Voting Restrictions in Louisiana

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January 8, 2021

## A.1 LDV Results

In the main text, we outline how we use results from an LDV model as a robustness check. Here, we present additional details on the LDV approach and present full results. As an alternative to DID, we could use a selection on observables strategy where we condition on both observed covariates but also past measurements of the outcome. Under this identification strategy, we make the following assumption:

$$Y_{it}^{T}, Y_{it}^{C} \perp\!\!\!\perp D_i | \mathbf{X}_{it}, Y_{it-1}. \tag{1}$$

Under this assumption, we assume that potential outcomes are conditionally independent of the use of the understanding clause once we condition on both $\mathbf{X}_{it}$ and $Y_{it-1}$, past registration rates. Sometimes this is referred to as the lagged dependent variable (LDV) approach. Why is this sensible? Past outcomes are a function of both observable covariates and unobservables. Thus conditioning on past outcomes allows us to indirectly condition on unobservables. Blackwell and Glynn (2018) provide a recent review of this approach to causal identification with time-series cross-sectional data.

Why don't we use these two identification strategies jointly? These two methods must be used in isolation, since the estimates are inconsistent when lagged outcomes and two-ways fixed

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effects are used in the same model (Nickell 1981). As we noted in the main text, we can view the estimates from these two methods as bounds on the causal effect of interest. Ding and Li (2019) prove that this bracketing property holds nonparametrically and develop a key diagnostic test. We also implemented the diagnostic recommended in Ding and Li (2019). They recommend plotting the empirical cumulative distribution function (CDF) of the outcomes in the baseline year against each other. The treated CDF should be either strictly higher or lower than the control CDF. We found this to be the case. We include this plot in the next section of the appendix.

Table 1: LDV estimates of the effect of the understanding clause on voter registration rates.

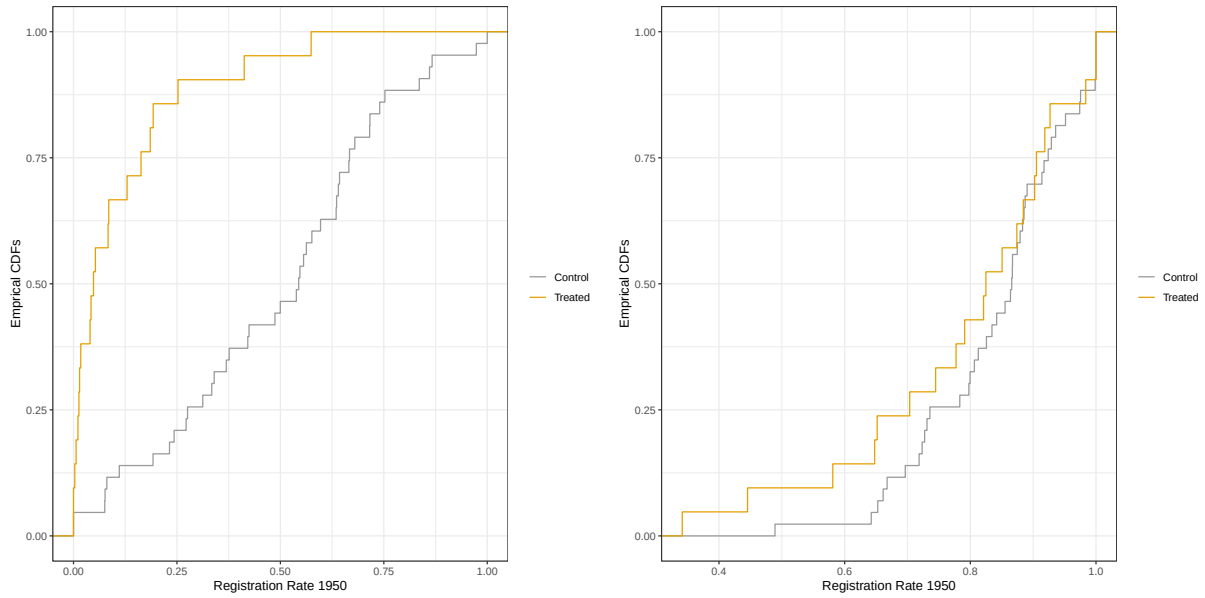
| | African-American Registration | White Registration |
|---|---|---|
| Understanding Clause | -29.8 [-40.7,-19.0] | -2.2 [-7.3,2.8] |
| *N* | 63 | 63 |

Note: Outcome is percentage of African-Americans or Whites registered to vote in the parish. 95% confidence intervals in brackets

Table 1 contains estimates of the understanding clause for both African Americans and whites based on the LDV models. The estimated effect of African Americans is -29.8, which translates into a nearly 30 point drop in registration rates. For whites, the effect is -2.2. The 95% confidence intervals for the first estimate is bounded away from zero and includes zero for the second estimate.

## A.2 Diagnostics

Ding and Li (2019) note that the bracketing property of DID and LDV depends on a stochastic monotonicity assumption. That is, we should find that the lagged outcome in the treated group should have a strictly larger outcome values in the pre-treatment time period. They recommend plotting the empirical cumulative distribution functions (CDF) of the treated and control groups against each other in the pre-treatment time period. Figure 1 contains a plot of this type. Specially, we plotted the empirical CDFs for treated and control counties using data from 1950. We find that




(a) Black Voters (b) White Voters

Figure 1: Empirical CDFs of treated and control groups from pre-treatment period plotted against each other.

indeed the treated group outcomes satisfy the stochastic monotonicity assumption for the Black subpopulation.

Using data from 1940 to 1950 we also tested for evidence of parallel trends in the pre-treatment time period. For Black voters, the estimated difference in trends is -.05 with a p-value of 0.131. For white voters, the estimated difference in trends is -0.019 with a p-value of 0.697. As such, in this time period, we do not find decisive evidence that trends differed.

## References

Blackwell, Matthew and Adam Glynn. 2018. "How to Make Causal Inferences with Time-Series Cross-Sectional Data under Selection on Observables." *American Political Science Review* 112(4):1067–1082.

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