

# Differences-in-different Counties: The Heterogeneous Effect of a Voter ID Law in Virginia

Noah McKinnie Braun - nmb93@pitt.edu

Economics Department, University of Pittsburgh

## Introduction

The proliferation of voter ID laws across the US has had an ambiguous impact on voting and registration rates, despite fear from civil-rights advocates that these laws would increase the cost of voting. I study Virginia's 2014 strict photo voter ID law and find significant and durable declines in both registration and turnout rates in voting precincts with higher shares of voters likely to lack valid ID. These differential effects are reversed in counties with higher levels of Democratic support, suggesting significant counter-mobilization against the voter ID law.

### Research Question

- What was the effect of a voter ID law on turnout and registration in Virginia?
- Was there a successful counter-mobilization effort against the voter ID law?

## Data

- Demographic data from Bureau of the Census
- Voting data from Virginia Department of Elections
  - Number of votes, registered voters, and number of voters who lack a DMV record at the precinct level
- Reprecincting data from 133 counties and independent cities
  - Track precinct changes between 2011-2017 to form stable units of observation

Share of Voters without DMV Record

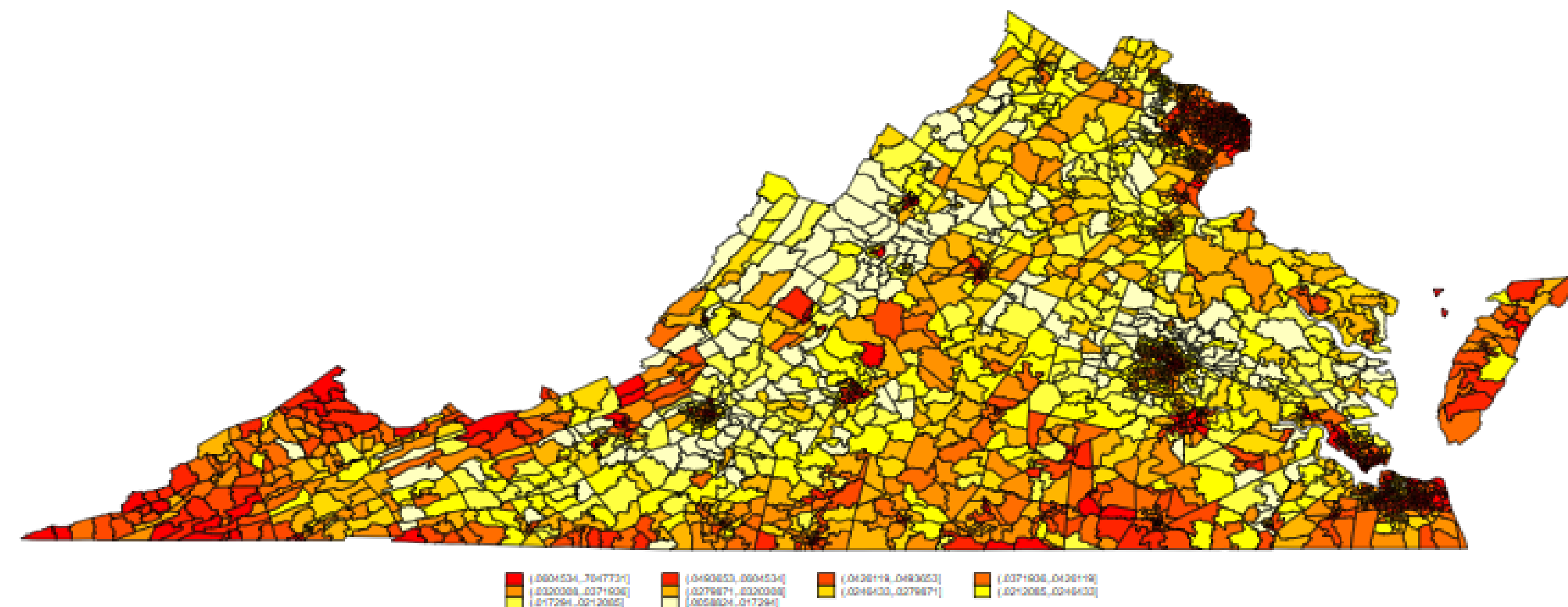


Figure 1: Precinct Map

## Empirical Strategy

Estimate a difference-in-difference with a dichotomized measure of the share of voters within a precinct who are likely to lack a voter ID, using the lack of a DMV record as a proxy:

$$Y_{it} = \beta \cdot HighNDMV_i \cdot Post_t + X_i \cdot \delta_t + \gamma_{ct} + \lambda_i + \epsilon_{it} \quad (1)$$

- $Y_{it}$  - logged number of votes or registered voters in voting precinct  $i$
- $HighNDMV_i$  - indicator for whether the number of registered voters in a precinct who lack a DMV record is above the median
- $X_i$  - vector of precinct demographic controls
- $\delta_t$  - election year fixed effect
- $\gamma_{ct}$  - county-by-year fixed effect
- $\lambda_i$  - precinct fixed effect

## Main Results

Table 1: Change in Turnout and Registration

	Log(Votes)			Log(Registration)		
	(1)	(2)	(3)	(4)	(5)	(6)
Above Median	-0.0112 (0.0071)	-0.0330*** (0.0071)	-0.0300*** (0.0078)	-0.0207*** (0.0051)	-0.0181** (0.0059)	-0.0304*** (0.0061)
Unit FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	No	Yes	No	No
County X Year FE	No	Yes	Yes	No	Yes	Yes
Demographic Controls	No	No	Yes	No	No	Yes
Observations	14,729	14,638	14,638	14,735	14,644	14,644

Table 2: Change in Turnout and Registration by Election

	Log(Votes)			Log(Registration)		
	2011 vs 2015	2012 vs 2016	2013 vs 2017	2011 vs 2015	2012 vs 2016	2013 vs 2017
	(1)	(2)	(3)	(4)	(5)	(6)
Above Median	-0.0496** (0.0170)	-0.0281*** (0.0080)	-0.0255*** (0.0073)	-0.0415*** (0.0098)	-0.0307*** (0.0061)	-0.0276*** (0.0057)
Unit FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	No	No
County X Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,172	4,184	4,184	4,184	4,184	4,184

\*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

Robust standard errors, clustered at precinct level; observations weighted by population

## Discussion of Results

- Turnout and registration declined by  $\approx 3.07\%$  and  $\approx 3.09\%$ , respectively, in precincts that had a higher number of people likely impacted by the voter ID law
  - Magnitudes suggest that decline in turnout was driven by fewer people registering to vote
  - Largest declines in turnout and registration were in the 2015 election, the first after the law change

## Counter-Mobilization

- One possible mechanism for main results is that groups who opposed the voter ID law successfully counter-mobilized against the law, and helped already registered voters acquire valid ID

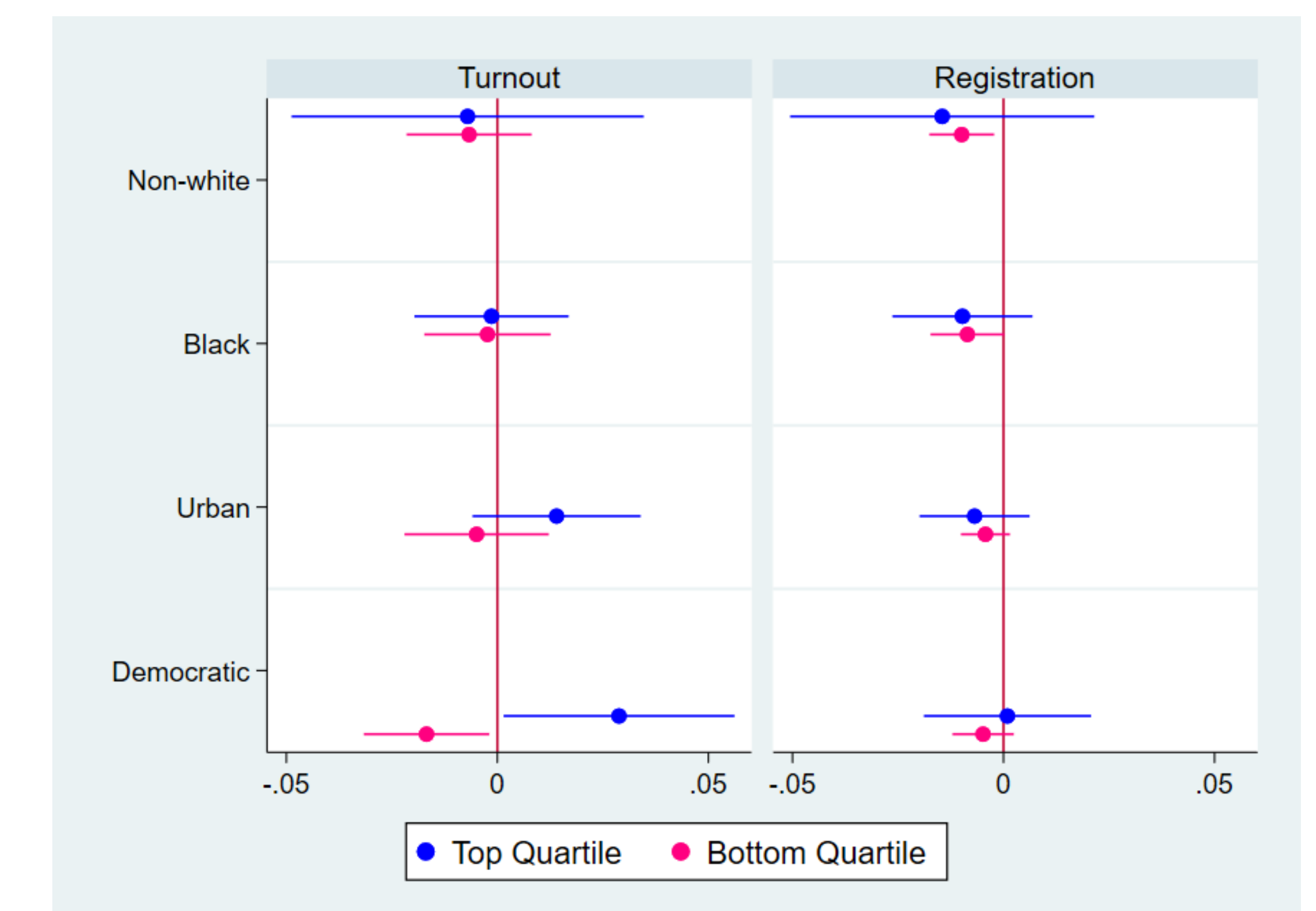


Figure 2: Differences by County Type

- Find that the differential effect on turnout flips in counties in top quartile of Democratic vote share in 2008, and in the top quartile of share urban

## Conclusion

- Virginia's voter ID law decreased turnout, likely driven by a decline in registration rates
- Evidence that Democratic voters were mobilized against the law, mitigating its effect