

God'swill Osa

University of Texas at Dallas

April 27, 2017

Introduction

Questions regarding the potential impacts of the relatively recent decision of the Shelby County v. Holder U.S. Supreme Court case, has sparked a renewed interest in the Voting Rights Act and its future impact on voting in America. The Voting Rights Act still remains a landmark piece of legislation, and its effects have been heavily documented and praised. However, the effects that the Shelby County v. Holder decision ultimately has on voter turnout in minority saturated states such as former preclearance states, is a question of interest to political scientists, advocacy groups, and political leaders alike. This paper seeks to explore this question, and specifically determine if the voting laws passed after Shelby County v. Holder had an effect on voter turnout in former preclearance states.

The Voting Rights Act of 1965 is one of the most memorable and impactful pieces of congressional legislation to be passed in the past century. Its goal was to eradicate any existing instances of voting discrimination and disenfranchisement, and prevent any instances of the like in the future. The power of the act to enforce these measures over the past 50 years lay in sections 4(b) and 5, the "coverage formula" and "preclearance requirement". The coverage formula defined in section 4(b) outlined the criteria that determined which states and counties would be subject to other special provisions within the act. This formula initially forced any state with a history of using a test/device to restrict right to vote, had less than half of its eligible citizens registered to vote in the 1964, 1968, or 1972 elections, or had less than half of its eligible citizens vote in the 1964, 1968, or 1972 elections, to be subject to the preclearance requirement in section 5. The preclearance requirement in section 5 then forced any states identified by the coverage formula in section 4(b) to seek preclearance from the U.S. Attorney General or U.S. District Court for D.C. before passing any changes to their voting law. By 1979, these two

sections forced a total of 9 entire states to seek preclearance (Alabama, Alaska, Arizona, Georgia, Louisiana, Mississippi, South Carolina, Texas, and Virginia), and 7 additional states to seek preclearance for specific counties or precincts.

This all changed after the decision of the U.S. Supreme Court case of Shelby County v. Holder (2013). In this case, a covered county in Alabama sued the U.S. Attorney General for a permanent injunction against sections 4(b) and 5 of the Voting Rights Act because they were unconstitutional. The case was decided by a 5-4 conservative split on the Supreme Court and ruled that only section 4(b) was unconstitutional because the formula was outdated and did not apply to the current situations in preclearance states. This decision gutted the act, primarily because the ability for the government to prevent potentially discriminatory practices before a harm was produced was now removed. Following the decision, a wave of former preclearance states began changing their voting legislation to stricter more restrictive laws, often requiring identification prior to voting in the name voter fraud prevention. Many liberal policy institutes and advocacy groups such as the Brennan Center for Justice, ACLU, and NAACP argue that invalidating section 4(b) of the Voting Rights Act will deprive many minority citizens of the right to vote and undercut progress made in these preclearance states over the past 50 years.

Issues pertaining to voter turnout, voting laws, or elections in general, are native to the field of political science, and have been pioneered by political scientists such as Wolfinger & Rosenstone. Wolfinger & Rosenstone are responsible for foundational work relating to voter turnout theory, specifically what factors influence voter turnout. Wolfinger & Rosenstone used statistical regression models to estimate the turnout rates for specific racial and ethnic groups within the United States (1980). They also used statistical regression models to explore the effects of institutional or administrative laws, including voter registration laws, on voter turnout.

Additional work by Benjamin Radcliff, (1994), G. Powell (1986) and Franklin Gilliam (1985) build off of this foundation and explore other variables that have an effect on voter turnout in U.S. elections. Any study attempting to estimate the effect any variable on voter turnout is based off these of foundational works on voter turnout theory.

This study also builds off of established voter turnout theory, in the sense that is structured similarly in terms of design to past studies on turnout. However, this study distinguishes itself from the literature by attempting to explore a specific group of subjects (former preclearance states), over a specific time frame (the election years before and immediately after the Shelby County v. Holder decision). On that account, the primary research question for this study is as follows: In former preclearance states, did changes in voting laws after the Shelby County v. Holder decision have an effect on voter turnout in the following elections?

Based on the restrictive nature of these new voting laws, alongside outcry from various advocacy and watch dog groups, one can hypothesize that changes in voting laws after Shelby County in former preclearance states will ultimately have a negative impact on voter turnout in subsequent 2014, and 2016 U.S. elections. This hypothesis will be tested using quantitative statistical techniques in order to try and estimate the potential effect between voting law changes and voter turnout.

Methodology

The subjects or units of analysis in this study were states that were included in Section 4(b) of the voting rights act prior to the Shelby County v. Holder (2013) decision, also known as preclearance states. This definition limits the number of subjects studied to 9 specific U.S. states: Alabama, Alaska, Arizona, Georgia, Louisiana, Mississippi, South Carolina, Texas, and Virginia.

The data set used in the quantitative analysis primarily originates from the United States Elections Project. The United States Elections Project data set comprises of time series data of national election turnout rates from 1787 to 2016, and time series data of state election turnout rates from 1980 to 2016. Because this paper seeks to discover effects on state turnout rates, only the state time series data was used. Additionally, the United States Elections Project data set also provides three different voter turnout rates: Voting-age population for the highest office (VAP), Voting-eligible population for the highest office (VEP), and Voting-eligible population for all ballots counted (VEP total). VEP total is considered the best estimate for state voter turnout because it includes all counted ballots (this includes blank ballots and ballots that attempt to vote for more than one candidate) and only eligible voter populations in its estimate. Using all counted ballots gives a better estimate of turnout population. Additionally, it it is easier to compare voting eligible populations across states than comparing voting age populations. This is because in states like Texas that have larger alien populations than other states, a VAP will not yield an accurate indication of turnout. A significant proportion of the VAP population would not be eligible to vote, skewing turnout rates downward. However, for the purposes of this paper, VEP was used instead of VEP total. The VEP total estimate was not available for all states and years in the data set. Many states only recently began counting the total ballots cast, so only

recent years had the VEP total turnout rate estimates. Therefore, only state VEP turnout rates from 1980 to 2016 were taken from the United States Elections Project data set.

U.S. Census demographic data on race, age, and gender was also collected for each state from 1980-2016. Due to the decennial nature of census data, the same demographic data was utilized for the 10 year periods between each census. For example, 1980 census data was utilized for years 1980-1989 and 1990 census data was utilized for years 1990-1999 and so on. Because the census data is not as dynamic as the U.S. Elections Project data, the census data will not capture incremental changes between years for certain variables.

When aggregated, the data set takes the form as a cross section of demographic and voter turnout data for former preclearance states surveyed over time, which can also be described as panel data. Due to the nature of the data set, the most fitting models for statistical analysis included: pooled OLS regression, fixed effects panel regression, and random effects panel regression. All three regressions were run, and their fit was compared using an F test, a Breusch-Pagan Lagrange Multiplier test and a Hausman test.

The F test evaluates the hypothesis for whether the intercepts from the fixed effects regression model are statistically different from zero. The null hypothesis for the F test is that the fixed effects intercepts are not statistically different from zero and the alternative hypothesis is that the fixed effects intercepts are statistically different from zero. If the null is rejected with a p-value <0.05 then there is evidence that intercepts from the fixed effects regression model would fit the data better than a pooled OLS regression would.

The Breusch-Pagan Lagrange Multiplier test works in a similar fashion to the F test. It tests the hypothesis for whether the variance between the units of analysis is zero or not. The null hypothesis is the variance between the units of analysis is not statistically significant from zero

and the alternative hypothesis is that the variance between the units of analysis is statistically significant from zero. If the null is rejected with a p-value <0.05 then there is evidence that the variance between the units of analysis are statistically different from zero and that the random effects panel regression model would fit the data better than a pooled OLS regression.

The Hausman test evaluates the hypothesis for whether the error term is correlated with the explanatory variables in the model. The null hypothesis is that the correlation between the error term and explanatory variables is not statistically significant from zero and the alternative hypothesis is that correlation between the error terms and the explanatory variables is statistically significant from zero. If the null is rejected with a p-value <0.05, then there is evidence that the error terms are correlated with explanatory variables, signifying that the fixed effects model will fit the data better than the random effects model.

The results from each of these three tests yielded that the most appropriate method for statistical analysis for the given data would be a fixed effects panel regression model. The panel regression model better estimates changes within different subjects over time when compared to other estimation techniques such as pooled OLS or time series. Any estimates on the effect of the explanatory variables on the response variable using the fixed effects panel model, will be unbiased, compared to estimates from a random effects panel or pooled OLS regression. Fixed effects panel regression also control for any unobserved heterogeneity between the units being studied. In this case, former preclearance states are the unit of analysis, and there exists inherent differences or heterogeneity between each of the states, (e.g. Texas vs. Mississippi) that need to be controlled for when comparing turnout rates over time. All explanatory variables are time-variant, therefore there will be no issues in regards to their estimation using fixed-effects.

The fixed effects panel regression was used and the regression equation is as follows: $Voting\ Turnout_{it} = \beta_{1i} + \beta_2 Change\ in\ Voting\ Laws_{it} + \beta_3 Midterm\ Election_{it} + \beta_4 Percent\ of\ Minorities_{it} + \beta_5 Median\ Age_{it} + \beta_6 Percent\ of\ Women_{it} + u_{it}$ $i = 1, 2 \dots 9$

$$t = 1, 2 \dots 37$$

Voting turnout is the main response variable and is defined as the voting-eligible population turnout rate. Change in voting laws, is the main explanatory variable, which is defined as dummy variable which is coded as 1 in the years which a change in state voting laws went into effect and remained in effect after the Shelby County v. Holder decision and is coded as 0 if not voting law change went into effect. The remaining variables in the fixed effects panel regression equation (midterm election, percent of minorities, median age, and percent of women) served as controls to help clarify the relationship between the main response variable and explanatory variable. Midterm election is a control dummy variable that is coded as 1 in every midterm election year and as 0 in every general election year. Percent of minorities, median age, and percent of women serve as continuous, demographic control variables. Subscripts "i" and "t" represents the each of the 9 separate states and 37 separate time segments analyzed in this fixed effects panel regression.

The fixed effects panel regression model was estimated using the R statistical language and the CRAN package "plm".

Results

As described in the methodology portion of this paper, three separate models (Pooled OLS, Random Effects Panel Regression, and Fixed Effects Panel Regression) were used and the fit of each was compared using statistical tests (F test, Breusch-Pagan Lagrange Multiplier test, and Hausman test) in order to determine the most appropriate model for the data set. The estimates for each model, along with their corresponding equations are shown in Tables 1-3.

Table 1: Pooled OLS

	Dependent variable:
	Voter Turnout
Change in Voting Laws	-0.029
	(0.022)
Midterm Election	-0.170***
	(0.011)
Percent of Minorities	0.001
	(0.001)
Median Age	0.004*
, and the second	(0.002)
Percent of Women	-0.024***
	(0.005)
Constant	1.636***
	(0.239)
Observations	165
\mathbb{R}^2	0.651
Adjusted R^2	0.640
F Statistic	$59.434^{***} (df = 5; 159)$
Note:	*p<0.1; **p<0.05; ***p<0.01

Pooled OLS Regression Equation

 $\label{eq:Voti} Voti \square \ g \ Turnout_{it} = \beta_1 + \ \beta_2 Change \ in \ Voting \ Laws_{it} + \ \beta_3 Midterm \ Election_{it} + \\ \beta_4 Percent \ of \ Minorities_{it} + \beta_5 Median \ Age_{it} + \beta_6 Percent \ of \ Women_{it} + u_{it}$

$$i = 1, 2 \dots 9$$

$$t = 1, 2 \dots 37$$

Table 2: Random Effects

	$Dependent\ variable:$
	Voter Turnout
Change in Voting Laws	-0.019
	(0.017)
Midterm Election	-0.171^{***}
	(0.008)
Percent of Minorities	0.002
	(0.002)
Median Age	0.005^{*}
<u> </u>	(0.002)
Percent of Women	-0.003
	(0.005)
Constant	0.481*
	(0.265)
Observations	165
R^2	0.741
Adjusted R^2	0.733
F Statistic	$91.211^{***} (df = 5; 159)$
Note:	*p<0.1; **p<0.05; ***p<0.01

Random Effects Regression Equation

 $\label{eq:Voting Turnout} Voting \ Turnout_{it} = \beta_1 + \ \beta_2 Change \ in \ Voting \ Laws_{it} + \ \beta_3 Midterm \ Election_{it} + \\ \beta_4 Percent \ of \ Minorities_{it} + \beta_5 Median \ Age_{it} + \beta_6 Percent \ of \ Women_{it} + u_{it} + \varepsilon_{it} \\$

$$i = 1, 2 \dots 9$$

$$t = 1, 2 \dots 37$$

Table 3: Fixed Effects

	Dependent variable:
	Voter Turnout
Change in Voting Laws	-0.018
	(0.017)
Midterm Election	-0.171***
	(0.008)
Percent of Minorities	0.005^{**}
	(0.003)
Median Age	0.002
G	(0.003)
Percent of Women	0.004
	(0.005)
Observations	165
\mathbb{R}^2	0.765
Adjusted R^2	0.745
F Statistic	$98.480^{***} (df = 5; 151)$
Note:	*p<0.1; **p<0.05; ***p<0.01

Fixed Effects Regression Equation

 $\label{eq:Voting Turnout} Voting \ Turnout_{it} = \beta_{1i} + \beta_2 Change \ in \ Voting \ Laws_{it} + \beta_3 Midterm \ Election_{it} + \\ \beta_4 Percent \ of \ Minorities_{it} + \beta_5 Median \ Age_{it} + \beta_6 Percent \ of \ Women_{it} + u_{it}$

$$i = 1, 2 \dots 9;$$

$$t = 1, 2 \dots 37$$

An F test was performed to compare the fixed effects and pooled OLS models, the Breusch-Pagan Lagrange Multiplier Test was performed to compare the random effects and pooled OLS models, and the Hausman Test was used to compare the fixed effects and random effects models. The results are displayed in Tables 4-6.

Table 4: F Test

Test Statistic	df1	df2	P value	Alternative Hypothesis
16.05	8	151	5.201e-17* * *	Fixed Effects intercepts are different from zero
NT /				* .0.10 ** .0.0° *** .0.01
Note:				*p<0.10; **p<0.05; ***p<0.01

Table 5: Breusch-Pagan Lagrange Multiplier Test

Test Statistic	P value	Alternative Hypothesis
12.04	1.07e-33* * *	Variance between subjects is statistically significant from zero
Note:		*p<0.10· **p<0.05· ***p<0.01

Table 6: Hausman Test

Test Statistic	df1	P value	Alternative Hypothesis
25.82	5	9.683e-05* * *	Use Fixed Effects
Note:			*p<0.10: **p<0.05: ***p<0.01

The results for the F test and Breusch-Pagan Lagrange Multiplier Test in tables 4 and 5 both give p-values that force the rejection of the null hypotheses, indicating that pooled OLS is not a good model for the data. The results for the Hausman Test in table 6 also force the rejection of the null hypothesis, indicating that the fixed effects panel regression model would be more appropriate to use than the random effects model. The results for the fixed effects panel regression model along with the fixed effects slopes for each subject is displayed in Table 7.

Table 7: Fixed Effects

	Dependent variable:
	Voter Turnout
Change in Voting Laws	-0.018
	(0.017)
Midterm Election	-0.171***
	(0.008)
Percent of Minorities	0.005**
	(0.003)
Median Age	0.002
-	(0.003)
Percent of Females	0.004
	(0.005)
Observations	165
\mathbb{R}^2	0.765
Adjusted R^2	0.745
F Statistic	$98.480^{***} (df = 5; 151)$
Note:	*p<0.1: **p<0.05: ***p<0.01

Note:

*p<0.1; **p<0.05; ***p<0.01

Fixed Effects Slopes

States	Constant
Alabama	0.113
Alaska	0.2439
Arizona	0.1246
Georgia	0.04151
Lousiana	0.09316
Mississippi	0.01392
South Carolina	0.05392
Texas	0.08048
Virginia	0.1185

Discussion

The intentions underlying the Voting Rights Act of 1965 was to prevent and reverse practices disenfranchising minority voters from the right to vote, and its application to preclearance states defined by the the coverage formula in section 4(b), most likely achieved the goals that the authors of the act had in mind. The invalidation of the coverage formula by Shelby County v. Holder, however, does pose the serious question of whether these former preclearance states will use this legal opportunity to burden if not, disfranchise voters once again. This study seeks to answer this question, and specifically determine whether any voting laws passed in former preclearance states after the Shelby County decision, had an effect on voter turnout at all.

The results from the three statistical tests used in this study determined that a fixed effects panel regression would be the most appropriate model to analyze the provided data set. The F and Breusch-Pagan Lagrange Multiplier tests both rejected the null hypotheses that pooled OLS was the appropriate model. The Hausman test went a step further and also rejected the null hypothesis that the random effects panel regression would be the preferred model for this study. The p-values for all three tests were very significant and were all below 0.01. The evidence from the tests strongly supports the choice of statistical model.

Characteristics of the fixed effects panel regression model can be seen in table 7. The R^2 and adjusted R^2 values show that the fixed effects model fits the data relatively well, in that ta good amount of the variation between observed values and estimated values can be explained by the fixed effects model. The F statistic for overall significance of the model also shows that the fixed effects model fits the data well because its estimated coefficients are statistically significant from zero. Also, due to nature of a fixed effects model, the β_{1i} estimates for each state are also included in table 7 underneath the regression results.

The results from the fixed effects model in table 7 show that the main explanatory variable in this study, whether a state changed its voter laws after the Shelby County Decision in 2013, had no statistically significant effect on voting turnout, disproving the main hypothesis. These results were not necessarily surprising but can be understood through a number of different explanations. The most obvious and general interpretation of these results is that the voting laws passed after Shelby County v. Holder in former preclearance states had no perceivable effect on voter turnout, despite the fact that the all of the laws passed in these states were more restrictive in general. It is possible that these voting laws, despite their restrictive nature, did not prevent already motivated voters from going to the polls in these states. Another possible explanation of the results could be found in the nature of the dependent variable, voter turnout. The history of voting in United States shows that minorities have been the primary target for unconstitutional and disenfranchising voting practices. Similarly, the coverage formula in section 4(b) of the Voting Rights Act, uses past discriminatory and disenfranchising practices as criteria to determine which states should be subject to preclearance or not. All of the states analyzed in this study were former preclearance states which histories of discriminatory and disenfranchising voting practices. Any effect that these new voting laws may have on voter turnout may be more visible when looking at minority voter turnout, compared to general voter turnout rates. Future studies could focus specifically on estimating the effects of these new laws on minority voter turnout rather than voter turnout in general. Finally, the absence of any effect of voting laws on turnout could also be explained by the lack of data over time. The change in voting laws dummy was only coded as a 1 for two election cycles, was coded as 0 every election year from 1980 to 2012. There may not be enough data available in the post test regime to come

to any statistically significant results about the effect of these laws on turnout. Studies using future state election data could possibly find an effect, but currently the data may be too limited.

Out of the remaining variables, only the control variables for midterm elections and the proportion of minorities had any effect on voter turnout. The variables for median age and proportion of females within a state did not show any effect. The estimate for midterm election shows that voter turnout during midterm elections is significantly dampened when compared to voter turnout in general election years. These results for the midterm election control variable were expected, as past voter turnout studies have observed similar effects when estimating variables that influence voter turnout. The decrease in turn out in midterm elections is also common knowledge amongst political operatives and candidates as well. The estimate for percent of minorities within the state has a remarkably smaller effect on voter turnout than the midterm election variable. This effect suggests that there is some small, yet significant boost to voter turnout when a state has a higher proportion of minorities in their voting-eligible population. This effect however, could just be the result of the limited number of observations and the long time frame used in this study. The study aims to look at changes in voter turnout in former preclearance states, which amounts to only 9 states. Additionally, most of the preclearance states are located in the southern U.S., which on average has a larger minority population than other regions within the country. There could be a correlation between minority population and former preclearance status of state. The insignificant effects for the variables controlling for median age and percent of women were relatively surprising. The intuition behind placing median age and percent of women as control variables is that the literature shows that older voters and women turnout to vote at higher levels than younger voter or men. This effect may have been masked by the relatively small sample of states used. It may also be possible that

any differences between age groups and between sexes in voter turnout may not be significant in former preclearance states.

Conclusion

The Voting Rights Act has been around for a little over a half a century, and its passage is still considered a watershed moment in American history, especially within the context of the American civil rights tradition. Its importance in eradicating discrimination and correcting for the effects of past discrimination can be seen in the millions of American minorities that exercise their right to vote every year without fear of intimidation or coercion. With that being said, the controversy over the invalidation of section 4(b), or the teeth of the act, by the U.S. Supreme Court in Shelby County v. Holder, and the inability of Congress to draft viable replacement for it is understandable. Regardless of the history that former preclearance states have in regards to discrimination when it comes to voting, it is important to ascertain the true nature of the voting laws that are being passed, in addition to the effect they may have on voter turnout. The purpose of this study was to try and come closer to understanding the relationship between the two, and to add to the knowledge base concerning these issues. As for right now, according to the results from this study, there can be no assessment on the effect that these new voter laws have on voter turnout within former preclearance states. Any attempt to arrive at a conclusive explanation for these results will be dependent on future research on this issue and the continuous availability of future election data from these states. The ramifications of Shelby County v. Holder are still yet to felt, and its true impact is still yet to be seen. The implications of the Shelby County ruling will ultimately determine the legacy of the Voting Rights Act in the coming times.

References:

- Barreto, Matt., Nuno, Stephen., & Sanchez, Gabriel. 2009. "The Disproportionate Impact of Voter-ID Requirements on the Electorate: New Evidence from Indiana." *Political Science & Politics*. 42 (January): 111-116.
- Blacksher, James, * Guinier, Lani. 2014. "Free at Last: Rejecting Equal Sovereignty and Restoring the Constitutional Right to Vote Shelby County v. Holder." *Harvard Law & Policy Review* 8 (1) 1-28.
- Citrin, Jack., Green, Donald., & Levy, Morris. 2014. "The Effects of Voter ID Notification on Voter Turnout: Results from a Large-Scale Field Experiment." *Election Law Journal*. 13 (2): 228-242.
- Elemendor, Christopher. & Spencer, Douglas. 2014. "The Geography of Racial Stereotyping:

 Evidence and Implications for VRA Preclearance After Shelby County." *California Law Review.* 102 (5) 1123-1180.
- Gilliam, Franklin. 1985. "Influences on Voter Turnout for U. S. House Elections in Non-Presidential Years". *Legislative Studies Quarterly*. 10 (August): 339-351.
- McDonald, Michael P. 2017. "Voter Turnout Data" United States Elections Project. March 22nd, 2017.
- Powell, G. B.1986. "American Voter Turnout in Comparative Perspective." *American Political Science Review.* 80 (March): 17-43.
- Radcliff, Benjamin. 1994. "Turnout and The Democratic Vote." *American Politics Quarterly*. 22 (July): 259-276
- Tokaji, Daniel. 2014. "Responding to Shelby County: A Grand Election Bargain." *Harvard Law & Policy Review* 8 (1) 73-108.

United States Census Bureau. 1980. Census of Population and Housing. March 22nd, 2017.

United States Census Bureau. 1990. Census of Population and Housing. March 22nd, 2017.

United States Census Bureau. 2000. Census of Population and Housing. March 22nd, 2017.

United States Census Bureau. 2010. Census of Population and Housing. March 22nd, 2017.

Wolfinger, R., and S. Rosenstone. 1980. Who votes? New Haven, CT: Yale University Press.