

Who Votes Without Identification? Using Affidavits from Michigan to Learn About the Potential Impact of Strict Photo Voter Identification Laws*

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Abstract

It is still unknown how many citizens are prevented from voting by strict photo voter identification (ID) laws. This is in part because there is no administrative record of who is turned away from a polling place or, anticipating as much, never shows up at all. We solve this measurement problem by studying Michigan's non-strict photo voter ID law. Michigan voters are asked to present photo ID but, in contrast to strict states, are allowed to vote without photo ID after signing an affidavit. Collecting and coding the affidavits filed in the 2016 presidential election in a random sample of precincts allows us to observe those voters who both desired to vote and lacked the ID that would be necessary to vote in a strict ID state. We find a strict photo ID law would have a disparate racial impact, but on a small effect size. About 0.6 percent, or 28,000 voters, lacked photo identification. Imputing race based on surname and place of residence, we find that non-white voters are between 2.5 and 6 times more likely than white voters to lack photo ID

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I Introduction

While the majority of states now have a voter identification (ID) law, only some of these states actually require an ID in order to vote. Others merely request it. In fact, many more states take a permissive rather than mandatory approach. It is the so-called “strict” states, though, particularly those which mandate a photo ID, that have fueled one of the most contentious aspects of what Hasen (2012) calls the “voting wars.”

The Supreme Court confronted Indiana’s first-in-the-nation strict photo ID law in *Crawford v. Marion County Election Board*, 553 U.S. 181 (2008). It responded with a balancing test, weighing the alleged benefits to the state of requiring photo identification – including the deterrence of fraud and the greater belief in the integrity of elections – against the burden that the law imposed upon certain voters. The nature of the burden, though, was particularly difficult to evaluate because Indiana’s law had yet to go into effect. There was no “concrete evidence of the burden imposed on voters who . . . lack photo identification.” While some justices predicted that the law would “impose nontrivial burdens on the voting rights of tens of thousands of the State’s citizens (*Crawford*, 201),” a fractured court upheld it.

The last ten years has done little to clarify the burden that strict photo ID laws impose on voters. Measuring burden – which is commonly conceptualized as the number of people who are eligible to vote and wish to vote, but lack access to required identification – has proven far more difficult than many expected. From a legal perspective, we particularly are interested in the marginal burden that moving from a non-strict to strict photo ID system imposes on voters, because the constitutionality of strict photo ID requirements remains in question.

An initial wave of scholarship attempted to infer the extent of the burden from the variation in state-level turnout over time and across states that did and did not adopt voter ID laws. But this approach was doomed as systematically underpowered, in part because of the non-random adoption of state voter ID laws (Erikson and Minnite, 2009). It is impossible

to credibly detect the burden that such laws impose on voters without identifying additional intra-state variation in populations more or less likely to be affected.

It is difficult though to measure at the individual-level who both lacks access to ID and has a desire to vote. A survey can measure both, but it is most likely to miss those least likely have ID and is vulnerable to people over reporting an intention or history of voting. Alternatively, administrative data can be used to measure both who owns a driver's license and who votes. But comprehensive data on the possession of photo identification is often lacking, and missing fields, inconsistent data fields, and typographical errors can make it challenging to link the same individual's records across data sources (Ansolabehere and Hersh, 2017). Moreover, even comprehensive data on photo ID possession does not contain information on who owns identification, but is unable to access it on Election Day. Such people could make up a substantial portion of those burdened by a strict voter ID law.

We attempt to solve this measurement problem by leveraging administrative data on who shows up to vote without photo identification. Previous work has used provisional ballots filed in strict photo ID states to identify those individuals who intend to vote but lack ID (Pitts and Neumann, 2009; Hopkins et al., 2017). Such data, however, cannot capture those individuals who intend to vote and also lack ID but, for that very reason, are deterred from showing up. Our alternative measurement strategy makes use of the distinction between the strict states that require identification in order to vote and the so-called non-strict states that merely request it. We collect local administrative records on who does not present ID in a non-strict voter ID state, where people without an ID should not be deterred from voting by the law. Using these data, we estimate the share of voters, both in the aggregate and in certain subpopulations, who lacked photo identification. Some, but not all, of these individuals would acquire or bring photo identification if it were required to cast a ballot. Thus, these data allow us to put an upper bound on the share of voters who could be disenfranchised if a state shifted from a non-strict to strict photo identification law.

This study specifically focuses on people who lacked photo identification when voting

at a polling place in Michigan during the 2016 presidential election. Since 2007, Michigan voters have been asked, but not required, to show photo ID in order to vote. Those who do not have photo identification with them simply sign an affidavit and then cast a ballot just like anyone else. We collected copies of the affidavits filed in a random sample of 20 percent of Michigan precincts and matched them to the statewide voter file, allowing us to identify the voters who potentially are at risk of being disenfranchised under a strict voter ID law.

We find a disparate racial impact but on a small effect size. Our baseline estimate is that about 0.6%, or about 28,000 voters, lacked a photo ID in Michigan in 2016. Imputing race based on surname and residence, we find that minority voters are 2.5 to 6 times more likely to lack photo identification than white voters. Given that minorities are more likely to vote for Democrats than whites are, it is not surprising that our analysis of primary vote history suggests that voters who lacked photo identification are more likely to vote for Democrats too. But while this is consistent with the claim that there is a potential disparate racial and partisan impact of strict photo ID laws, the upper bound on the potential number of people affected is smaller than often asserted.

While this suggests that the electoral consequences of shifting from a non-strict to a strict photo ID policy are limited, our single-state case study cannot address the political implications of voter ID laws in their entirety. Instead, it suggests that scholars spend relatively less time studying the de jure disenfranchisement caused by the shift from non-strict to strict photo ID laws and relatively more time studying the potential de facto disenfranchisement caused by the imposition of non-strict ID laws in the first place.

II Michigan Context

There are two critical features of election administration in Michigan that make it a good place to study who votes without access to photo ID. First, a non-strict photo voter ID law

has been enforced since 2007.¹ We wanted to study a state with a well established voter ID law because previous work speculates that differences may exist between the initial and long-run effects of voter ID laws on participatory patterns (Valentino and Neuner, 2017). Moreover, there may be heightened voter confusion immediately after a new voter ID is put into place. Given that the 2016 presidential election was the fifth general federal election conducted under the same voter ID law in Michigan, we believe that this a good case to avoid these issues.²

Michigan’s non-strict voter ID also leaves a paper trail that lets us identify which specific individuals lacked ID when casting a ballot. All polling place voters fill out an “Application to Vote” prior to casting a ballot in Michigan (see Figure A.1a in the Appendix). These voters are then asked to present a driver’s license, passport, or other form of state, federal, military, student, or tribal identification, provided that it includes a photograph. Voters who do not show such identification, either because they do not have one, it is expired, or they did not bring it with them to the polls, are required to fill out an “Affidavit of Voter Not in Possession of Picture Identification” that is typically located on the back of the Application to Vote (see Figure A.1b in the Appendix). After filling out this affidavit in the presence of an election inspector, who then signs the affidavit themselves, a voter who lacks photo ID casts their ballot the same way as a voter who presented photo identification. This law does not apply to absentee voters, who are not required to show photo identification.³ By

¹The state legislature initially passed the law in 1997, but it was not enforced immediately because of judicial review.

²One atypical source of potential confusion about the law is that the state legislature passed two bills in 2012 that would have changed voting procedures. H.B. 5061 would have required an absentee voter to sign an affidavit if he or she lacked photo ID when picking up their ballot. S.B. 803 would have required polling place voters to mark on their Application to Vote that they were a U.S citizen. Although neither became law because of a gubernatorial veto, it remains possible that this process caused more Michigan registrants to incorrectly believe that photo identification was required to cast a ballot in 2016 than would be the case in a typical non-strict photo identification state.

³According to the Michigan statewide voter file (MSVF) that we describe in the next section, 26.6% of votes were cast absentee in 2016. There are six possible reasons why a registrant could request an absentee ballot: The registrant (1) is over the age of 60, (2) expects to be away from their community of residence the entire time polls are open on Election Day, (3) is physically unable to attend the polls, (4) is prevented from attending the polls due to religious reasons, (5) is serving as an election inspector in a different precinct than their precinct of residence, (6) is confined in jail awaiting trial.

collecting both the applications and affidavits, we can observe which specific voters did not have ID when they cast a ballot in 2016.

III Relevant Literature

Strict voter ID laws burden those registered voters who intend to vote but do not have access to proper ID on Election Day. It is much simpler though to conceptualize who would be burdened than to estimate the number of people who actually are. This is principally because there has been no comprehensive data on who is turned away from a polling place due to lack of photo ID or, anticipating as much, never shows up at all.

When the Supreme Court blessed Indiana’s implementation of a strict photo voter ID law, those voting to uphold the law did not dispute the plaintiff’s claim that at least one percent of the voting-age population lacked the identification necessary to vote (*Crawford*, 188). Subsequent scholarship has provided similar, and sometimes larger, estimates of lack of ID in other states (see, e.g. Barreto and Sanchez, 2012). But the Supreme Court did not accept this data on lack of possession as itself evidence of a substantial burden, in part because it was unclear what share of this population would otherwise vote.

In response, one strand of scholarly work has compared how rates of turnout differ in places with and without voter ID laws (see, e.g. Alvarez, Bailey, and Katz, 2008; Mycoff, Wagner, and Wilson, 2009; Hajnal, Lajevardi, and Nielson, 2017). Such studies, though, are systematically underpowered (Erikson and Minnite, 2009), for at least two related reasons. First, they lack good measures of which eligible voters within a state lack identification. This is because only a relatively small share of potential voters lack ID, even among groups, such as African-Americans, believed to be the most affected. As a result, they cannot identify the relatively small change in any particular group’s turnout caused by voter ID laws given the relatively larger expected change from all other electoral forces. This is further exacerbated by the fact that the states which adopted more stringent voter ID laws tended to already

have lower turnout than those that did not. Studies need to – but often do not – account for this non-random policy adoption. This, however, further erodes already limited statistical power.

More recent scholarship has compared the relative turnout of people within a state with more or less access to identification, using both survey data (see, e.g. Hobby et al., 2015; Mayer and DeCrescenzo, 2017) and administrative data (see, e.g., Hood III and Bullock, 2012; Esposito, Focanti, and Hastings, 2017; Hood III and Buchanan, 2017). These two methods, though, produce qualitatively different findings about the magnitude of the burden imposed by voter ID laws. While surveys find a number of respondents who report that they lack ID but, otherwise, would vote, administrative records reveal only small changes in the relative turnout rates of those with and without ID after voter ID laws are enacted.

One reason for these disparate results is that the political behavior of those who actually lack ID is particularly sensitive to measurement error. The difficulty is that some registered voters with ID will be incorrectly measured as lacking it. This survey error is exacerbated by the fact, mentioned above, that few registered voters actually lack ID (Government Accountability Office, 2014). Ansolabehere, Luks, and Schaffner (2015) highlight why misclassification can be so problematic when studying “low frequency categories.” The issue, simply stated, is that even a small number of false negatives – people who actually possess ID but are measured to lack ID – can quickly swamp the number of true negatives – people who actually lack ID and are measured to lack ID. The political behavior of those who are measured to lack ID represents a weighted average of these two groups, where each group is weighted by its share of the total population measured to lack ID. If the number of voters with and without ID was relatively equal, Bayes Rule tells us that the number of true negatives swamps the number of false negatives even when there is a small amount of misclassification. But an overwhelming majority of registrants possess ID, so almost any misclassification makes it impossible to isolate the behavior of those who actually lack ID using data on the behavior of those who report lacking ID.

Unfortunately, we expect both survey and administrative data to produce non-trivial misclassification errors. Because of the complicated nature of voter ID laws, surveying respondents about whether they lack ID requires them to answer a battery of complex questions. We know there is more measurement error when asking complex than simple questions (Belson, 1981). For example, one potential form of survey satisficing is to answer “no” to any complicated question (Krosnick, 1991). And in addition to these issues associated with misclassification, the types of people who are most at risk of lacking access to ID may also be the hardest to survey (Grimmer et al., 2018).

Misclassification also is present when using administrative data. The lack of common identifiers in the ID and voter registration databases means that merging these databases together is a complex record-linkage process. We often merge records using fields like name, address, zip code, and gender. While Ansolabehere and Hersh (2017) show that these fields can do a good job of uniquely identifying individuals when the data are perfect, missing fields, inconsistent data fields, and typographical errors are present in all databases in the real world. Consequently, they identify a non-trivial number of false negatives even when analyzing some of the highest quality records on who possess identification. Second, constructing a database of who owns all of the potential forms of ID often is not possible given the large number of acceptable forms of ID in many states. Finally, even if we had complete administrative data that were merged to a voter registration database without any misclassification, such data still would lack information on people who possess but lack access to ID on Election Day. This could happen, for example, if someone’s ID was lost or stolen.

The presence of false negatives likely causes previous analyses of survey data to overstate the effect of a lack of ID on voter turnout. To date, these analyses have been cross-sectional, relating self-reported vote intentions or vote history to self-reported ID possession. Applying the logic laid out above, a sizable portion of those reporting that they lack ID will be false negatives. Our expectation is that false negatives would vote at higher rates than true negatives, even when both are eligible to vote. Additionally, surveying people about their

vote intentions or vote history is notoriously hard. Not only does over-reporting inflate estimates of turnout, but systematic differences in the types of people who over-report can distort the relationship between turnout and certain independent variables, such as race, education level, and strength of partisanship (Bernstein, Chadha, and Montjoy, 2001; Belli, Traugott, and Beckmann, 2001). Thus, we expect the self-reported participation of those reporting to lack ID to overstate the true political participation of those who actually lack ID.

In contrast, we expect analyses of administrative data to potentially underestimate how access to ID affects turnout. The best studies using administrative data tend to leverage panel data, comparing the relative turnout rates of those with and without ID, before and after voter ID laws are enacted. Suppose that an ID law causes turnout to decline among those who actually do not possess ID relative to those that do possess ID. The greater the share of false negatives among those measured to lack ID, the more that the difference between those that are and are not measured to possess ID will understate the true effect. This means the issues associated with false negatives are going to be more pronounced in studies, like Hood III and Bullock (2012) and Hood III and Buchanan (2017), that rely solely on a driver's license database to measure who possesses ID than in studies, like Esposito, Focanti, and Hastings (2017), that have access to a more comprehensive database of ID.

Because of the limitation of existing administrative data, scholars recently have begun to gather other types of data that connect a voter's lack of ID to their lack of participation. For example, voters without the necessary identification in a strict ID state can cast a provisional ballot, creating an administrative record of some registered voters who intend to vote but do not have proper ID on Election Day. For example, Hopkins et al. (2017) used data on provisional ballots to better understand the impact of Virginia's change from a non-strict to strict photo ID law. Because these provisional ballots only are counted if an eligible voter returns with an eligible ID within a few days of the election, people who show up to vote, but do not possess ID, may not file one. In theory, exit polls, like those used by McConville,

Stokes, and Gray (2018), could be used to measure this phenomenon. But neither approach will be able to measure people who are deterred from showing up altogether because they lack the ID necessary to vote.

Our primary innovation in this paper is to recognize that administrative records of who lacks photo ID when such ID is requested, but not required, can help us circumvent the issue that most administrative records do not allow us to observe would-be voters who are deterred from voting by a strict ID law because they lack identification. By construction, the people identified by these records both are interested in voting and do not have photo identification with them while doing so. Some of those who do not possess photo ID would acquire it, if doing so were necessary in order for them to vote. Even more who possess photo ID, but could not access it at the polls, would have been able to access it were it required. But others would not be able to. As such, the number of people who voted without photo ID under a non-strict system represent the upper bound on the number of people who would be disenfranchised if a state switched from a non-strict to a strict photo ID law. This is not to say that people without IDs cannot be deterred by a non-strict voter ID law. As we explore in Section VI, a non-strict voter ID law could deter people who misunderstand the law from voting . But such individuals are not at risk of being disenfranchised by a shift from a non-strict to strict voter ID law because they already were disenfranchised by the non-strict law.

Fraga and Miller (2018) have pursued a substantially similar measurement strategy in Texas. We independently began this work at the same time and think their approach has much to recommend it. Like us, they use administrative records to identify people who voted in 2016 without showing photo identification. The primary advantage of their study is that Texas had shifted from enforcing a strict photo ID law in 2014 to enforcing a non-strict photo ID law in 2016. This variation provides Fraga and Miller with some leverage to potentially recover who was prevented from voting in 2014 when Texas had a strict voter ID law in place.

However, the removal of the strict ID requirement was not a change in the law but the result of the imposition of a temporary court order that has since been lifted. The downside of studying a state with such a tumultuous voter ID law is that many voters without ID may have believed the state had continued to enforce its strict ID law in 2016, even though such ID was temporarily unnecessary. These people may have been deterred from showing up to the polls to begin with. Thus, we risk underestimating the upper bound on the number of people who would be disenfranchised in moving from a non-strict to strict ID law by focusing on Texas. In contrast, the 2016 presidential election was the fifth general federal election conducted since the enactment of Michigan’s non-strict voter ID law. As a result, we believe that this case provides more externally valid information about who wants to vote and lacks photo identification.

IV Data

This section details the data that we combine from four different sources in this paper.

IV.A Michigan Voter File

We use a copy of the Michigan statewide voter file (MSVF) obtained from TargetSmart on April 3, 2017. It contains 7,354,530 registrants, 4,807,019 of which have a vote record in the 2016 election. The Michigan Department of State reports that turnout was 4,874,619, meaning that this MSVF has coverage of 98.6 percent of the 2016 presidential votes. The file contains information on registrants’ full name, year of birth, address, and precinct, in addition to vote history in federal primary and general elections from 2008 to 2016. It is important to note that a registrant’s address in April 2017 may differ from their address on Election Day if they moved in the interim.

We geocoded every address in the MSVF using the website Geocodio. This website returns a residence’s latitude and longitude, most likely census block and census tract, and

the method used to make this imputation. We flagged observations in which 1) the census block of residence was in a different county than the county of registration, 2) the longitude and latitude of residence was determined using generic information about the census place of residence or the center of the street of residence, or 3) the accuracy score assigned to the match was below their recommended threshold for a high quality match. We then found the census tract where the most non-flagged registrants were located for each precinct, which we refer to as the modal census tract of a precinct. We also calculated the average latitude and longitude for all of the non-flagged registrations in a precinct.

Knowledge of the census block of a residence and modal census tract of a precinct is used to construct an imputed race probability for each registrant in the MSVF. We use the R package “wru: Who Are You? Bayesian Prediction of Racial Category Using Surname and Geolocation” developed by Imai and Khanna (2016) to construct predicted probabilities that the registrant is white, black, Hispanic, Asian, or some other race. The package combines information on a registrant’s surname and location of residence to impute these probabilities. While location of residence is most often measured by the census block of a residence, we instead use the modal census tract of a precinct in two cases: (1) we flagged the geocode for one of the three reasons listed above or (2) the longitude and latitude of the residence show that it is located more than five miles away from the average location of a non-flagged residence in the precinct. This resulted in about 95% of the registrants having their race probabilities calculated based on their census block of residence and 5% of the registrants having their race probabilities calculated based on the modal census tract of their precinct.

We add to the MSVF census tract-level demographics obtained from the 2015 American Community Survey (ACS) 5-Year Estimates. Specifically, we include variables for per capita income, share of residents aged 25 and older who have attended college, and share of workers aged 16 and older who commute by car. We include these variables because Hopkins et al. (2017) suggests each may relate to access to photo identification. Both education and wealth may be positively associated with knowledge of the law and negatively associated with

possession of identification. Workers who commute via car may be more likely to possess or access a driver's license on Election Day. Each registrant is assigned the census tract demographics of the modal census tract of their precinct.

IV.B Primary Vote History

Unlike voter files in some other states, the MSVF does not contain information on party of registration. However, we can learn about the partisan preferences of a subset of registrants by looking at which party's primary a registrant voted in. Although not part of the MSVF, data on primary party choice were collected and processed by Practical Political Consulting, a Michigan political consulting firm. About 98 percent of observations in the MSVF had an identifier that allowed us to merge these primary party choice outcomes to the MSVF. The other two percent of the data get dropped when analyzing these outcomes.

IV.C Individual-Level Affidavits

We attempted to collect copies of the affidavits and paired Applications to Vote from a random sample of 20 percent of Michigan's precincts, plus a non-random sample of additional precincts. Because elections in Michigan largely are administered at the municipal level, we mailed a Michigan Freedom of Information Act (MFOIA) request to every municipality that had at least one precinct selected into the random sample. Some of these municipalities sent us data for every precinct in the municipality, while other municipalities only sent us data for the precincts in the random sample. In many, but not all, cases it was possible to observe the precinct that an affidavit originated in. Out of the 863 precincts in the random sample, there are 24 precincts from 9 municipalities from which we have not yet been able to collect their affidavits.

Coders matched each affidavit to voters' corresponding registration record in the MSVF using a web application that we developed with Shiny from RStudio. Two coders examined every affidavit and paired Application to Vote, each identifying the registrant in the voter

file whose information best matched the information provided. This typically included the voter's first and last name, address, and year of birth. Coders were restricted by the web application to searching the voter file for registrants within the municipality in which the affidavit was filed.⁴ Alternatively, a coder could record that an affidavit needed further examination if either two or more registrants matched equally well to the affidavit or no registrant was sufficiently similar to the affidavit. Coders also noted whether the election inspector signed the affidavit when that information was available.

A third coder did further investigation when only one of the two initial coders matched a registration record to an affidavit. This coder either confirmed the initial match or specified that we should search the entire MSVF.

When no initial match was identified for a given affidavit, we searched the entire MSVF for potential matches both within and outside the municipality. Specifically, we searched for any registrant with the same first and last name as listed on the affidavit or the same street number, first four letters of address, and county as listed on the Application to Vote. We then used the auxiliary information on both the Application to Vote and MSVF to determine whether we found a match. In less than 0.5 percent of cases, multiple registrants were equally plausible matches to an affidavit. In these cases, we coded each plausible match and only sampled one of the plausible matches later.

We did a final labor-intensive search within the MSVF for affidavits that remained unmatched to a registration record. This largely consisted of searching the voter files for alternative spellings of names and addresses, especially when the information on the affidavit or Application to Vote was difficult to read.

Table 1 presents the match rates for the 8,880 affidavits we collected and for the 4,147 of those affidavits in our 20 percent sample. The table shows that we matched 99% of affidavits to a unique registrant in the MSVF. Unexpectedly, only about half of the applications were signed by an election inspector. A qualitative exploration of the unsigned affidavits shows

⁴In Detroit, this search was restricted to a subset of precincts, which are substantially larger than most municipalities in the data.

that a disproportionate number of them were filed in Detroit.

Table 1: Matching Affidavits to Voter File

Which Affidavits # of Affidavits	All Collected 8880	From Sampled Precinct 4147
Affidavit Matched To:		
Single Registrant	0.990	0.990
Multiple Registrants	0.004	0.003
No Registrant	0.006	0.007
Election Inspector:		
Signed Affidavit	0.505	0.431
Didn't Sign Affidavit	0.435	0.530
Signature Unobservable	0.060	0.039
Race Imputation Uses:		
Geocoded Census Block	0.956	0.950
Modal Census Tract in Precinct	0.044	0.050

Table 2 presents descriptive statistics on our matched affidavits filed in our 20 percent sample. The first three columns look at all of the 4,116 matched affidavits, while the last three columns include only the 1,773 affidavits signed by an election inspector. Row 1 shows that 73% of voters who lacked identification in 2016 had voted in a previous election between 2008 and 2014, compared to 85% of all polling place voters. This difference is roughly the same when we observe only signed affidavits, 74% of which were filed by voters who had previously voted.

Figure 1 further breaks out the political participation by election of polling place voters who did and did not file an affidavit. We observe a substantially smaller difference between their turnout in 2012 than in other past elections.⁵ The lack of a constant difference in the turnout of those who did and did not file affidavits suggests that it is not always reasonable

⁵Table A.2 and Table A.3 show that similar patterns hold if we change the date before which a registrant was registered.

Table 2: Comparing Affidavit Filers to the Population of Polling Place Voters

Which Precincts	All Precincts in 20% Sample			Only Precincts in 20% Sample With Inspector Signature Field		
	Only Matched Affidavits	All Polling Place Voters	Difference	Only Signed, Matched Affidavits	All Polling Place Voters	Difference
# of Registrants	4116	686493		1773	665095	
Previously Voted	0.730	0.856	-0.127	0.742	0.856	-0.115
Female	0.568	0.531	0.037	0.562	0.531	0.031
Decade of Birth:						
Missing	0.000	0.000	-0.000	0.000	0.000	-0.000
1910s	0.000	0.000	0.000	0.001	0.000	0.001
1920s	0.008	0.003	0.005	0.010	0.003	0.007
1930s	0.020	0.021	-0.002	0.024	0.021	0.002
1940s	0.054	0.078	-0.023	0.072	0.078	-0.005
1950s	0.129	0.192	-0.063	0.139	0.192	-0.053
1960s	0.171	0.229	-0.059	0.169	0.229	-0.061
1970s	0.186	0.191	-0.005	0.171	0.191	-0.020
1980s	0.213	0.172	0.041	0.196	0.173	0.024
1990s	0.218	0.112	0.105	0.217	0.112	0.105
Imputed Race Probability:						
White	0.498	0.778	-0.280	0.638	0.778	-0.140
Black	0.414	0.129	0.285	0.261	0.129	0.133
Hispanic	0.045	0.043	0.001	0.053	0.044	0.009
Asian	0.018	0.026	-0.008	0.018	0.026	-0.008
Other	0.026	0.024	0.002	0.030	0.024	0.006

to assume parallel trends between voters who possess and don't possess ID in the absence of a voter ID law.

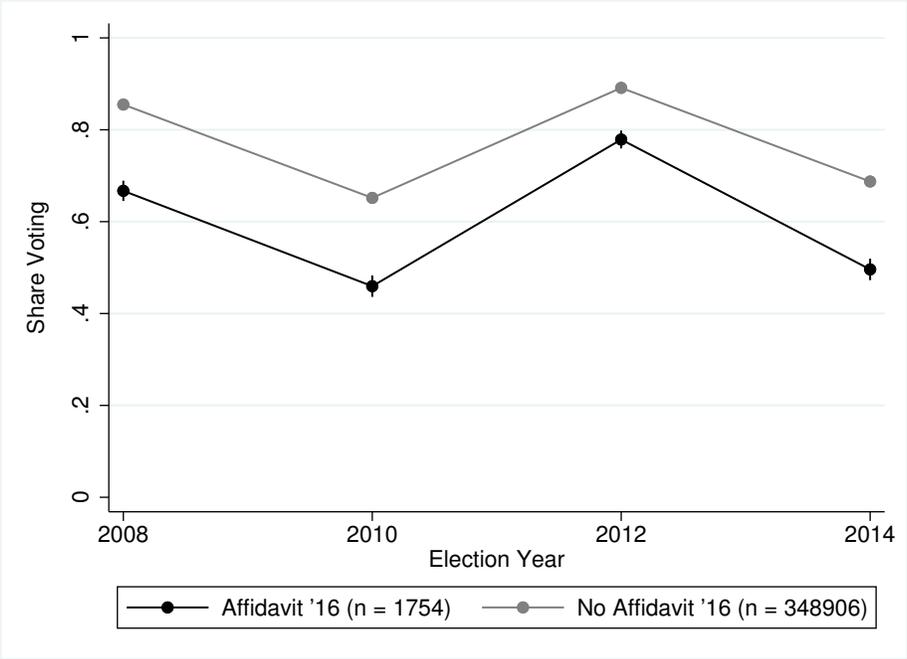
Table 2 also highlights some demographic differences between those polling place voters who do and do not file affidavits. Polling place voters filing affidavits are disproportionately female, minorities, and either young or elderly. Figure A.4 in the Appendix shows that the high rate of affidavits filed by people born in the 1990s is largely driven by people who were born in 1998, and thus who were just barely eligible to vote in the 2016 election.

IV.D State Affidavit Report of Affidavits by Precinct

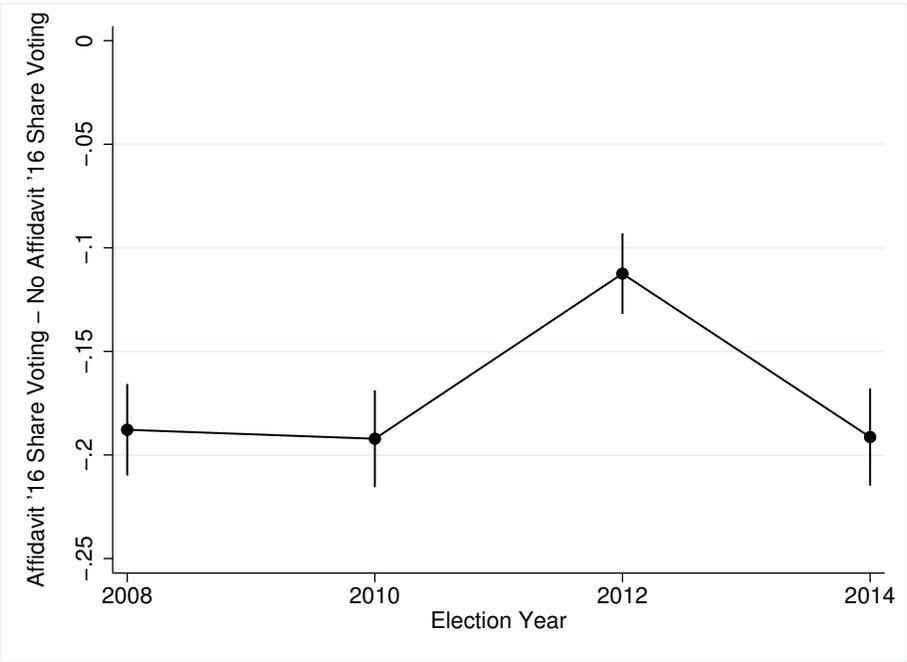
The Michigan Secretary of State's office produces a Statewide Affidavit Report of the number of voters who cast affidavits for lack of ID in each precinct after every election. The report indicates that 18,580 affidavits were filed in 2016 in 4,628 precincts, though there are reasons to believe that this may not be a complete reporting of affidavits. For example, the report

Figure 1: Past Turnout of 2016 Polling Place Voters Who Did and Didn't File an Affidavit

(a) Levels



(b) Differences



Note: Bars represent the 95% confidence intervals. Sample restricted to 2016 polling place voters who were registered to vote on or before September 30, 2008.

said zero affidavits were filed in any of the five precincts in Rochester City, despite there being over 7,000 votes cast in the jurisdiction. Our subsequent FOIA request revealed that 30 affidavits were actually cast in Rochester City.

V Results

We first describe the characteristics of voters who filed affidavits in our sampled precincts. Later, we use these results to estimate the total number of Michigan voters who lacked photo identification when voting in 2016, including those who did not need to show such identification because they voted absentee.

V.A Who Lacks Photo Identification?

Table 3 presents our baseline regression analysis examining which voters lacked photo identification when they voted in 2016. We consider two different dependent variables within this table. Columns 1 through 4 examine whether a given voter filed an affidavit, without considering whether the election inspector signed it. We restrict our sample to the 686,493 registrants who voted at a polling place in our 20% sample. In columns 5 through 8, we look at whether a voter filled out an affidavit that was signed by an election inspector. We drop the 22,019 voters from the 32 precincts in which the affidavit data provided to us did not allow us to observe whether the election inspector signed the affidavit.

Column 1 shows the baseline rate of voters filling out an affidavit. Our point estimate is that 0.58 percent of polling place voters filled out an affidavit, with a 95% confidence interval of 0.50 to 0.65 percent.

Column 2 presents evidence of substantial differences between whites and non-whites in the rates of filling out affidavits. The constant shows that a voter who is assessed to have a zero chance of being white has a 1.71 percent chance of filling out an affidavit. In contrast, a voter assessed to be white with probability one has a 0.25 percent chance of filling

Table 3: Which Polling Place Voters Filed Affidavits

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Observations		Any Affidavit 686,493				Signed Affidavit 664,473		
Constant	0.0058 (0.0004)	0.0171 (0.0015)	0.0229 (0.0018)	0.1067 (0.0250)	0.0026 (0.0002)	0.0050 (0.0006)	0.0077 (0.0008)	0.0265 (0.0110)
Probability Race = White		-0.0145 (0.0017)	-0.0140 (0.0016)	-0.0110 (0.0014)		-0.0031 (0.0006)	-0.0028 (0.0006)	-0.0020 (0.0006)
Gender = Female			0.0004 (0.0002)	0.0003 (0.0002)			0.0002 (0.0001)	0.0002 (0.0001)
Born in 1910s			0.0257 (0.0248)	0.0258 (0.0249)			0.0353 (0.0273)	0.0353 (0.0273)
Born in 1920s			0.0061 (0.0026)	0.0060 (0.0026)			0.0040 (0.0019)	0.0040 (0.0019)
Born in 1930s			-0.0026 (0.0009)	-0.0027 (0.0008)			-0.0011 (0.0006)	-0.0011 (0.0006)
Born in 1940s			-0.0041 (0.0007)	-0.0040 (0.0007)			-0.0016 (0.0005)	-0.0016 (0.0005)
Born in 1950s			-0.0044 (0.0007)	-0.0041 (0.0006)			-0.0022 (0.0004)	-0.0021 (0.0004)
Born in 1960s			-0.0044 (0.0006)	-0.0039 (0.0006)			-0.0023 (0.0004)	-0.0021 (0.0004)
Born in 1970s			-0.0036 (0.0006)	-0.0032 (0.0006)			-0.0020 (0.0004)	-0.0018 (0.0004)
Born in 1980s			-0.0025 (0.0006)	-0.0023 (0.0006)			-0.0015 (0.0004)	-0.0015 (0.0004)
Unknown Decade of Birth			-0.0231 (0.0018)	-0.0289 (0.0037)			-0.0077 (0.0008)	-0.0109 (0.0018)
Previously Voted			-0.0036 (0.0004)	-0.0033 (0.0004)			-0.0016 (0.0003)	-0.0015 (0.0002)
% Workers Commuting Via Car (tract)				-0.0089 (0.0086)				-0.0053 (0.0029)
% Adults With Any College Education (tract)				-0.0061 (0.0045)				0.0004 (0.0024)
Logged Per Capita Income (tract)				-0.0075 (0.0022)				-0.0015 (0.0010)

Robust standard errors clustered by precinct in parentheses. Excluded group is a non-white, male, born in the 1990's who has not previously voted. Census tract level are the values in the census tract that contains the most registrants within the precinct of residence.

out an affidavit. Table A.1 in the Appendix breaks out minorities by their race and shows that the higher rate of affidavits among minorities is mostly driven by African-Americans, although it is also significantly higher among Hispanics and those who are neither white, African-American, Hispanic, or Asian.

Column 3 shows that some other individual-level variables also relate to the probability of filling out an affidavit. Women are 0.036 percentage points more likely to fill out an affidavit than men, although this difference just misses significance at conventional levels ($p = .052$). The youngest and oldest voters were more likely than middle-age voters to file an affidavit. The highest rate of affidavit use was among voters born prior to 1930, followed by voters born in 1990s. In contrast, the lowest rate of affidavit use was among voters born between 1940 and 1979. Finally, people with a previous record of having voted in a federal primary or general election since 2008 were 0.36 percentage points less likely to file an affidavit than someone with no record of having voted.

Column 4 adds three additional contextual variables to the regression analysis that Hopkins et al. (2017) suggest may affect access to photo identification. The only one of these three measures that is significantly related to the likelihood of filling out an affidavit is logged median income, with affidavit use declining as median income increases.

Columns 5 through 8 show that the same basic patterns presented in Columns 1 through 4 hold when we restrict our analysis to affidavits signed by the election inspector, albeit with attenuated magnitudes. Our point estimate is that 0.26 percent of polling place voters filled out a signed affidavit, with a 95% confidence interval of 0.22 to 0.29 percent. At least two explanations exist for why roughly half of the affidavits are not signed by the election inspector. Because the affidavit is printed on the back of the Application to Vote, some voters who possess photo identification may have filled it out unnecessarily while waiting to vote. But in other cases the lack of a signature likely reflects that the Election Inspector didn't follow the proper protocol. Unfortunately, because we generally expect the same observables (e.g., the socioeconomic status of the precinct) to associate with more signature-

less affidavits due to administrative and voter error, we have little empirical leverages to estimate the relative share of each in causing unsigned affidavits. Thus, we only can conclude that the share of polling place voters lacking ID falls somewhere between 0.2 and 0.6 percent.

While we continue to see greater use of affidavits among the non-white population, the difference between whites and non-whites is substantially lower when we focus on signed affidavits. For someone with a zero probability of being white, the predicted probability of filing a signed affidavit is 0.5 percent, which is roughly 2.6 times the 0.19 percent chance that someone who is white with probability one. In contrast, someone with a zero probability of being white was 6.7 times more likely to file either a signed or unsigned affidavit than someone who is white with probability one.

The contextual predictors of affidavit use also change when we focus on signed affidavits instead of all affidavits. While there is still a negative association between filing an affidavit and logged median income, it is no longer statistically significant. We also observe a negative association between the share of workers who drive to work and the likelihood of an affidavit that is just shy of statistical significance at conventional levels ($p = 0.063$).

V.B Party Preference Among Voters Filing Affidavits

Because the MSVF lacks information on party of registration, it is not straightforward to assess the partisanship of those who filed an affidavit. However, for the subset of registrants who voted in the 2016 presidential primary, we observe which party's ballot the registrant requested. Assuming that a registrant requests the ballot from the party that they prefer, we can get some sense of the partisan preferences of those at risk of being disenfranchised by a strict photo identification law. Among the 4,116 affidavit filers in the 2016 general election, 1,149, or about 28 percent, voted in the 2016 presidential primary. Of those, 815, or about 71 percent, cast a Democratic ballot and 334, or about 29 percent, cast a Republican ballot. As a point of comparison, the general population of 2016 polling place voters in our 20 percent sample were slightly more likely to cast a Republican primary ballot (53 percent)

than a Democratic primary ballot (47 percent). Thus, affidavit filers who voted in the 2016 primary were substantially more likely to cast a Democratic ballot than those who possessed photo identification when voting at a polling place in the 2016 general election.

Columns 1 through 4 of Table 4 shows the expected relationship between the observable characteristics of affidavit filers and which primary ballot they choose in the 2016 presidential primary. Minorities, females, younger voters, and those who live in neighborhoods that drive less, have lower educational attainment, and make less money were more likely to cast a Democratic ballot than whites, males, older voters, and those who live in neighborhoods that drive more, have higher average educational attainment, and have a higher per capita income. We use the results of these regressions to get a sense of the likely party of support of the other 72 percent of affidavit filers who did not vote in the primary. Making the strong assumption that the relationship between the observables and primary ballot choice is the same for those who did and did not vote in the primary, we construct a predicted probability of casting a Democratic ballot for all of the 4,116 affidavit filers. Using either Column 3 or Column 4 to construct these predicted probabilities, we estimate that about 74 percent of affidavit filers would cast a Democratic primary ballot. This indicates that affidavit filers with demographics that suggest higher probability of Democratic support were less likely to vote in the 2016 presidential primary than affidavit filers that suggest a higher probability of Republican support.

The remainder of Table 4 shows that we find similar patterns when we restrict the sample to registrants who filed affidavits that were signed by an election inspector. Of those that voted in the 2016 presidential primary, 303, or about 60 percent, cast a Democratic ballot and 205, or 40 percent, cast a Republican ballot. The results in Columns 5 through 8 generally look similar to those in Column 1 through 4, albeit slightly noisier. Applying the results reported in Column 7 and 8, the average predicted probability of casting a Democratic ballot among everyone who filed an affidavit signed by the election inspector was about 65 percent. If we apply the results reported in Column 7 and Column 8 to all affidavit filers, whether or

Table 4: Which Affidavit Filers Cast Democratic Primary Ballots
(Dependent Variable = 1 if voted in 2016 Democratic Primary, 0 if voted in 2016 Republican Primary)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample Observations		Any Affidavit 1,149				Signed Affidavit 538		
Constant	0.7093 (0.0216)	0.9686 (0.0122)	0.9487 (0.0340)	3.5573 (0.5752)	0.6190 (0.0254)	0.9152 (0.0337)	0.8892 (0.0712)	4.0955 (0.8716)
Probability Race = White		-0.4715 (0.0273)	-0.4515 (0.0278)	-0.3258 (0.0369)		-0.4131 (0.0467)	-0.3814 (0.0473)	-0.2368 (0.0577)
Gender = Female			0.0749 (0.0236)	0.0735 (0.0232)			0.0615 (0.0391)	0.0656 (0.0388)
Born in 1920s			-0.2061 (0.1568)	-0.1693 (0.1494)			-0.2921 (0.2366)	-0.2445 (0.2419)
Born in 1930s			-0.0000 (0.0754)	0.0086 (0.0752)			-0.0388 (0.1375)	0.0073 (0.1385)
Born in 1940s			-0.0759 (0.0556)	-0.0870 (0.0545)			-0.1345 (0.0869)	-0.1598 (0.0831)
Born in 1950s			-0.0903 (0.0443)	-0.0818 (0.0425)			-0.0678 (0.0787)	-0.0700 (0.0759)
Born in 1960s			-0.0680 (0.0417)	-0.0460 (0.0397)			-0.0886 (0.0726)	-0.0689 (0.0684)
Born in 1970s			-0.0204 (0.0425)	-0.0158 (0.0418)			-0.0052 (0.0783)	-0.0033 (0.0774)
Born in 1980s			0.0325 (0.0398)	0.0418 (0.0387)			0.0731 (0.0719)	0.0874 (0.0689)
% Workers Commuting Via Car (tract)				-0.4410 (0.1454)				-0.9294 (0.2250)
% Adults with Any College Education (tract)				-0.2271 (0.1307)				-0.3215 (0.2253)
Logged Per Capita Income (tract)				-0.2200 (0.0572)				-0.2330 (0.0876)

Robust standard errors clustered by precinct in parentheses. Excluded group is a non-white, male, born in the 1990's who has not previously voted. Census tract level are the values in the census tract that contains the most registrants within the precinct of residence.

not the affidavit was signed, we estimate that the predicted probability of filing a Democratic ballot was about 72 percent.

Only observing primary ballot choice for about a quarter of the sample of affidavit filers limits our ability to say anything too precise about the partisanship of people who lack photo identification when casting a ballot in Michigan. The results are consistent with the widely-held belief that people who lack photo identification are more likely to be Democrats than Republicans. But they also suggest that they are not uniformly Democratic, with every analysis we conducted suggesting that at least a quarter of affidavit filers would cast a Republican ballot. This finding is important to keep in mind when assessing the potential electoral impact of moving from a non-strict to strict voter ID law. While the results here suggest that Republican candidates would likely benefit from such a law change, it should not be assumed that the outcome of an election would change just because the Republican margin of victory was smaller than the number of would-be voters disenfranchised by the law change.

V.C How Many Voters Lacked Photo Identification?

We next estimate the number of 2016 voters in our 20% sample who lacked photo identification. We term this *NoPhotoID*. Below we explain how we estimate it by summing (1) the number of affidavits filed in a polling place in precincts in the 20 percent sample that provided us with data, (2) the imputed number of affidavits filed in a polling place in precincts in the 20 percent sample that did not provide us with data, and (3) the imputed number of affidavits that would have been by filed in precincts in the 20 sample by absentee voters had they voted in person. We do (3) because we want to be able to construct an estimate for Michigan that could be compared to other states that require all voters to show ID. Finally, we multiply this sum by 5 to account for the fact that we sampled only 20% of the precincts.

Equation 1 decomposes the number of voters who lacked identification into voters who lacked photo identification and voted at a polling place ($NoPhotoID \cap Polling$) and voters

who lacked photo identification and voted absentee ($NoPhotoID \cap Absentee$).

$$NoPhotoID = NoPhotoID \cap Polling + NoPhotoID \cap Absentee \quad (1)$$

Equation 2 further decomposes polling place voters who lacked photo identification into those who cast a ballot in a sample precinct that is located in a municipality that provided us their affidavits ($NoPhotoID \cap Polling \cap Data$) and those who cast a ballot in a sample precinct that is located in a municipality that did not provide us with their affidavits ($NoPhotoID \cap Polling \cap NoData$)

$$NoPhotoID \cap Polling = NoPhotoID \cap Polling \cap Data + NoPhotoID \cap Polling \cap NoData \quad (2)$$

Equation 3 shows how we combine a number of observable quantities to estimate the number of polling place voters who lacked photo identification in municipalities that provided us with data on affidavits. *Sample* and *Nonsample* are the number of affidavits that matched to a registrant in the MSVF that is and is not, respectively, residing in a precinct included in our 20 percent sample. We noted in the last section that $Sample = 4,147$ and $Nonsample = 4,733$. Because there is measurement error in using a registrant's precinct in the MSVF to measure the precinct that their affidavit was filed in, we cannot simply estimate $NoPhotoID \cap Polling \cap Data$ using *Sample*. As Equation 3 shows, we also need to account for the rate of false positive and false negatives. A false positive is a registrant who filed an affidavit in a precinct outside of our sample, but whom the MSVF indicates resides in a precinct in our sample. Conversely a false negative is a registrant who filed an affidavit in a precinct in our sample, but whom the MSVF indicates resides in a precinct not in our sample.

$$NoPhotoID \cap Polling \cap Data = Sample * (1 - FalsePositive) + Nonsample * FalseNegative \quad (3)$$

To estimate a false-positive and false-negative rate, we manually searched what precinct an affidavit was filed in for a random sample of affidavits for which that information was observable on the affidavit. We estimate that $FalsePositive \approx 0.027$ because 5 of the 184 affidavits were matched to registrants from a sampled precinct but were actually filed in a non-sampled precinct. Similarly, we estimate that $FalseNegative \approx 0.058$ because 11 of the 190 affidavits that we randomly selected from registrants in a non-sampled precinct were actually filed in a sampled precinct.

Applying Equation 3 gives us that $NoPhotoID \cap Polling \cap Data = 4,147 * (1 - \frac{5}{184}) + 4,733 * \frac{11}{190} = 4,308$.

We next estimate $NoPhotoID \cap Polling \cap NoData$, the number of affidavits cast in the 24 precincts in our sample that are located in municipalities that did not provide us the affidavit data that we requested. We impute that 76 affidavits were filed in these precincts, based on the number of affidavits reported in these precincts in the Statewide Affidavit Report. Figure A.5 in the Appendix offers a validity check by comparing the number of affidavits filed in a precinct in the matched sample to the number reported in the Statewide Report when both are available. While this figure shows some significant differences over individual precincts, the aggregate number reported in the statewide report and in our matched sample is pretty similar. Thus, we believe that we should get a pretty accurate aggregate count of the number of affidavits filed in the municipalities that did not provide us with individual-level data.

Finally, we estimate $NoPhotoID \cap Absentee$, the number of affidavits that would have been filed by absentee voters had they been required to do so. We make a strong assumption that, conditional on the observables, absentee voters and polling place voters lack photo identification at the same rate.⁶ For each absentee voter, we apply the coefficients reported

⁶There are at least two reasons why absentee voters could lack photo identification more than observably similar polling place voters. First, some voters who lack photo identification may not correctly understand the law and chose to vote absentee because they believe they'll have to show photo identification to vote at a polling place. Second, physical limitations may be a common variable causing people to lack photo identification and to vote absentee. We exploit the fact that Michigan's election law causes more absentee voting among people over the age of 60 to indirectly test whether greater use of absentee ballots affects the

in Column 4 of Table 3 to construct a predicted probability that each of the 248,420 absentee voters in the MSVF would have filed an affidavit. The average predicted probability of filing an affidavit among absentee voters is approximately 0.49 percent, which is slightly lower than the average probability of filing an affidavit among polling place voters. We thus estimate that about 1,209 affidavits would have been filed by absentee voters.

Combining the quantities reported in this section, we conclude that about 28,000 voters would have lacked photo identification in 2016 if photo identification were required both when casting polling place and absentee ballots. Given that just under 5 million votes were cast in Michigan in this election, this suggests an upper bound of 0.6 percent on the share of voters who cast votes under a non-strict photo identification law that potentially could be disenfranchised under a strict photo identification law.

VI Does the Public Know About Voter ID Laws?

The small effect sizes that we find in the previous section represent the upper bound on the size of the population that could be disenfranchised by a shift from a non-strict to strict photo ID law. However, this does not necessarily represent the totality of people who could be disenfranchised by voter ID laws. Consistent with Barreto, Sanchez, and Walker (2012), Hobby et al. (2015), and Mayer and DeCrescenzo (2017), we show that the public is generally quite misinformed about whether photo ID is required to vote in their state of residence. And, importantly for our study, we find that people in states with a non-strict photo ID law are more likely to believe that they must have photo ID in order to vote than people in states without any voter ID law.

We test the public's understanding of voter ID policy in their state by asking them what would happen if someone forgot to bring photo identification with them to their polling rate at which polling place voters cast affidavits. If people who lack ID are more likely to vote absentee than at a polling place, we would expect the share of polling place voters who file an affidavit to drop when voters turn 60, and hence have greater access to absentee voting. Figure A.6 in the Appendix shows little evidence that the rate of affidavits changes when voters are eligible to vote no-excuse absentee, although such an analysis is admittedly underpowered to detect modest changes.

place on Election Day in their state. The question was asked on the NBC SurveyMonkey Election Integrity Poll conducted from January 30 to February 1, 2018. This online poll was a nonprobabilistic sample of 4,424 adults that uses survey weights, which we employ in our analysis, to be demographically representative of the national voting-age population on many dimensions. The full wording of the question was as follows:

To the best of your knowledge, if you forget to bring your photo identification (e.g., driver’s license, passport) to your polling place in your state on Election Day, can you still vote?

- Yes, you can vote
- Yes, but only after filling out additional paperwork or showing other forms of identification such as a utility bill or bank statement or other non-photo identification
- Yes, but your vote will only count if you provide election officials with photo identification within a few days of the election
- No, you can’t vote without photo identification

Table 5 shows how the responses to this question varied as a function of the voter ID policy in a state. Column 2 shows how people who lived in states, like Michigan, with a non-strict photo ID law respond to this question. About 56 percent of respondents in these states answer that you cannot vote without photo identification. The 136 respondents from Michigan answered this question similarly to respondents from other states with a non-strict photo ID law, with about 55 percent saying that you could not vote without photo identification.

Table 5 also shows that respondents living in a state with a non-strict voter ID law were more likely to think that it was necessary to show photo ID to vote than respondents living in a state with no voter ID law. Even in the 17 states without any voter ID law, 38 percent of respondents said that showing photo ID was necessary to vote. This share increases by

Table 5: What People Believe about their State’s Voter ID Law

ID Requirement	Strict	Not Strict	Strict	Not Strict	None	All
Which ID?	Photo	Photo	Non-Photo	Non-Photo	None	
# of Respondents	616	999	280	761	1,768	4,424
# of States	7	10	3	14	17	51
Yes, you can vote	0.077	0.153	0.115	0.185	0.383	0.241
Yes, but only after filling out additional paperwork or showing other forms of ID	0.171	0.214	0.226	0.204	0.162	0.186
Yes, but photo ID must be provided to election officials within a few days of the election	0.061	0.056	0.059	0.052	0.043	0.051
No, you cannot vote	0.665	0.556	0.552	0.520	0.378	0.491
No answer	0.025	0.021	0.047	0.038	0.034	0.031

Cells show the share of respondents reporting each row’s answer by state voter ID law in their state of residence. State ID laws as reported by State Legislatures (2018) in February 2018.

between 14 and 18 percentage points in 34 states with a voter ID law that is either non-strict, non-photo, or both.

These findings are consistent with the hypothesis that non-strict photo ID laws may de facto disenfranchise some people who are eligible to vote by deterring them from showing up to the polls. However, a few caveats are in order. First, this analysis is purely correlational, and it could be the case that there are other features of the states with voter ID laws, besides the law itself, that cause more people to think that a photo ID is necessary to vote. Second, respondents who possess a current, state-issued photo ID have little motivation to learn the specifics of the voter ID law in their state as the law would not affect them. So observing that a substantial number of people hold incorrect beliefs does not necessarily mean that a substantial number of people *who lack photo ID* hold incorrect beliefs.

These caveats aside, the survey results suggest that both researchers and policy-makers should broaden their perspective of who may be burdened by voter ID laws. The standard assessment of burden assumes that people are perfectly informed about the specifics of the law. Under such an assessment, non-strict laws do not burden voters, as the law de jure disenfranchises no one. Previous work highlights that people may be de facto disenfranchised because they don’t know about voter ID laws, and hence may fail to bring the ID that they possess to the polls. For example, Barreto, Sanchez, and Walker (2012) found that roughly 37 percent of voting age Pennsylvanians were unaware of the state’s new strict photo ID requirement, prompting concern that voters who lacked ID would come to the polls on Election Day and be turned away. Our survey results suggest a different concern, which is

that would-be voters think they have to provide ID where no such requirement exists, and, thus, those who lack ID may be deterred from going to the polls in the first place. If the presence of a non-strict law is what causes some voters to believe that they are unable to vote, such policies still may impose a burden upon voters.

VII Discussion

In this paper, we estimate that about 22,000 polling place voters in Michigan filed an affidavit because they lacked photo identification. In addition, we estimate that another 6,000 absentee voters lacked photo identification, though they did not need to show it. Given that just under 5 million votes were cast in Michigan in 2016, we estimate that fewer than 0.6 percent of voters lacked photo identification.

This finding suggests a limit on how switching from a non-strict to strict photo identification law could affect election outcomes, at least in Michigan. The number of Michigan voters who would be disenfranchised by the adoption of a strict photo identification law is likely lower, and perhaps substantially lower, than the number who filed, or would file, affidavits. Given that more than half of these affidavits lacked the signature of an election inspector, at least some of these affidavits were filled out by people who did not lack photo identification. And at least some of the voters who lacked photo identification would have had access to it if a strict photo identification law had been in place. A number of the clerks that we talked to had the impression that many of the voters who filed affidavits actually possessed photo identification, but didn't have it with them when they showed up to vote (e.g., left their photo identification at home or in their car). Some of these people would have been able to collect this identification without much burden. A smaller percentage of people who did not possess identification would have acquired it if it was necessary in order to vote. Thus, we suspect that far fewer than 0.6 percent of non-strict photo identification voters would be disenfranchised if a strict photo identification law was implemented in Michigan.

Because our study focuses on a single state with a non-strict photo requirement, we should consider its limitations when trying to learn about the potential effect of strict photo identification laws in other states. Our estimates may understate the marginal burden of shifting from a non-strict to strict photo voter ID law in other states because of differences in state policies. For example, Michigan does not require an affidavit from voters holding expired state-issued identification, whereas, in Virginia, voters must cast a provisional ballot if their identification has been expired for more than one year. Michigan also accepts high school student ID cards which would not satisfy the ID requirement in states like Wisconsin. Thus, readers need to be careful to consider how the acceptable forms of identification in Michigan compare to the acceptable forms of identification in another state before trying to extrapolate what the findings of this paper mean for the potential impact of a strict photo identification law in that state.

The results in Michigan also may not generalize to other states because of differences in demographics. A majority of the non-white voters in Michigan are African-American. Thus, the differential impact may not be the same in states where the minority population comes from a different racial or ethnic background. Our results suggest that African-Americans filed affidavits at a higher rate than other non-whites, so we may find less potential disparate impact of strict photo identification laws in states where the non-white population comes from a different racial or ethnic background.

These caveats about external validity withstanding, the results present a strong challenge to magnitudes of differential racial impact of strict photo identification laws made by Hajnal, Lajevardi, and Nielson (2017). Hajnal, Lajevardi, and Nielson suggest that moving from a non-strict to a strict photo identification law reduces minority turnout relative to white turnout by more than five percentage points. While our results suggest that the conditions for disparate racial impact are present, the magnitude of such disparate racial impact is likely substantially lower than five percentage points. And as Grimmer et al. (2018) note, disparate racial impact of such a magnitude is undetectable at conventional levels of statisti-

cal significance using the approach of Hajnal, Lajevardi, and Nielson. Little can be learned about the disparate racial impact of strict photo identification laws simply by regressing noisy estimates of voter turnout by state and year on indicators for the voter identification policy in that state and year.

However, one should not necessarily conclude that voter identification laws have disenfranchised few people on the basis of the findings in this paper. While our results suggest that the population that could be disenfranchised by moving from a non-strict to strict photo identification law is relatively small, our results cannot speak to how many people were already disenfranchised by the presence of non-strict photo identification law in Michigan. Our survey results show that many people in states without a strict photo identification law believe that they must show photo identification to vote. More work is needed to better understand what people in states without strict photo identification believe is needed to be able to vote in order to understand whether our focus on the potential disenfranchising effects of strict photo voter identification laws is the right one.

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VIII Appendix

Table A.1: Which Polling Place Voters Filed Affidavits By Minority Group

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Observations		Any Affidavit 686,493				Signed Affidavit 664,473		
Constant	0.0058 (0.0004)	0.0030 (0.0002)	0.0098 (0.0008)	0.0745 (0.0247)	0.0026 (0.0002)	0.0018 (0.0001)	0.0049 (0.0005)	0.0205 (0.0113)
Probability Race = Black		0.0187 (0.0020)	0.0183 (0.0020)	0.0155 (0.0019)		0.0037 (0.0008)	0.0035 (0.0008)	0.0026 (0.0008)
Probability Race = Hispanic		0.0043 (0.0013)	0.0034 (0.0012)	0.0022 (0.0011)		0.0020 (0.0009)	0.0017 (0.0008)	0.0013 (0.0008)
Probability Race = Asian		0.0002 (0.0011)	-0.0007 (0.0011)	0.0003 (0.0012)		-0.0007 (0.0006)	-0.0011 (0.0006)	-0.0007 (0.0006)
Probability Race = Other		0.0057 (0.0026)	0.0043 (0.0026)	0.0017 (0.0026)		0.0075 (0.0022)	0.0069 (0.0021)	0.0061 (0.0020)
Gender = Female			0.0002 (0.0002)	0.0002 (0.0002)			0.0002 (0.0001)	0.0002 (0.0001)
Unknown Decade of Birth			-0.0207 (0.0054)	-0.0253 (0.0066)			-0.0084 (0.0010)	-0.0110 (0.0017)
Born in 1910s			0.0251 (0.0250)	0.0252 (0.0251)			0.0352 (0.0273)	0.0352 (0.0273)
Born in 1920s			0.0061 (0.0026)	0.0061 (0.0026)			0.0040 (0.0019)	0.0040 (0.0019)
Born in 1930s			-0.0026 (0.0009)	-0.0026 (0.0008)			-0.0010 (0.0006)	-0.0011 (0.0006)
Born in 1940s			-0.0041 (0.0007)	-0.0040 (0.0007)			-0.0016 (0.0005)	-0.0016 (0.0005)
Born in 1950s			-0.0044 (0.0007)	-0.0042 (0.0006)			-0.0022 (0.0004)	-0.0021 (0.0004)
Born in 1960s			-0.0043 (0.0006)	-0.0039 (0.0006)			-0.0022 (0.0004)	-0.0021 (0.0004)
Born in 1970s			-0.0035 (0.0006)	-0.0032 (0.0005)			-0.0020 (0.0004)	-0.0018 (0.0004)
Born in 1980s			-0.0025 (0.0006)	-0.0023 (0.0006)			-0.0015 (0.0004)	-0.0015 (0.0004)
Previously Voted			-0.0040 (0.0004)	-0.0038 (0.0004)			-0.0016 (0.0003)	-0.0015 (0.0002)
% Workers Commuting Via Car (tract)				-0.0075 (0.0073)				-0.0052 (0.0027)
% Adults with Any College Education (tract)				-0.0052 (0.0046)				0.0005 (0.0024)
Logged Per Capita Income (tract)				-0.0055 (0.0021)				-0.0011 (0.0010)

Robust standard errors clustered by precinct in parentheses. Excluded group is a non-white, male, born in the 1990 who has not previously voted. Census tract level are the values in the census tract that contains the most registrants within the precinct of residence.

Figure A.1: Application to Vote

(a) Front

FORM NO. 677 (3/16)
PRINTING SYSTEMS • 1-800-96-12345

Application to Vote – Poll List

Picture Identification requirement:
All Michigan voters must show a Michigan driver's license, a Michigan personal identification card or some other acceptable form of picture identification before voting. A voter who is unable to show picture identification can vote after signing an affidavit attesting that he/she is not in possession of picture identification.

Date of Election _____ Ward _____ Precinct _____

ELECTION INSPECTOR COMPLETES	
<input type="checkbox"/>	ID AFFIDAVIT ON REVERSE COMPLETED
Ballot Style	_____
Ballot No.	_____
Voter No. (POLL BOOK)	_____
ELECTION INSPECTOR INITIALS ▶ _____	

PRINT NAME: _____ DATE OF BIRTH: ____/____/____

RESIDENCE ADDRESS: _____

I certify that I am a United States citizen and a registered and qualified elector in this precinct, and hereby make application to vote at this election.

SIGN HERE
➡ X _____
SIGNATURE OF VOTER

(b) Back

AFFIDAVIT OF VOTER NOT IN POSSESSION OF PICTURE IDENTIFICATION

I, _____ hereby affirm that I am
(Print Name)

not in possession of a driver's license, a state-issued personal identification card or any other acceptable form of picture identification and wish to vote.

By signing this affidavit, I swear/affirm that the statements made above are true.

SIGNATURE OF VOTER: X _____

Penalty: Making a false statement in this affidavit is perjury, punishable by a fine up to \$1,000.00 or imprisonment for up to 5 years, or both.

To be completed by Election Inspector

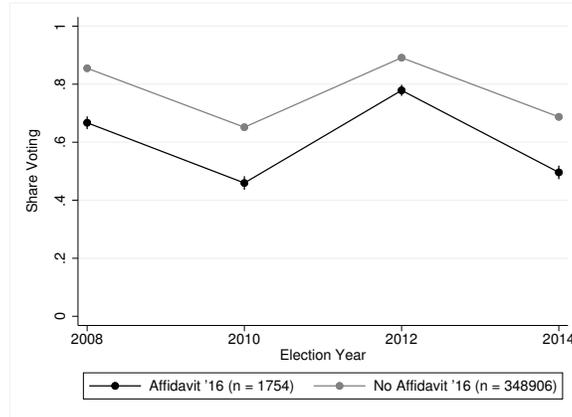
Sworn and subscribed to before me this _____ day of _____,

I certify that the elector named above has completed the above affidavit in my presence.

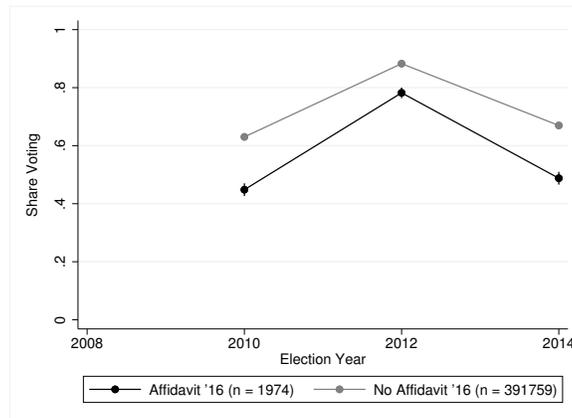
X _____
Signature of Election Inspector

Figure A.2: Turnout of 2016 Polling Place Voters Who Did and Did Not File an Affidavit

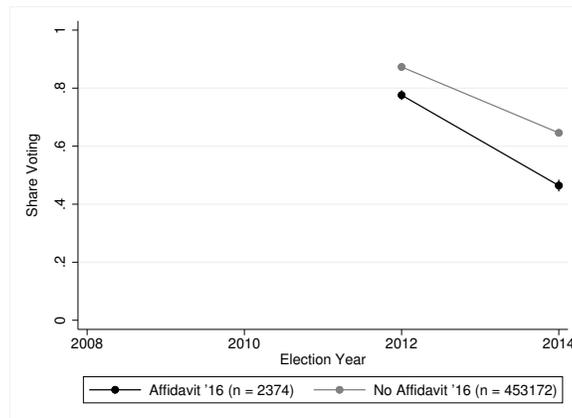
(a) Registered Since 9/30/2008



(b) Registered Since 9/30/2010



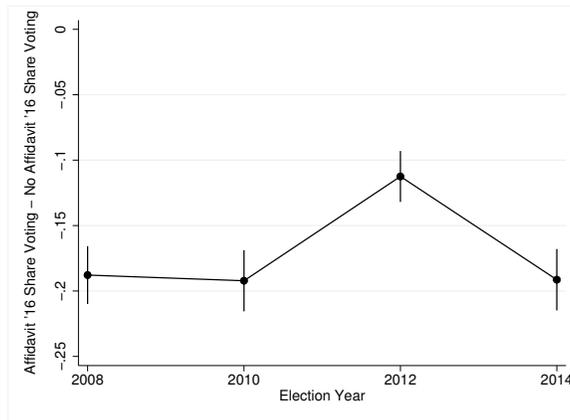
(c) Registered Since 9/30/2012



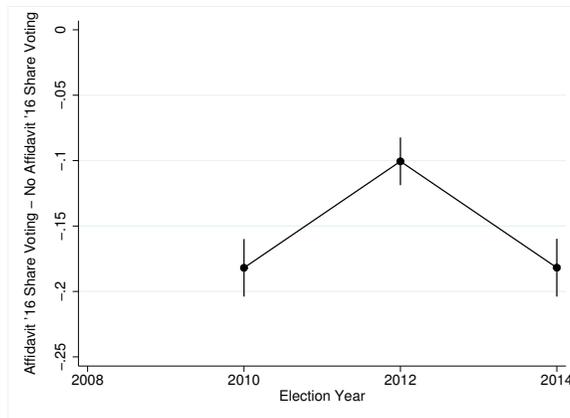
Note: Bars represent the 95% confidence intervals.

Figure A.3: Difference in Turnout Between 2016 Polling Place Voters Who Did and Did Not File an Affidavit

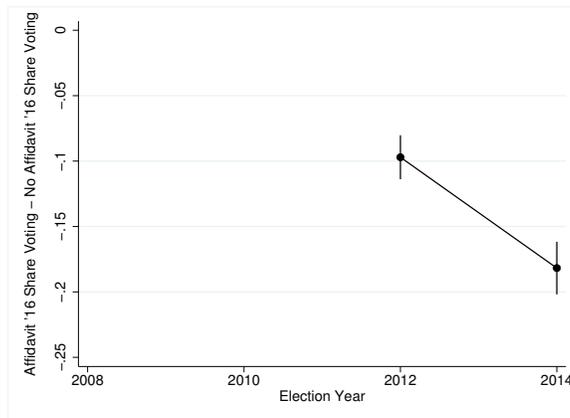
(a) Registered Since 9/30/2008



(b) Registered Since 9/30/2010



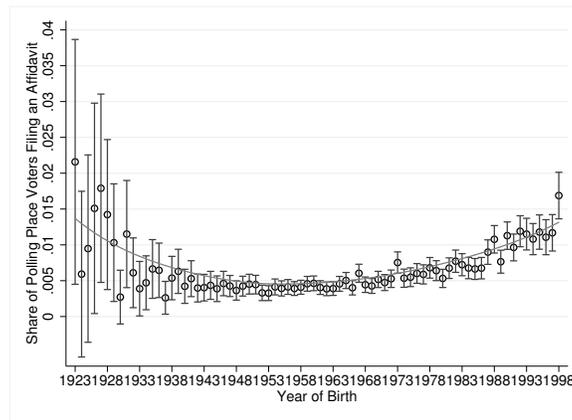
(c) Registered Since 9/30/2012



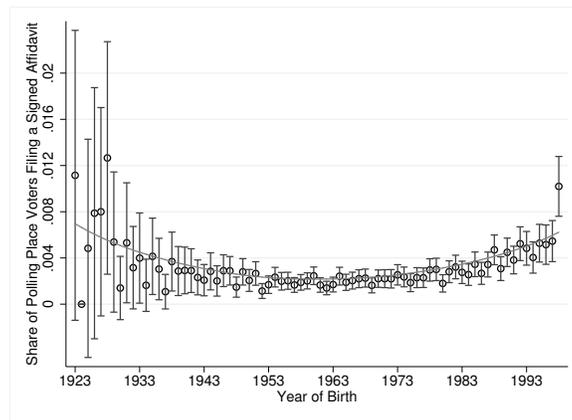
Note: Bars represent the 95% confidence intervals.

Figure A.4: Share of Polling Place Voters Filing Affidavits by Year of Birth

(a) All Affidavits



(b) Signed Affidavits



Note: Bars represent the 95% confidence intervals.

Figure A.5: Compare Number of Affidavits Per Precinct in Our Data and the Statewide Report

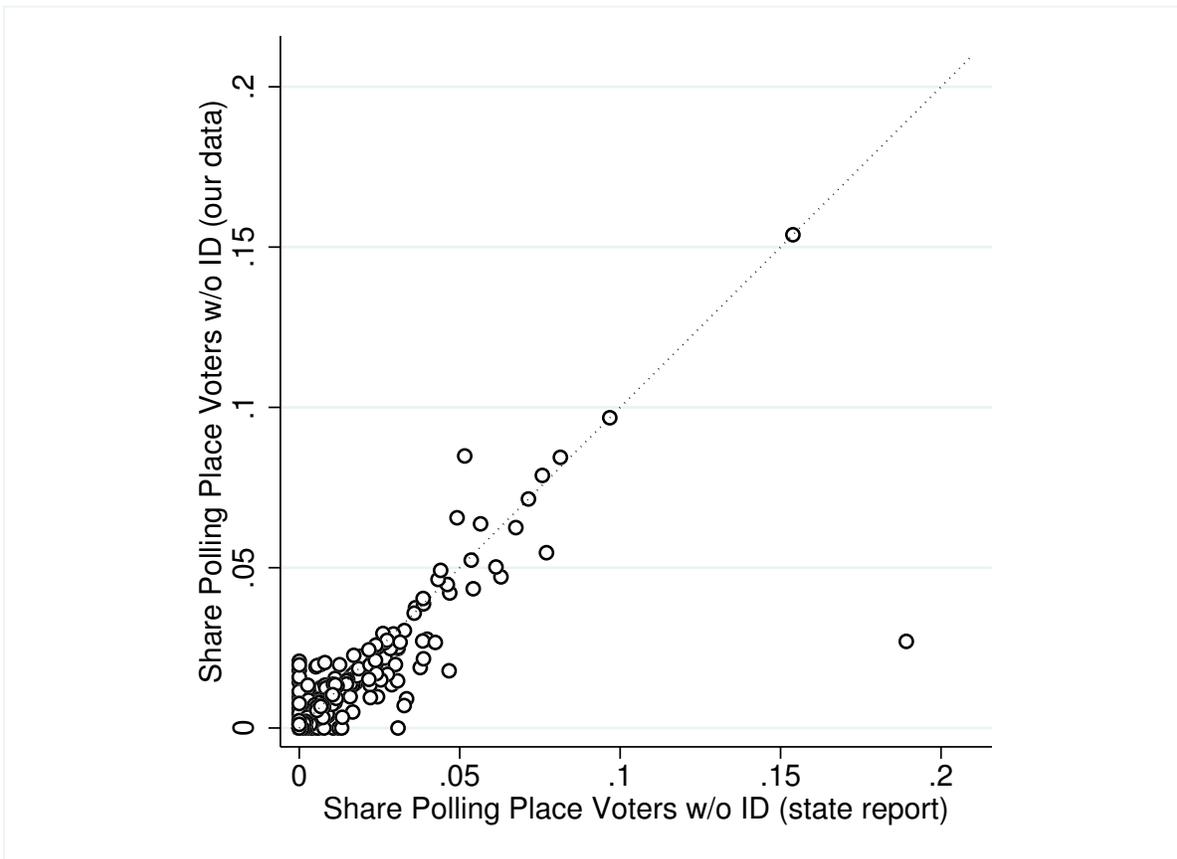
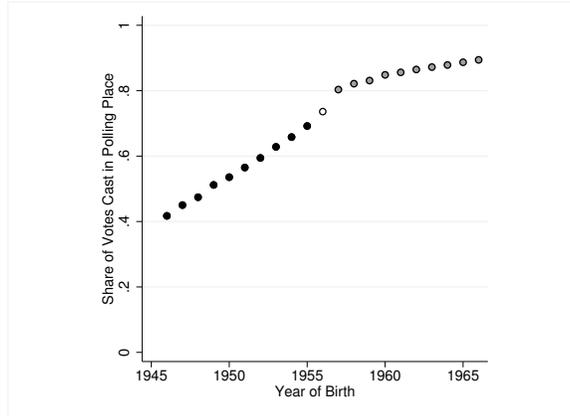
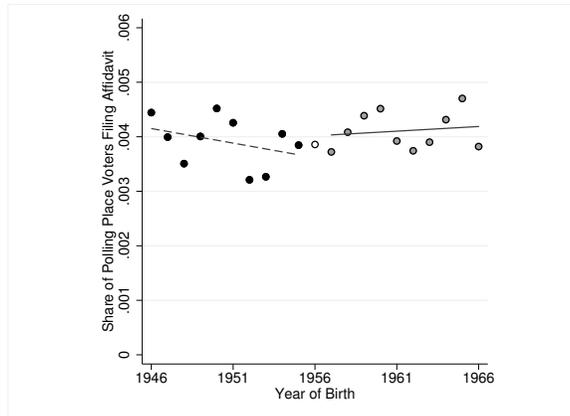


Figure A.6: Rates of Affidavit Use by No-Excuse Absentee Eligibility

(a) Share of Votes Cast in Polling Place



(b) Share of Polling Place Voters Filing an Affidavit



(c) Sharing of Polling Place Voters Filing a Signed Affidavit

