# Aging into Absentee Voting: Evidence from Texas

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#### Abstract

Convenience voting laws have proliferated rapidly in recent years, but research on absentee voting has lagged behind practice. Our paper examines Texas, which allows people age 65 or older to vote no-excuse absentee, arbitrarily dividing otherwise similar individuals just-older and just-younger than 65 into groups that are eligible and ineligible to vote absentee, respectively. Leveraging Texas' age discontinuity in eligibility, we do not find evidence that the ability to vote no-excuse absentee increases the turnout of 65 year olds. Contrary to the literature, we find that less-frequent voters use absentee voting more, particularly among the oldest cohorts. Habituation to a specific mode of voting appears to explain much of this effect — voters quasi-randomly stimulated to vote absentee in the previous presidential election were at least 41% more likely to vote absentee four years later. This finding supports the theory that voting habits have a strong physical component specific to voting context. Considered as a whole, this study suggests that scholars should re-examine who requires convenience voting and pay greater attention to its long-run effects.

### 1 Introduction

In the past two decades, laws making voting more convenient in the United States have proliferated rapidly. While these laws take a variety of forms — no-excuse absentee voting, mandatory vote-by mail (VBM), and in-person early voting — they all aim to reduce the cost of voting among American citizens by expanding either the timeframe or the places in which people can vote.

These convenience voting reforms are often pitched and analyzed as a monolith, but not all convenience voting methods are equally convenient to all people. While both early in-person voting and absentee voting allow one to vote before Election Day, only the latter allows one to vote without traveling. This matters to the elderly, who often face health problems that make traveling to the polling place difficult or uncomfortable. Predictably, then, voter turnout begins declining around age seventy, and older voters disproportionately prefer to cast mail ballots. Thus, we would like to know if no-excuse absentee voting helps to stem this population's declining participation.

The present research on absentee voting is ill-equipped to answer this and related questions. Within the literature on absentee voting, there is no consensus on whether the availability of no-excuse absentee voting increases turnout, in part because no-excuse absentee reforms are typically adopted at the state-level for reasons that may be related to turnout. Moreover, changes in absentee voting law are often adopted in conjunction with other electoral reforms, which makes it hard to isolate the effect of the absentee voting law change. Meanwhile, the question of how an individual's use of convenience voting methods is affected by their past use of different voting modes – what we call 'mode persistence,' – remains wholly unaddressed. Utilizing a regression discontinuity design (RDD) and individual-level data, this paper allows for causal inferences about turnout and mode persistence and unites them with discussions of electorate composition.

A Texas law that allows people older than 65 to vote no-excuse absentee enables this analysis, creating two groups of people who are eligible and ineligible to vote absentee without

an excuse, respectively, but otherwise nearly identical. Four other states have similar laws, but only Texas records both exact birthdates and vote-mode in its voter file.

We do not find that being eligible to vote no-excuse absentee dramatically increases turnout in the first year of eligibility. We establish this in two different ways. First, we show that people who were just older and younger than 65 vote at similar rates. Second, we show that the jump in turnout among 65-year olds relative to 64-year olds is slightly larger in counties with higher absentee uptake at the age cutoff.

To examine mode persistence, we exploit the discontinuous change in absentee eligibility among people just over and just under the age of 65 in a previous election as an instrument for past absentee voting. We examine absentee usage among the same pool of voters four years later, when all were eligible to vote no-excuse absentee. We conclude that voting absentee in 2008 makes a 69-year-old voter at least 41 percentage points more likely to vote absentee again in 2012.

Although we don't find being eligible to vote no-excuse absentee significantly increases turnout, we do observe that low-propensity voters are disproportionately likely to vote absentee. This is particularly true for people over the age of 80. Given our evidence about mode persistence, this suggests there are potential long-run turnout benefits from getting people started voting absentee before they reach a state of health which precludes the use of other vote modes.

# 2 Literature and Theory

# 2.1 Age and Voting

The descriptive relationship between age and voting is well documented as following an "inverted J" shape (e.g., Wolfinger and Rosenstone, 1980, p. 38 and Rosenstone and J. M. Hansen, 2003, p. 138). Participation increases with age, although the magnitude of the increase slows over the life cycle. Participation peaks when people are in their sixties, then

decreases afterwards.

Most previous research focuses on why common events experienced during a life cycle—such as marriage, parenthood, home purchases, and retirement—increase turnout (e.g., Wolfinger and Rosenstone, 1980, pp. 37-60). Research shows that these events affect turnout because they change interpersonal relationships (A. Campbell et al., 1960). More recent work identifies Social Security and Medicare eligibility as important life-cycle events, arguing that an increased dependence on the government for income makes people more likely to vote (A. L. Campbell, 2003).

More broadly, some scholars theorize that aging itself gradually develops resources key to participation. Converse and Niemi (1971) argue that informal education generated by life experience substitutes for formal education. Informal education reduces the costs of voting by providing experiences with bureaucracies and easing access to information associated with politics and voting (Wolfinger and Rosenstone, 1980; Verba et al., 1995; Rosenstone and J. M. Hansen, 2003, p. 137). Social capital, strongly associated with political participation (Lake and Huckfeldt, 1998; Putnam, 2001), might accrue in a similarly gradual fashion outside of distinct life cycle events (Antoci, Sacco, and Vanin, 2007). Finally, Ansolabehere, Hersh, and Shepsle (2012) show that independent of changes in residential stability or any independent propensity to reregister, the structure of the US voter registration system means that the probability of being registered increases with age.

Habit is another frequently cited explanation for why voting increases with age. Early on, A. Campbell et al. (1960, p. 97) noted that one's cumulative lifetime turnout is the strongest predictor of subsequent turnout. Recent research has rigorously confirmed voting's "consuetude" (Green and Shachar, 2000; Gerber, Green, and Shachar, 2003; Dinas, 2012). One part of the literature derives psychological explanations for this phenomenon. Voting could generate a civic identity, sense of political efficacy, and overall comfort with the act of voting (Finkel, 1985; Green and Shachar, 2000). These psychological changes could promote voting by inducing the individual to vote automatically in response to cues traditionally

associated with elections (Aldrich, Montgomery, and Wood, 2011; Cravens, 2013).

Voting in one election may increase the likelihood of voting in future elections for non-psychological reasons, too. Voting one time reduces the costs of doing the same later on; a voter has identified sources of information necessary to select a candidate, learned the physical actions of voting itself, and has — axiomatically — registered. Campaigns may be more likely to mobilize people with a history of voting (Hersh, 2015, p. 147). Older voters may also be mobilized more frequently because interest groups like the AARP target them specifically (Rosenstone and J. M. Hansen, 2003, p. 115).

Less work focuses on why turnout declines after people reach a certain age. Some of the sources of turnout decline are likely to be independent of the specifics of the ballot-casting process. As people reach middle age, they are more likely to escape poverty, but in the extreme reaches of their elderly years — retired, disabled, or otherwise unable to find work — they could slip back towards it. Many seniors lose their spouses, who would otherwise encourage voting as a pair (Knoke and Thomson, 1977; Stoker and Jennings, 1995; Hobbs, Christakis, and Fowler, 2014). Although Glenn and Grimes (1968) argue that political engagement could fill the void left by social disengagement, the past four decades of research have made it fairly clear that social and political engagement are closely linked. The "disengagement thesis" argues that retirement and the deaths of spouses and close friends could trigger a general retreat from society and, in turn, its political institutions (Cumming and Henry, 1961; Goerres, 2007; Bhatti and K. M. Hansen, 2012). Those close to death might also have less personal interest in the long-term consequences of politics.<sup>1</sup>

But another group of elderly citizens might experience turnout decline while remaining otherwise engaged in politics and participation. It is well-documented that health directly affects turnout, particularly among older people (Mattila et al., 2013). For these people, traveling to the polling place could be uncomfortable or inconvenient. By allowing a voter to request and submit a ballot from home, absentee voting appears uniquely capable of

<sup>&</sup>lt;sup>1</sup>Interest in the future of one's family and friends could attenuate this effect.

remedying this turnout decline among the elderly.

Though initially developed to assist the participation of Civil War soldiers, absentee voting in the United States became associated with the empowerment of the physically disadvantaged during its reemergence in the 20th century. By 1924, all but three states allowed absentee voting, and most states' laws featured excuses for the sick and disabled (Tokaji and Colker, 2007, p. 1020). Over time, states liberalized absentee laws, dropping the notarization requirement and slowly expanding eligibility requirements. These changes ranged from allowing anyone over 65 years of age to vote absentee to abolishing excuses entirely. The former option is sometimes a precursor to the latter. Colorado, Maine, New Mexico, and Ohio all had age-based absentee requirements before moving to no-excuse absentee, which they still use (Oliver, 1996). Of the 17 states that currently require an excuse to vote absentee, seven include age among these excuses. Kentucky and West Virginia describe this excuse vaguely: anyone "advanced in age" qualifies. The others allow anyone above a certain age to vote absentee without an excuse.

Almost every state that requires an excuse includes disability among them. As described earlier, though, older people might reach a physical state that does not quite equal "disability" but makes traveling to the polling place particularly onerous. According to this theory, the convenience of convenience voting methods is contextual. To a person who cannot comfortably or easily travel to the polls, not having to travel is a more important convenience than not being required to vote on a specific day.

## 2.2 Convenience Voting and Turnout

Oliver (1996, p. 499) laments the state of research on absentee voting: "Despite [its] growing importance, little research has been conducted on absentee voting and the effects of state reforms are still unexplored... Whether liberalizing absentee voting restrictions has had the intended effect of increasing overall turnout is still unclear." While research on absentee voting developed somewhat in the subsequent two decades, we still lack consensus about

whether the availability of absentee voting increases turnout.

Unsurprisingly, liberalizing absentee voting laws increases the use of absentee ballots (Oliver, 1996). Oliver argues that campaign mobilization complements liberalized laws and increases the use of absentee ballots. Recent field experiments support this claim (e.g., Mann and Mayhew, 2011), although the National Election Survey shows no relationship between absentee voting and contact from a party during an election cycle (Karp and Banducci, 2001).

Cross-sectional studies generally show that turnout is higher in states with less restrictive absentee voting laws. Oliver (1996) compares states with restricted, liberalized, and no-excuse absentee voting using the 1992 turnout data from the Current Population Survey (CPS). He finds that turnout is higher among states with liberalized or no-excuse absentee voting only when states provide partisan registration information. Francia and Herrnson (2004) lump all "permissive" absentee voting reforms together, including mandatory VBM, and find turnout is higher in states with permissive absentee rules. Inconsistent with Oliver, they do not find that such rules interact with partisan spending and GOTV. Larocca and Klemanski (2011) estimate that in the 2000, 2004, and 2008 elections — all analyzed separately — no-excuse and permanent no-excuse absentee voting consistently and significantly associate with turnout.<sup>2</sup> Shino (2014) finds that the proportion of absentee ballots cast in a state positively and significantly correlated with turnout in 2008, but not 2012.

Identifying the effect of absentee voting in cross-sectional studies is challenging. States with more inclusive voting procedures often have higher turnout prior to the adoption of these policies (Hanmer, 2009, pp. 8-9). Cross-sectional studies also compare a relatively small group of states, limiting their statistical power.

Consistent with the concerns about cross-sectional studies, panel studies generally show a weaker relationship between no-excuse absentee voting and turnout. Only Wolfinger and

<sup>&</sup>lt;sup>2</sup>Curiously, these same regressions feature inconsistent point estimates for the effect of mandatory VBM, contradicting the notion that mandatory VBM is more convenient because it does not require the voter to request a ballot.

Hoffman (2001) reproduce the turnout increases reported in the cross-sectional studies. Fitzgerald (2005), Gronke, Galanes-Rosenbaum, and P. A. Miller (2007), and Giammo and Brox (2010) report null relationships. Leighley and Nagler (2009, 2013) have inconsistent results. Gans (2004) even reports decreases in turnout.

Panel studies are not perfect, either. Their main problem is statistical power. A simple pre-post interrupted time series design features just two data points. Such studies might also mistakenly report "novelty effects," where excitement and public ity for an electoral reform artificially stimulates turnout in the upcoming election, before turnout reverts to its pre-reform baseline (Gianmo and Brox 2010, Gronke and Miller 2013). While using a long time series (e.g., Leighley and Nagler, 2009) can mitigate the problems of statistical power and novelty effects somewhat, panel studies are also vulnerable to the problem of "bundling," where absentee reform occurs concurrently with other electoral reform (Hanmer 2009, 63; Leighley and Nagler, 2013, p. 98-99). For example, Maine simultaneously initiated no-excuse absentee voting and began publicly funding elections in 2000 (Cemenska et al., 2009). Thus, it is challenging to separate the mobilizing effects of absentee voting from the mobilizing effects of these concurrently adopted reforms.

In contrast to absentee voting, more robust, quasi-experimental studies have been conducted on the effect of mandatory VBM. Some states rolled out VBM at the county- or precinct-level, rather than statewide. When examining small California precincts allowed by state law to impose VBM, Kousser and Mullin (2007) and Bergman, Yates, and Ginnold (2009) find a negative effect on turnout. Bergman and Yates (2011) report that turnout in these precincts remained low in later, in-person elections. More optimistically, Gerber, Huber, and Hill (2013) show an increase in turnout when Washington introduced VBM gradually, county-by-county, between 1996 and 2010.

Unfortunately, we don't learn much about the effect of absentee voting from these VBM studies. Unlike with VBM, people who prefer voting in-person may still do so when absentee voting is expanded. VBM addresses the effect of the *replacement* of in-person voting on

turnout. Mandatory VBM also has the confounding feature of automatically mailing ballots to registered voters, a form of institutional get-out-the-vote activity that may in itself increase turnout (Mann and Sondheimer, 2009; Hood III and Bullock III, 2011; Monroe and Sylvester, 2011).

### 2.3 Who Votes by Mail?

Little is known about who votes absentee because most work in this area focuses on aggregated outcomes. The most robust finding in the small existing literature is that absentee voters are older than polling-place voters. Using individual-level survey data from the American National Election Study, Karp and Banducci (2001) conclude that absentee voters are older.<sup>3</sup> While this could be an artifact of age restrictions making absentee voting more accessible to older voters, Barreto et al. (2006) demonstrate a similar pattern in California, a state in which anyone may vote absentee. Both of these absentee-specific surveys agree that absentee voters are less physically able, wealthier, and better educated.

Previous research also suggests that people from rural areas are more likely to vote absentee. The argument is based on travel cost being an important consideration in mode choice. Dyck and Gimpel (2005) find that distance from polling places is positively correlated with the use of absentee ballots.

A greater number of studies look at who uses convenience voting more broadly. Summarizing the literature, Berinsky (2005) concludes that convenience voting in general produces "perverse consequences;" if it stimulates turnout at all, he argues, it does so among politically active individuals and demographics already overrepresented in the electorate. After the 2008 presidential election, scholars began to question whether this conclusion still holds. While Chaturvedi and P. Miller (2010) confirm that the elderly disproportionately use convenience voting, they also note an increase in convenience voting by the youth in 2008. While Kropf (2012) and Burden et al. (2014) find a small, positive association between in-

<sup>&</sup>lt;sup>3</sup>Consistent with this, grouping all forms of convenience voting together, a national poll finds evidence of an elderly bias (Newport, 2010).

come and early voting in the 2008 election, Kropf et al. (2008), Leighley and Nagler (2009), and Bullock, Hood, and G. J. Smith (2009) find that the no-excuse early voting pool does not differ significantly from regular voters with respect to education, income, gender, or homeownership.

Changes over time in who uses convenience voting are largely due to an improved capability or new effort of campaigns to target low-turnout voters during the extended voting windows that convenience voting provides. Using day-by-day data on individual voters from a majority of American states, Ashok et al. (Forthcoming) find that typical high-participation types — party affiliates, older voters, voters in homogeneously white precincts — voted earlier in the early voting period and would have voted regardless. By contrast, youth and African-Americans turned out later in the early vote-period as campaigns directly mobilized them. Herron and D. A. Smith (2012) present a case study of this phenomenon, describing the 2008 "Souls to the Polls" movement that spiked black early voting on the final Sunday of early voting. Overall, campaigns' stimulation of low-propensity voters to vote early has diminished, but not eliminated, the overrepresentation of the elderly among convenience voters.

We hypothesize that another important determinant of voting mode choice is previous experience using that mode. We expect previous use of a voting mode will increase use of that mode in the future, which we term 'mode persistence.' Our expectation of mode persistence is based on polling data on support for early voting, as well as the literature on the more general phenomenon of persistence in political participation, as cited earlier. Kousser and Mullin (2007) find that people assigned to VBM in California are wary at first but generally okay with VBM once they understand its mechanics and the logic behind it. Similarly, in a comprehensive state-by-state survey during the 2008 presidential election, Alvarez, Levin, and Sinclair (2012) find that convenience voting reforms only have majority support in the two states — Washington and Oregon — that have already expanded them, indicating that support can be developed through experience.

Election administrators could also affect both the composition and turnout effects of absentee voting. As "street-level bureaucrats" (Lipsky, 1980), election administrators can interpret and encourage seemingly state-level electoral policies in many ways, creating *de facto* public policy. In turn, these differences in administration change election outcomes (Stuart, 2004; Ansolabehere and Stewart, 2005; Kimball, Kropf, and Battles, 2006).

Though Alvarez and Hall (2006) argue that absentee voting could reduce principal-agent problems in election administration, there remain opportunities for these problems to emerge. Laws might be applied differently depending on the personal characteristics of the administrator, the prospective voter, or the interaction of the two (White, Nathan, and Faller, 2015). Broader deviations in absentee-voting use in a county could result from differences in election administrators' judgments about absentee voting and resulting encouragement or impediment of absentee voting. Some administrators are inherently distrustful of mail balloting (Burden et al., 2011). Research indicates that perceived cost and/or 'administrative burden' exerts the strongest effect (Burden et al., 2012); Clerks surveyed in Colorado (Mann and Sondheimer, 2009) and Georgia (Hood III and Bullock III, 2011) report encouraging the use of VBM and in-person early voting, respectively, as cost-saving measures. Wisconsin clerks felt otherwise. In face-to-face interviews and a follow-up survey, they consistently opposed the additional administrative responsibilities posed by enhancing voter convenience. In large part, this was due to perceived effects on constrained resources, but conflicting interactions with election laws and philosophical opposition to the dismantling of the traditional Election Day also weighed on Wisconsin administrators (Burden et al., 2011).

### 3 Methods

#### 3.1 Case Selection

Despite its relative lack of attention in the aforementioned literature, absentee voting is by far the most common type of early voting. Every non-VBM state allows absentee voting in some form. 27 states allow voters to request an absentee ballot without an excuse.<sup>4</sup> The remaining states restrict absentee ballots to specific groups: the disabled, non-first-time registrants, travelers, college students, the elderly, or those living in rural areas, to name some of the most common (Absentee voting rules 2014). By contrast, 33 states allow inperson early voting, and three use VBM statewide. Absentee voting regulations vary state to state. Perhaps the most significant potential difference over states is whether permanent absentee status is available, which makes it so an absentee ballot is automatically mailed to individuals in all future elections. Six states and the District of Columbia allow permanent absentee to any registered voter, and nine others allow permanent absentee status for those meeting certain qualifications, typically disability (Absentee and early voting 2015). In the remaining states, voters must request an absentee ballot before every election. In some states, this request can be made directly on a voter registration form, while potential voters in other states must request an absentee ballot separately.

Five states without no-excuse absentee voting allow voters above a certain age to vote absentee without an excuse (Absentee voting rules 2014). This generates within-state variation in the accessibility of absentee voting among cohorts of voters who are similar on all other dimensions except for slight differences in their age. If the inability to easily vote absentee prevents some people from voting, we would expect to observe higher turnout in the cohort that is eligible to use no-excuse absentee relative to the cohort that is not.

Testing this hypothesis requires knowledge of three pieces of data: potential voters' dates of birth, whether the individual voted, and whether the individual voted absentee. While this information could be obtained via a survey, it is much more efficiently collected using a voter file. Among states with a discontinuity in age, only Texas and Michigan record voting mode in their voter file. And Michigan only reports an individual's year of birth. Thus, we focus our analysis on Texas.

<sup>&</sup>lt;sup>4</sup>Note that age restrictions represent required excuses in this tabulation.

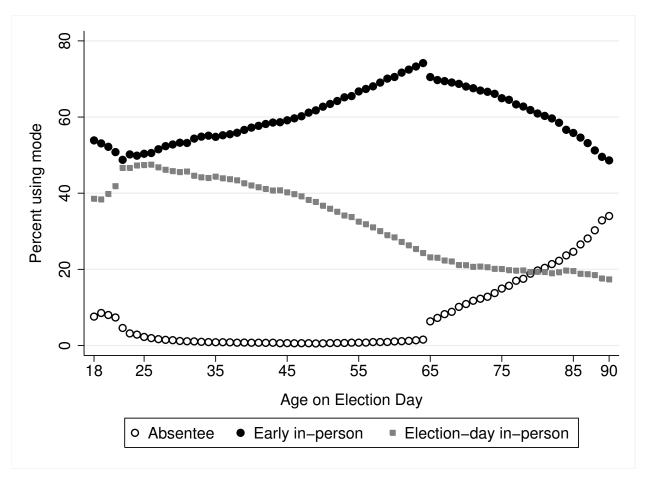


Figure 1: Mode Choice in the 2012 Presidential Election in Texas

#### 3.2 Texas Context

Texas law permits registered voters to cast absentee ballots if they are disabled, out of the county during the early voting period and Election Day, confined in jail but otherwise eligible, or at least 65 on the date of the election in which they intend to vote absentee.

Texas does not allow a person to be a permanent absentee voter or request an absentee ballot on their registration form. So, absentee voting in Texas always features one more step than in-person voting: the ballot request. A registered voter must complete Form A.10 to request absentee ballots for any or all of the elections in the present year. The form is available at the registrar's office or as a PDF for home printing, and may be mailed or faxed to the registrar. There is also an HTML-based absentee-request form for in-browser completion. The deadline to request an absentee ballot is the second Friday before Election

Day, which is after the deadline for registration — 30 days before Election Day.

Figure 1 shows that early in-person voting is the norm in Texas, particularly among those individuals in their early sixties who are approaching eligibility for no-excuse absentee. The amount of early in-person voting in Texas contrasts with most other states, where a majority of ballots are cast on Election Day (Texas SOS). This context is vastly different from that of another state or of studies conducted before 2000, when even Texas still cast the majority of its votes on Election Day (Texas SOS). The key convenience that the absentee ballot offers over early in-person voting is the ability to stay at home. As early voting continues to grow nationally, it is important to understand who still chooses to vote absentee.

We speculate that the lack of partisan competition in Texas at the state-level has implications for who adopts absentee ballots. The absence of statewide partisan competition likely reduces the mobilization of voters to use absentee ballots by campaigns. Thus, we can expect that most people who use absentee ballots in Texas are self-motivated to vote absentee.

#### 3.3 Data and Measures

The principal data source used in this paper is a voter file acquired from NationBuilder. It includes information on individuals' turnout history in general, midterm, primary, and runoff elections from 2000 through 2012, mode choice when they voted, birthdate, most recent date of registration, and zip code. We use birthdate to construct two indicators: one that indicates eligibility to vote absentee in the 2008 election and the other that indicates eligibility to vote absentee in the 2012 election.

Voter files offer a couple of big advantages over surveys for studying electoral reforms. Survey respondents tend to overreport turnout (e.g., Silver, Anderson, and Abramson, 1986), and we suspect would also sometimes misreport vote mode. Voter files measure turnout and vote mode more accurately. Voter files also include, at least in theory, the total registered population, giving us sufficient statistical power to study relatively small subpopulations.

There are also some downsides to using voter files. A voter file provides a snapshot of voter registration records from a specific point in time. Our voter file provides a snapshot of Texas during the summer of 2014. Some registrants who voted in the 2008 and 2012 elections do not have a record of having done so, because they voted in a different county or state than they are currently registered. There are also vote records that have been purged from the voter file because that person is no longer a registered voter. The most common form of purging occurs when it is known that a voter has moved. Under the National Voter Registration Act of 1993, a state may also remove a registrant from the voter file if they have not voted in the most recent two elections and do not reply to a mailed notice (Ansolabehere and Hersh, 2010). We assess the number of lost vote records by comparing the number of registrants with a record of having voted in an election to the total number of votes cast in the top ballot race according to Texas Secretary of State records. We have 6,589,762 and 7,269,808 turnout records in the voter file from 2008 and 2012, respectively. This represents 81.6% of presidential votes cast in 2008 and 90.9% of the presidential votes cast in 2012. As we discuss in the Appendix, we are also concerned that some counties do not accurately report absentee ballot usage in some elections.

We make sample restrictions based on an individual's date of registration, county of residence, or previous vote history in some of our analyses to account for the data limitations described in the previous paragraph. If a specific analysis requires we know someone's vote mode in a given election, we only want to include observations for which we are almost certain we would observe an absentee vote if it occurred. Thus, our analysis based on 2012 absentee data excludes people who live in a county with bad reporting of vote mode in 2012 and people who last registered to vote after the 2012 presidential election, and thus who may have lived in a different county in 2012 than the one in which they are currently registered in.<sup>5</sup> Likewise, our analysis based on 2008 and 2012 absentee data excludes people

<sup>&</sup>lt;sup>5</sup>Our analysis of aggregate turnout effects, which does not use absentee data directly, does not include this restriction on registration dates, which are not included for a large part of the sample. We include a version of this regression with registration restrictions in the Appendix (Table A.2).

who live in a county with bad reporting of vote mode in either 2008 or 2012 and people who last registered to vote after the 2008 presidential election. For more specific explanations of these restrictions and figures representing the percentage of observations dropped at the age cutoff, see Section 6.

# 4 Analysis and Results

### 4.1 Does No-Excuse Absentee Voting Affect Turnout?

Because only people older than 65 are eligible to vote no-excuse absentee in Texas, we would expect turnout to increase once people turn 65 if the availability of no-excuse absentee voting mobilizes a substantial number of citizens to vote. To investigate this visually, Figure 2 plots the turnout rate of cohorts of registered voters who turned 65 in close proximity to the Election Day in 2012. Counter to our expectations, Figure 2 shows no clear difference in the 2012 turnout rates of registered voters who were slightly older than 65 and slightly younger than 65 on Election Day in 2012.

Regression analysis confirms that there was little change in the 2012 turnout from being eligible to vote no-excuse absentee in that election. Table 1 shows small point estimates with inconsistent signs about how turnout changes among those over the age of 65 and thus eligible to vote no-excuse absentee. Our dependent variable in this analysis is the share of registered voters born on a given day who voted in the 2012 presidential election.<sup>6</sup> Column 1 reports a regression comparing people who turned 65 within 90 days of the 2012 election. To account for the fact that people who are eligible for absentee are slightly older, we include a continuous measure of age and a continuous measure of age interacted with eligibility to vote absentee. Using this specification, we find that people are 0.474 (s.e. = 0.476) percentage

<sup>&</sup>lt;sup>6</sup>We aggregate the data following the recommendation of Lee and Card (2008), who note that standard error estimates are generally too small when observations that share a common forcing variable are assumed to be independent.

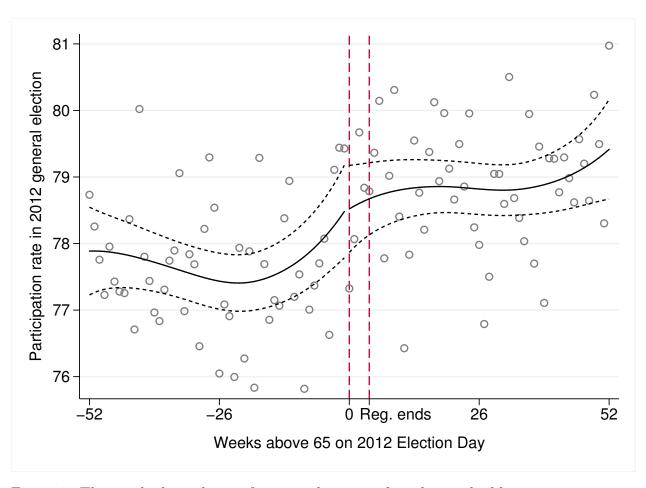


Figure 2: There is little evidence of increased turnout from being eligible to vote no-excuse absentee

points more likely to vote if they are older than 65. Thus, we can reject an increase of more than roughly 1.5 percentage-points from no-excuse absentee eligibility at standard levels of statistical significance. This remains true as we expand the bandwidth and include more observations in the sample.<sup>7</sup>

One reason why eligibility for no-excuse absentee voting may fail to increase turnout is low take-up. While low take-up may indicate a lack of interest in using absentee ballots, it may also reflect unawareness of the law among people who just turned 65. Figure 3, which shows the percentage of a cohort of voters born in a given week who voted absentee, presents some suggestive evidence that this is the case. About 4% of voters who turned 65 the week

 $<sup>^{7}</sup>$ Table A.2 in the Appendix shows substantively similar findings when we exclude registrants who last registered after the 2012 Presidential Election.

Table 1: OLS regressions examining the effect of being over 65 on voting in 2012

	(1)	(2)	(3)
Days from DOB to $11/7/47$ :	$\pm 90 \text{ days}$	$\pm 365$	$\pm 730$
Over 65, 2012	0.341	-0.353	0.474
,	(0.675)	(0.663)	(0.476)
Years over 65, 2012 (continuous)	$4.645^{'}$	8.928	0.509
(11 1 11 11)	(3.440)	(4.373)	(1.528)
Over 65, $2012 \times \text{Years over } 65$	-6.501	-4.033	1.726
0 (er 00, 2012 // 10015 0 (er 00	(4.745)	(5.854)	(2.134)
Years over 65, 2012 $^2$	(11113)	16.810	-0.450
10015 0701 00, 2012		(10.016)	(1.779)
Over 65, 2012 $\times$ Years over 65 $^2$		-29.288	-1.368
Over 66, 2012 × Tears over 66		(13.523)	(2.533)
Years over 65, 2012 $^3$		8.745	(2.333) -0.321
rears over 05, 2012		(6.500)	(0.581)
Over 65, 2012 V Vers ever 65, 3		(0.300) $0.110$	0.631
Over 65, $2012 \times \text{Years over } 65^{-3}$			
	70.400	(8.864)	(0.841)
Constant	78.496	78.715	77.896
	(0.492)	(0.493)	(0.348)
Observations	180	728	$1,\!456$
R-squared	0.036	0.076	0.089

Robust standard errors in parentheses

before the 2012 presidential election voted absentee, as compared to about 2% of voters who turned 65 the week after the same election.<sup>8</sup> While age doesn't significantly relate to the use of absentee by voters who were 64, there is a gradual 2 percentage point increase in absentee usage from those barely eligible to those 14-weeks above the cutoff, which is likely because being slightly older increases awareness of absentee eligibility. For example, being slightly older makes it more likely that someone was already 65, rather than 64, when hearing that "65-year olds can vote absentee." Furthermore, people who turned 65 within two weeks of Election Day would have to request an absentee ballot before they turned 65, demonstrating a more complete understanding of Texas' absentee-voting laws than older 65-year-olds.

<sup>&</sup>lt;sup>8</sup>Table A.3 in the Appendix presents regression estimates that also show that being over 65 increased absentee ballot usage by just over 2 percentage points.

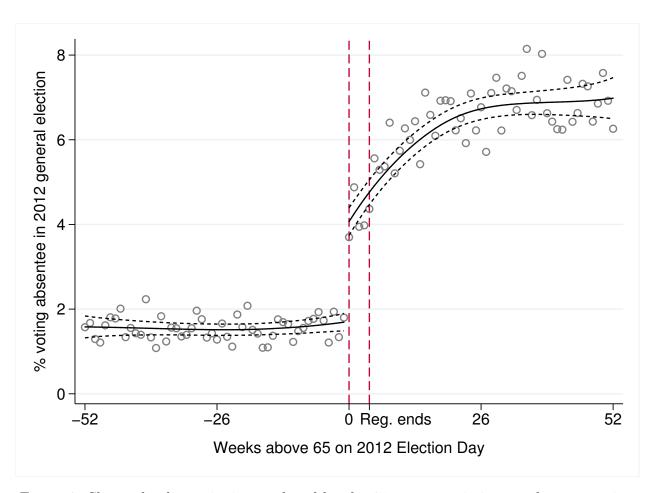


Figure 3: Shows the discontinuity produced by the 65+ age restriction on absentee voting

Because Figure 3 suggests that we may miss the mobilizing effect of begin eligible for no-excuse absentee voting by focusing only on people born close to the age cutoff, we develop a second approach to examine turnout effects. Figure 4 shows that 65-year-olds adopt absentee voting more in some counties than in others. The statistical significance of this relationship is documented in Table A.5 in the Appendix. When observations are weighted in proportion to sample size in the county to account for heteroscadasticity, we observe that a one-percentage point increase in absentee adoption in the county in 2008 associates with a 0.349 (s.e. = 0.147) percentage point increase in absentee adoption in the county in 2012. This likely results from some combination of higher demand for absentee voting in certain counties, as well as election administrators in certain counties taking actions that cause people to adopt absentee voting.

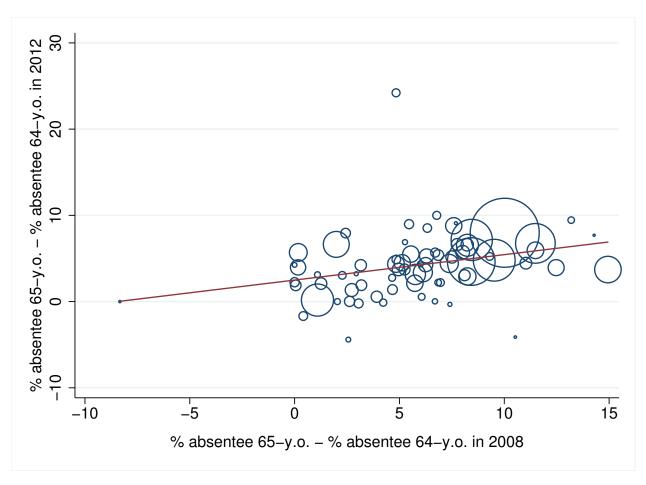


Figure 4: Consistency in 2008 and 2012 in the uptake of absentee voting by 65 years olds relative to 64 year old by county

Our expectation is that if absentee voting increases turnout, it should do so by more in the counties in which 65-year olds are most likely to adopt absentee voting. Table 2 provides some suggestive evidence that this is the case. The analysis in this table relates the relative turnout of 65-year olds, as compared to 64-year olds, to the rate at which 65-year olds adopt absentee voting. We face a tradeoff between using a contemporaneous or lagged measure of the propensity of 65-year olds to adopt absentee voting. We have more statistical power when using a contemporaneous measure, because more counties accurately reported absentee voting in 2012 than in 2008. But there are more potential omitted variables that may jointly explain turnout and absentee ballot adoption, such as the competitiveness of the election environment, when we use a contemporaneous measure. We find a positive association

when using either the lagged or contemporaneous measure, although the magnitude of the association is stronger when we use the contemporaneous measure and is sensitive to the exclusion of weights.<sup>9</sup> While certainly not conclusive, it suggests there may be some small turnout benefits of no-excuse absentee voting that go undetected in the RDD analysis.

Table 2: These regressions offer an alternative measurement of aggregate turnout effects based on the observation that certain counties' 65-year-olds consistently adopt no-excuse absentee voting at higher rates.

	(1)	(2)	(3)	(4)
Weighted by $\#$ of 64-65 Registrants, 2012:	No	Yes	No	Yes
	% voti	ng 65 - $\%$	voting 6	4, 2012
% abs. 65 - % abs. 64, 2008	0.174	0.091		
	(0.331)	(0.058)		
% abs. 65 - $%$ abs. 64, 2012	,	,	0.066	0.194
			(0.069)	(0.066)
Constant	0.007	0.391	0.465	-0.012
	(2.157)	(0.540)	(0.630)	(0.359)
Observations	72	72	160	160
R-squared	0.012	0.023	0.008	0.049

Robust standard errors in parentheses

#### 4.2 Mode Persistence

Though no-excuse absentee voting may not increase elderly turnout in the first election in which it becomes available, it could have important effects downstream. For example, people may be more likely to use absentee voting if they have used it previously.

Testing this hypothesis requires more than correlating individuals' vote modes across separate elections. The same factors that motivate someone to vote absentee in 2008 could motivate a person to vote absentee in 2012, especially if they are disabled and physically unable to go to the polls. Ideally, a study would randomly assign some voters to use absentee

<sup>&</sup>lt;sup>9</sup>The contemporaneous measure is related in Table 2, Columns 1 and 2. Columns 2 and 4 are weighted by 64- and 65-year-olds registered in the county before the 2012 election.

ballots, then see how likely they were to vote absentee in 2012. Texas' age-based no-excuse absentee voting law creates a quasi-experiment approximating this ideal: 64-year-olds and 65-year-olds should not differ substantially in their desire to vote absentee, but only the latter can do so without an excuse. We then look at their absentee usage four years later, when both cohorts can vote absentee, to detect whether voting absentee in 2008 increases the likelihood of voting absentee in 2012. Meredith (2009) and Coppock and Green (In Press) employ similar designs to examine persistence in turnout by comparing the downstream turnout of people who turned eighteen just before and just after elections.

By the 2012 election, people age 63 to 66 in 2008 were all eligible to vote no-excuse absentee. Thus, absent mode persistence, we would not expect to see any difference in absentee usage in 2012 between people who were just barely eligible and just barely ineligible to vote absentee in 2008. But Figure 5 shows that people who turned 65 just before the 2008 presidential election appear to be more likely to vote absentee in 2012 than people who turned 65 just after the 2008 election. This is consistent with our expectations, based on surveys by Kousser and Mullin (2007) and Alvarez, Levin, and Sinclair (2012), that people will become more comfortable with a voting mode that they have used previously.

Table 3 presents results of regressions that formally test the patterns presented in Figure 5. We adopt a standard fuzzy regression discontinuity design, in which an indicator for whether someone was 65 before the 2008 election acts as an instrument for whether someone voted absentee in 2008. The first-stage F-statistics, reported at the bottom of Table 3, are all well over 20, indicating that our instrument is strongly related to absentee ballot usage in 2008. Our estimates of mode persistence are significant or borderline significant across all three specifications, with smaller bandwidths producing the largest effect size. The regression using the largest bandwidth shows that voting absentee in 2008 increased the probability of voting absentee in 2012 by 41.2 (s.e. = 14.5) percentage points.

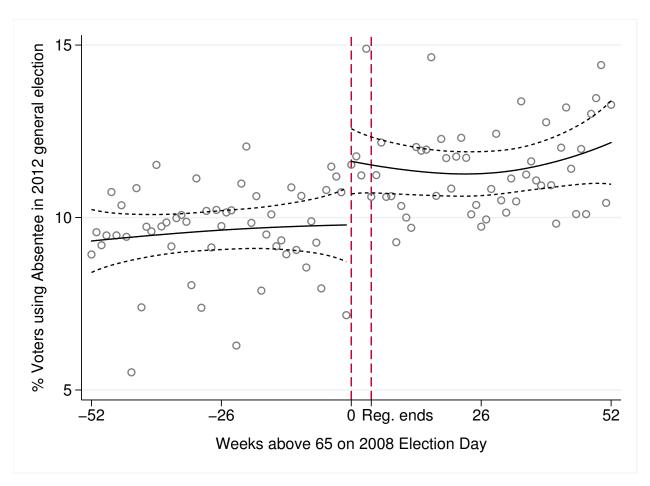


Figure 5: Graphically illustrates a modest, but significant, "mode-persistence" effect from being eligible to vote absentee in previous election

Table 3: IV regressions examining the effect of voting absentee in 2008 on voting absentee in 2012

	(1)	(2)	(3)
Days from DOB to $11/4/43$	$\pm 90$	$\pm 365$	$\pm 730$
Used abs. in 2008	0.889	0.595	0.412
	(0.293)	(0.274)	(0.145)
Years over 65, 2008 (continuous)	-0.020	-0.025	-0.015
	(0.051)	(0.066)	(0.022)
Elig. $\times$ Years over 65	-0.270	-0.129	-0.038
	(0.076)	(0.091)	(0.031)
Years over 65, $2008^{-2}$		-0.065	-0.025
		(0.147)	(0.025)
Elig. $\times$ Years over 65 $^2$		0.303	0.080
		(0.302)	(0.047)
Years over $65, 2008$ <sup>3</sup>		-0.043	-0.008
		(0.095)	(0.008)
Elig. $\times$ Years over 65 $^3$		-0.068	-0.007
		(0.126)	(0.012)
Constant	0.081	0.086	0.089
	(0.012)	(0.011)	(0.007)
Observations	15,486	59,702	116,393
First-stage F-statistic	23.86	27.17	79.21

Robust standard errors clustered by birthday in parentheses

#### 4.3 Who Votes Absentee?

The presence of mode persistence leaves us with two reasons to suspect that the effect of no-excuse absentee voting on turnout might increase with age. Over time, the theorized cause of this effect — uptake of absentee voting — grows among any cohort via mode persistence. Broader patterns suggest that aging itself makes absentee voting more convenient. By examining turnout effects strictly at the no-excuse cutoff, we might ignore the ways that long-term access to absentee voting could increase turnout among this cohort.

We first examine who uses absentee voting among the subpopulation of Texans who were over 65 and hence eligible to vote no-excuse absentee in 2012. Figure 1 showed that within this subpopulation, absentee ballot usage increased with respect to age. A ten-year increase in age associates with a 5% increase in the probability of voting absentee. This increase is roughly linear, although it increases by more once age reaches 85.

Inconsistent with the literature depicting absentee voters as high-propensity, recent voters are *less* likely to vote absentee. Table 4 shows that people who voted only in 2008, only in 2010, and both in 2008 and 2010 are 4.2, 5.6, and 8.6 percentage points less likely to vote absentee, respectively, than someone who voted in neither election. This association between absentee use and voting propensity becomes more negative as one ages.

Consistent with our findings on mode persistence, people who previously used absentee ballots are much more likely to vote absentee again. Among all people aged 65 and up who voted in 2012, someone who voted absentee in both 2008 and 2010 was 70.1 percentage points more likely to vote absentee than someone who did not use absentee in either of the previous two elections. The relationship between past and current absentee usage increases slightly as age increases. This makes sense. For those aged 65-66, voting absentee in one of the previous two elections would have required an excuse, most commonly the time-inconsistent excuse of being out of the state on Election Day. By contrast, older people who have previously

<sup>&</sup>lt;sup>10</sup>Table A.4 in the Appendix runs corresponding regressions with turnout as the dependent variable.

Table 4: OLS regressions examining the mode choice of 2012 voters (1 = absentee, 0 = other mode)

	(1)	(2)	(3)	(4)
Age on $11/7/12$	65+	65-66	75-76	85-86
Voted 2008	-0.042	-0.026	-0.053	-0.094
	(0.003)	(0.004)	(0.007)	(0.014)
Voted 2010	-0.056	-0.021	-0.065	-0.145
	(0.004)	(0.006)	(0.010)	(0.020)
Voted $2008 \times 2010$	0.012	0.000	0.015	$0.058^{'}$
	(0.004)	(0.006)	(0.011)	(0.021)
Used abs. in 2008	$0.320^{'}$	0.294	0.344	$0.360^{'}$
	(0.002)	(0.005)	(0.004)	(0.009)
Used abs. in 2010	$0.445^{'}$	$0.414^{'}$	0.466	$0.512^{'}$
	(0.003)	(0.005)	(0.006)	(0.012)
Voted abs. $2008 \times 2010$	-0.064	-0.071	-0.077	-0.171
	(0.004)	(0.011)	(0.009)	(0.016)
Sets of ten years over 65 in 2012	0.050	( )	()	()
2000 01 0011 y 0011 00 00 111 101	(0.001)			
Constant	0.057	0.097	0.139	0.320
C 0115 t0111	(0.305)	(0.008)	(0.017)	(0.040)
	(0.000)	(0.000)	(0.011)	(0.010)
Observations	398,818	145,280	73,657	21,618
R-squared	0.279	0.150	0.312	0.338

Robust standard errors in parentheses Regression includes ZIP-code dummy variables

voted absentee likely did so on the basis of convenience and actually prefer this method of voting.

# 5 Discussion

Overall, we find evidence that absentee voting is an effective means for keeping aging voters in the electorate. Though we do not find evidence of turnout effects at the 65-year-old cutoff, relatively low-propensity voters use absentee in greater proportions, and this effect increases with age. A clear takeaway is that people are likely to use the same vote mode consistently.

It is more difficult to explain the disparity between absentee voting's apparent stimulation

of low-propensity voters on an individual level and lack of significant turnout effects in the aggregate. Perhaps, absentee voting does, in fact, stimulate low-propensity voters on the individual level, but this effect is too small to observe in the aggregate. Or maybe this effect is substantial but touches too few people: low-propensity voters are a relatively small portion of 65-year-olds, who are at their peak turnout across their life cycle. While some of these voters might have voted less than others in the past, over 80% of these 65-year-olds would ultimately vote. Finally, this effect could reflect habit. If they vote at all, people who voted less in the past might select absentee-voting because they lacked the strong habit of voting in person at the polling place, a phenomenon that mode persistence regressions show is important. These theories are not mutually exclusive.

This paper shows that more attention should be paid to the long-term relationship between voters and vote mode. If mode choice is habitual, before-and-after designs might understate the effect of convenience voting reforms by not allowing time for attachments to mode to develop. From a policy standpoint, the link between age and use of absentee ballots is important for showing that absentee ballots play a role in keeping physically infirm voters in the electorate. Mode persistence suggests that this effect could be even stronger if such voters had lifelong experiences with absentee ballots. Though a lifelong polling-place voter develops a habit of voting, this habit is specific to mode. The voter who signs and seals his absentee ballot each year becomes proficient at a very different task than he or she who drives to the local high school to vote, despite both being "habitual voters."

Evidence of mode-persistence effects also offer commentary on habitual voting in general. A debate exists as to whether a rational or psychological and emotive consideration drives voting habit (e.g., Cravens, 2013). Our results show that the practical habits associated with a specific act of voting are significant. Unlike voting in general, a voter's choice of mode is clearly not influenced by a nurtured sense of civic pride or self-identity as a voter. No one

<sup>&</sup>lt;sup>11</sup>This observation also likely explains why the coefficients for vote-history (our proxy for vote-propensity) increase with age. If absentee voting stimulates low-propensity voters to vote and even the lowest-propensity 65-year-old voter tends to turn out, absentee voting will exert the strongest effect on older non-voters.

boasts of their choice of vote mode, nor do they proclaim proudly that they are "just the sort of person who votes absentee." Rather, it seems clear that something specific about the mechanics of voting generates this mode-persistence effect. Someone who has invested time in learning the mechanics of absentee voting finds it easier to vote absentee in the next election. Conversely, one could find it relatively onerous to vote using a mode with which he or she is out of practice. This has policy implications, insofar as an attempt to roll back one voting method — such as in-person Election Day voting in the face of mandatory VBM — could disrupt these mode-specific habits and thus decrease turnout. Along the same lines, policymakers might take more caution in introducing vote modes.

The perception of absentee voting's importance to the American electoral system remains understated or overlooked. We hope that scholars will conduct more quasi-experimental studies on absentee voting, particularly with voter files, to unbundle the multitude of relationships examined herein. More numerous and accurate voter files would be beneficial for our county-level analysis. Just 72 of 254 counties reported absentee ballots accurately in the voter file in both 2008 and 2012, substantially reducing our statistical power to detect whether county-level measures of absentee ballot adoption relate to the differential rates of turnout in the county between people age 64 and age 65. Future scholars might also build on the long-run effects of absentee voting that our paper suggests. Voter files are a relatively recent innovation, and so as more voter files accumulate, long-run studies of vote mode should become possible. In particular, more data will allow for us to more clearly identify what types of voting procedures help keep the elderly population voting as long as possible.

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# 6 Appendix

### 6.1 Data Quality

We drop observations and make sample restrictions in some of our analyses because of concerns about data quality. Ansolabehere and Hersh (2010) note that a disproportionate number of people have a birthday of November 11th in the Texas voter file. We drop all of these observations, as we did not trust that this was their actual birthdate. Similarly, we dropped voters listed with birth years of 1900 or 1901, because the voter file contained too many records with these birth years, as compared to the birth years 1902-1910.

Another data quality concern is that some counties are not accurately reporting the use of absentee voting in some elections. Figure A.1 presents the share of voters in each county that voted absentee according to our voter file. In most counties, the percentage of absentee votes cast in the 2008 and 2012 elections is quite similar. In some counties, however, we observe less than 0.5% of their voters using absentee in one election and as much as 5% of voters using absentee in the other. This most likely reflects a reporting issue rather than a change in mode use.

In our primary analysis, we restrict the sample to only include observations from counties that reported that fewer than 0.5% of ballots were cast absentee in a given election. We also exclude voters who most recently registered to vote after this election took place. We do this because we have concerns that counties with few recorded absentee votes may not be recording turnout records from individuals who cast their ballot absentee. Because people older than 65 are more likely to use absentee ballots than people younger than 65, this could result in differential measurement error for those above and below the no-excuse eligibility cutoff. Such measurement error could make it appear that being eligible to vote no-excuse absentee reduces turnout, when it actually just reduces the likelihood that an absentee vote was recorded in the voter file.

To illustrate why we have these concerns, we replicate our primary turnout analysis for

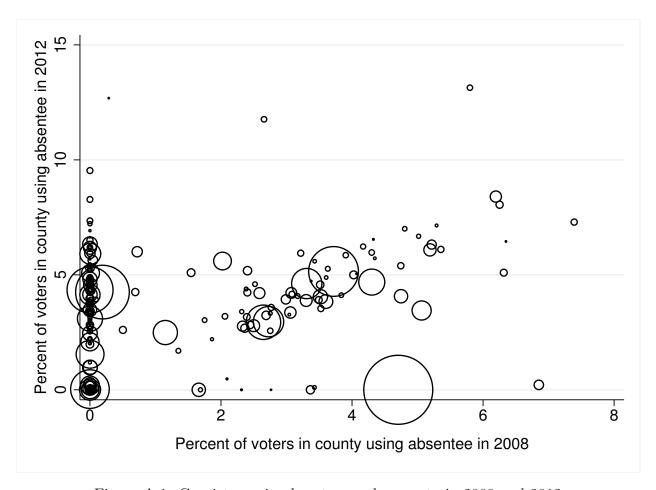


Figure A.1: Consistency in absentee use by county in 2008 and 2012

the nine counties that reported that more than 0.5% of the ballots were cast via absentee ballot in 2008 and fewer than 0.5% of the ballots were cast via absentee in 2012. Figure A.2 shows recorded turnout is about three percentage points lower for people who were eligible to vote no-excuse absentee than for people who were ineligible to vote no-excuse absentee. Our theory is that is because these counties failed to record absentee voters in the voter file.

To confirm that this decline in turnout at the no-excuse eligibility cutoff is caused by the exclusion of turnout records from absentee voters, we compare the likelihood that an individual with a 2008 vote records has a 2012 vote records conditional on their vote mode in 2008. Our maintained assumption in this analysis is that someone who voted absentee in 2008 is more likely to have voted absentee in 2012 than someone who voted early in-person

<sup>&</sup>lt;sup>12</sup>These counties are Cherokee, Cochran, Cottle, Harris, Kerr, Live Oak, McMullen, Ward, and Wichita

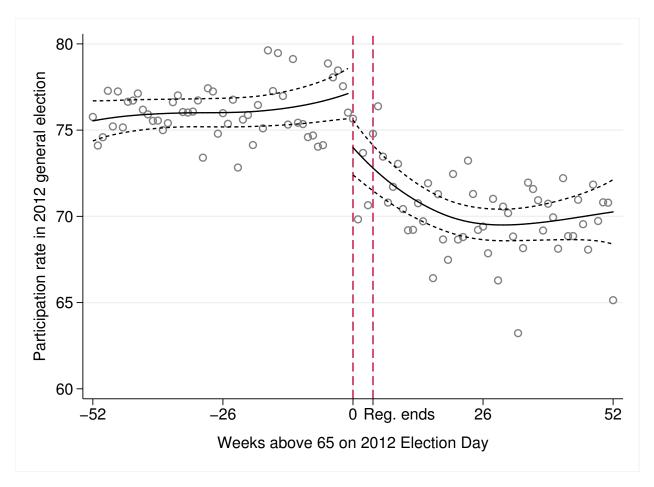


Figure A.2: Shows "decrease" in turnout among registrants eligible to vote no-excuse absentee in counties with accurate 2008 and inaccurate 2012 absentee data

or at a polling place in 2012. Thus, if the vote records of absentee voters are not being added to the voter file, then we would expect to observe fewer 2012 turnout records among those individuals who voted absentee in 2008 than among those individuals who voted early in-person or at a polling place in 2008.

The results in Table A.1 confirm the expectation laid out in the previous paragraph. In counties that we posit didn't include absentee turnout records, we observe that people who voted absentee in 2008 were over 50% less likely to have a turnout record in 2012 than people who voted in-person. In contrast, people from counties that we posit accurately reported absentee turnout records were almost equally likely to a have turnout record in 2012 whether they voted in-person or absentee. Thus, Table A.1 presents strong evidence that absentee

Table A.1: Turnout by vote mode in counties with accurate and inaccurate absentee data in 2012. Sample restricted to 2008 voters registered since October 6, 2008.

Vote Mode, 2008	County Absentee Data, 2012		
	Bad	$\operatorname{Good}$	
In-Person	79.19%	80.12%	
	n = 349,384	n = 597,214	
Absentee	-28.50%	80.66%	
	n = 43,927	n = 66,973	
Early In-Person	85.62%	90.03%	
	n = 562,341	n = 1,273,990	

votes recorded in inaccurate counties are not incorrectly reported as in-person votes, but excluded from the voter file entirely.

Our biggest concern with these sample restrictions is that they will differentially affect the sample for registrants who weren't eligible to vote absentee in a given election. To investigate this possibility, Figure A.5 displays the percentage of registration records that get dropped by week of birth because of these sample restriction when our analysis only uses 2012 data. In such an analysis, we restrict our sample to only people who have been registered since at least October 7, 2012 in the 160 counties that reported more than 0.5% of votes were cast absentee in the 2012 election. Most importantly, Figure A.5 shows there is no differential attrition from the sample depending on whether a registrant was eligible or ineligible to vote no-excuse absentee in 2012.

The aggregate-turnout regression presented in Table 1 is an exception to this rule for dropping records. To increase statistical power in a test that would likely estimate effects of a small magnitude, we do not exclude post-2012 registrants. The pattern is the same, as shown in Figure A.7: there is no differential attrition at the eligibility cutoff. For a version of the aggregate-turnout regression using both absentee and registration restrictions, see Table A.2.

Figure A.6 displays the percentage of registration records that get dropped by week of birth because of these sample restrictions when our analysis uses county-level absentee data for 2008 and individual-level data for 2012. In such an analysis, we restrict our sample to only people who have been registered since at least October 7, 2012 in the 72 counties that reported more than 0.5% of votes were cast absentee in both the 2008 and 2012 elections. Where we use individual-level absentee data for both 2008 and 2012, we further restrict our sample to people who have been registered since at least October 5, 2008, in addition to the aforementioned county restrictions. Figure A.8 displays the percentage of people who *voted* in 2012 that get dropped by week of birth under these conditions. Again, Figures A.6 and A.8 show there is no differential attrition from the sample depending on whether a registrant was eligible or ineligible to vote no-excuse absentee.

Figure A.9 displays the percentage of people who voted in 2012 that get dropped by year of birth because of these sample restrictions when our analysis uses absentee data for the 2008, 2012, and 2012 elections. In this analysis, we restrict our sample to people who have been registered since at least October 5, 2008 in the 63 counties that reported more than 0.5% of votes were cast absentee in all three elections. Unlike other analyses, this one does not examine behavior around the cutoff. Figure A.9 shows that a voter of age 65 on November 6, 2012 is about 1% more likely to be dropped from our analysis than a voter of age 75. We hypothesize that the early years of retirement make people less likely to move, and thus less likely to re-register, which would disqualify them from our analysis. It is also worth noting that the effects examined in the corresponding absentee composition regression are of far greater magnitudes than this drop percentage.

## 6.2 Additional Tables and Figures

Table A.2: OLS regressions examining the effect of being over 65 on voting in 2012. Unlike the version presented earlier in Table 1, this regression drops voters who registered between 30 days before the 2012 election day and the present. This restriction appears to have little effect.

	(1)	(2)	(3)
Days from DOB to $11/7/47$	$\pm 90 \text{ days}$	$\pm 365$	$\pm 730$
Over 65, 2012	0.241	-0.372	0.109
	(0.634)	(0.631)	(0.455)
Years over 65, 2012 (continuous)	4.171	6.714	0.805
	(3.240)	(4.212)	(1.503)
Over 65, $2012 \times \text{Years over } 65$	-7.357	-3.589	1.308
	(4.428)	(5.594)	(2.037)
Years over 65, $2012^{2}$	, ,	10.545	-0.243
		(9.481)	(1.751)
Over 65, $2012 \times \text{Years over } 65^{-2}$		-19.701	-1.423
		(12.905)	(2.417)
Years over $65$ , $2012^{3}$		$\stackrel{\cdot}{4.553}^{'}$	-0.250
		(6.115)	(0.572)
Over 65, $2012 \times \text{Years over } 65^{-3}$		2.857	0.516
		(8.460)	(0.799)
Constant	81.727	81.859	81.228
	(0.484)	(0.488)	(0.343)
Observations	180	728	1,456
R-squared	0.022	0.060	0.075

Robust standard errors in parentheses.

Sample restricted to people who registered to vote prior to October 7, 2012.

Table A.3: OLS regressions examining the effect of being over 65 on voting absentee in 2012. This regression corresponds to Figure 3

	(1)	(2)	(3)
Days from DOB to $11/7/47$	$\pm 90$	$\pm 365$	$\pm 730$
Over 65, 2012	2.131	2.061	2.792
	(0.261)	(0.275)	(0.217)
Years over 65, 2012 (continuous)	0.843	1.080	0.165
	(1.006)	(1.399)	(0.467)
Over 65, $2012 \times \text{Years over } 65$	9.551	12.681	7.106
	(1.892)	(2.711)	(1.042)
Years over 65, 2012 $^2$	,	1.606	0.011
,		(3.326)	(0.552)
Over 65, $2012 \times \text{Years over } 65^{-2}$		-21.625	-6.297
,		(6.607)	(1.288)
Years over 65, $2012^{3}$		0.607	-0.003
,		(2.217)	(0.181)
Over 65, $2012 \times \text{Years over } 65^{-3}$		8.940	1.767
,		(4.447)	(0.436)
Constant	1.712	1.710	1.612
0 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(0.146)	(0.149)	(0.101)
	(0.110)	(0.2.20)	(0.202)
Observations	180	728	1,456
R-squared	0.786	0.825	0.825
	····		

Robust standard errors in parentheses.

Sample restricted to observations with good 2012 absentee data.

Table A.4: Regression examining how the independent variables from Table 4 affect the propensity to vote (Voted 2012 = 1, Did not vote 2012 = 0).

	(1)	(0)	(0)	(4)
	(1)	(2)	(3)	(4)
Age on $11/7/12$	65+	65-66	75 - 76	85-86
Voted 2008	0.491	0.512	0.493	0.410
	(0.002)	(0.002)	(0.004)	(0.007)
Voted 2010	0.581	0.566	0.611	0.538
	(0.003)	(0.005)	(0.007)	(0.014)
Voted $2008 \times 2010$	-0.339	-0.376	-0.350	-0.194
	(0.003)	(0.005)	(0.007)	(0.014)
Used abs. in 2008	-0.024	-0.037	-0.023	-0.002
	(0.002)	(0.005)	(0.004)	(0.007)
Used abs. in 2010	-0.018	-0.018	-0.030	-0.025
	(0.003)	(0.006)	(0.006)	(0.010)
Voted abs. $2008 \times 2010$	0.035	0.010	0.031	0.003
	(0.004)	(0.011)	(0.008)	(0.014)
Sets of ten years over 65 in 2012	-0.051			
ů.	(0.001)			
Constant	0.298	0.292	0.223	0.204
	(0.301)	(0.008)	(0.014)	(0.031)
	, ,	, ,	, ,	,
Observations	496,326	173,877	90,943	31,647
R-squared	0.427	0.413	0.426	0.409
D 1 + + 1 1		. 1		

Robust standard errors in parentheses

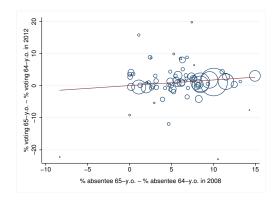


Figure A.3: Graphical representation of the regression presented in Table 2, column 2.

Table A.5: These regressions test the consistency of counties' absentee take-up rates — the difference in absentee use rates between 65- and 64-year-olds — between elections. The second regression is weighted by the number of 65- and 64-year-olds in each county.

Weighted by # of 64-65 Registrants, 2012:	No	Yes
	(1)	(2)
VARIABLES	% abs. 6	5 - 64, 2012
% abs. 65 - 64, 2008	0.295	0.349
	(0.082)	(0.147)
Constant	2.492	2.703
	(0.650)	(1.093)
Observations	72	72
R-squared	0.087	0.220

Robust standard errors in parentheses

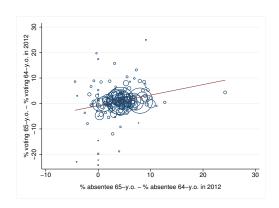


Figure A.4: Graphical representation of the regression presented in Table 2, column 4.

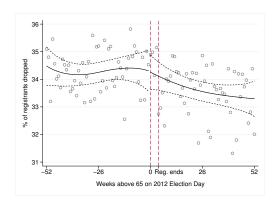


Figure A.5: Percentage of *registrants* dropped in each week when accurate 2012 absentee and pre-2012 registration data was required. This corresponds to Figures 1, 3, and A.4 and to Tables A.3, A.2, and 2 (column 6).

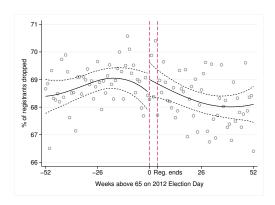


Figure A.6: Percentage of *registrants* dropped in each week when accurate 2008 and 2012 absentee and pre-2012 registration data was required. This corresponds to Figure A.3 Table 2 (column 4)

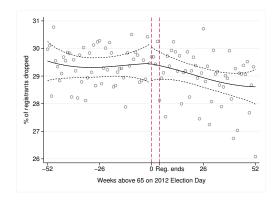


Figure A.7: Percentage of *registrants* dropped in each week when accurate 2012 absentee data was required, but we did not place any restrictions on date of registration. This corresponds to Figure 2 and Table 1.

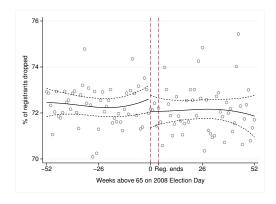


Figure A.8: Percentage of people who *voted in 2008 and 2012* that we dropped when accurate 2008 and 2012 data and a pre-2008 registration were required. Note that, unlike the other regressions, the independent variable is age in 2008, not 2012. The test here corresponds to Figure 5 and Table 3.

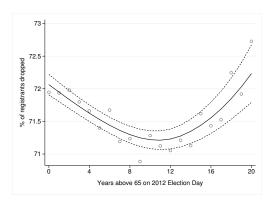


Figure A.9: Percentage of 2012 *voters* dropped in each week when accurate absentee information for 2008, 2010, and 2012 and a registration date before 2008 was required. This corresponds to Table 4. Unlike other regressions, this test for determinants of mode choice only studies those eligible for absentee, i.e. 65 and up. Thus, this test for drops was not concerned with behavior around the cutoff. This test finds a maximum change in percentage dropped of about 2%. This does not appear concerning, and likely reflects people moving as they reach the upper limits of old age.

Figure A.10: Form for requesting an absentee ballot in Texas. It may be completed in person or at home for mail/fax to the election administrator.

plication for Ballot by Mail	scribed by the Office of the Secretary of S	tate of Texas 45-15e 08/15	For Official Use Only VUID #, County Election F Statement of Residence, e	Precinct #,	
Last Name (Please print information)	Suffix (Jr., Sr., III, etc)	First Name			Middle Initial
Residence Address: See back of this application for instructions.		City		,TX	Zip Code
Mail my ballot to: If mailing address differs from residence address, please complete Bo	x#7.	City		State	Zip Code
Date of Birth (mm/dd/yyyy) (Optional)				<u> </u>	
Reason for Voting by Mall:  ☐ 65 years of age or older. (Complete Box #8a)  ☐ Disability. (Complete Box #8a)	will be mailed. See	reverse for ir ed on my vote	nstructions. r registration certificate	address (other than residence), ind	
Expected absence from the county. (Complete Box #6b and Box #8)  You will receive a ballot for the upcoming election only	□ Nursing home, assiste     □ Hospital	d living facility,	or long term care facility	Relative; relationsh  Address outside the	e county (see Box #8)
Confinement in jail. (Complete Box#6b) You will receive a ballot for the upcoming election only	Retirement Center				
ONLY Voters Absent from County or Voters Confined in Jail:  Vou may only apply for a ballot by mail for one election, settly wall for periodical party to vote in appropriate box.    May Election   Annual Application   Periodical party to vote in a primary   Periodical party to vote in   Periodical party t	Date you can begin  Contact Information  Contact Information  Used in case our off  "I certify that the ir in this application	n (Optional)* mber and/or ecceive m n (Optional)* mber and/or ecce	all at this address mail address: ns. ren in this application is	e reverse for instructions  Date of return to residence add  Notice to Voter: Effective September 1 completed, signed and scanned applica (early voting clerk's e-mail address)  true, and I understand that giving 1	, 2015, you may submit a tion to the early voting cle
☐ Ciner ☐ Republican Primary ☐ Any Resulting Runoff  If someone helped you to complete this form the state of the state o	mark in the presence witness shall comple orm or mails the form for you, etcheck this box and sign below.	e of a witnes ste Box #11. then that po- tion on behalf of meanor if signal	erson must complete	neck this box as an <b>Assistant</b> and sign	cation.
Street Address Apt Number (if applicable)	City		_	,	

Este formulario está disponible en Español. Para conseguir la version en Español favor de llamar sin cargo al 1.800.252.8683 a la oficina del Secretario de Estado o la Secretaria de Votación por Adelantad

## Instructions for Application for Ballot by Mail

Residence Address - Give full address as shown on your voter registration certificate. If you have moved within the county but not yet changed your voter registration address with the voter registrar, include your new residence address.

Mail Ballot To - Give full address where you wish to have ballot mailed, if the address is different from your residence address.

Mailing Ballot to a Different Address - Your ballot must be mailed to your home where you live or to your mailing address on your voter registration certificate. There are some exceptions that allow you to have your ballot mailed to a different location as specified below.

Reason for voting by mail	Location to mail ballot
65 or disabled	Nursing home, assisted living/retirement center, relative, hospital
In jail	Address of jail or relative
Absent from county	Address located outside of county

Expected Absence from County - If you chose expected absence from county, you must expect to be absent from the county on election day and during the hours of early voting in person or for the remainder of the early voting period after you submit your application. Your ballot must be mailed to an address outside the county. Important: Give date you can begin to receive mail at the address given.

Annual Application - If you are 65 years of age or older, or disabled you may apply to receive all ballots by mail for a calendar year. If you do not select any elections in Box 6a, your application will be considered an Annual Application.

If you submit an annual application for a ballot by mail, your application may be forwarded to other entities holding elections where you are a qualified voter. This means that you may receive a ballot for those elections in addition to the ballot(s) you requested with this application.

## **Submitting Application**

Sign and date your application - If unable to sign, please go to Witness/Address boxes (11 on reverse) and have a person witness your mark. Witness/Assistant instructions follow below.
 Deliver to Early Voting Clerk - You may submit your application via these methods:

In Person: Only the applicant may submit their application in person to the Early Voting Clerk **until** the early voting period begins. However, after the early voting period begins for an election, the applicant may only submit their application with amal, fax, common contract carrier, or e-main.

By Mail: You may mail your application via the U.S. Postal Service.

By Fax: You may fax your application to the Early Voting Clerk. Please contact your Early Voting Clerk or the Secretary of State's Office for fax numbers.

By Common Contract Carrier: You may submit via a common or contract carrier which is a bona fide, for profit carrier.

By E-Mail: You may e-mail a signed, scanned image of your application to the Early Voting Clerk Please contact your Early Voting Clerk or the Secretary of State's Office for e-mail addresses.

Conducting the election not later than the 11th day before election day. If the 11th day is a weekend or holiday, the deadline is the first preceding business day. You may submit an application throughout the calendar year, beginning January 1. Please remember that the application must be received not later than the 11th day before the first election in which you seek to vote by

If you submit an Annual Application for Ballot by Mail within 60 days before an election that takes place in the following calendar year, your application will be valid for any election that takes place in the following calendar year, regardless of the fact that your application was submitted prior to the end of the preceding calendar year. This applies to Annual Applications only and not to a regular application for ballot by mail.

## Witness/Assistant Section

Witness: If you are unable to sign your name (due to a physical disability or illiteracy), the application may be signed at Box #11 for you by a Witness. You must affix your mark to the application in Box #10 or, if you are unable to make a mark, then the Witness must check the appropriate box in 11 indicating the inability to make a mark. The Witness must state his/her name in printed form and indicate his/her relationship to you or, if unrelated, state that fact. The Witness must sign and provide his or her printed name and residence address. Unless the Witness is a close relative of the voter (parent, grandparent, spouse, child or sibling), it is a Class B misdemeanor for a person to witness more than one application for ballot by mail.

Assistant: If a person (other than a close relative or person registered to vote at the same address) assists you in completing this application in your presence or mails/faxes/e-mails this application on your behalf, then that person must complete Box #11. The Assistant must sign, provide his or her printed name, and his or her residence address. A person commits a Class A misdemeanor if the person provides assistance without providing the information described above unless a close relative or registered at your address.

If you have further questions or need additional assistance, please contact your Early Voting Clerk or The Secretary of State's office at 1-800-252-8683 or www.sos.state.tx.us.

AFFIX LABEL HERE OR ADDRESS
TO: EARLY VOTING CLERK

DO NOT REMOVE PERFORATED TABS.

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AFFIX FIRST CLASS POSTAGE