How Did Absentee Voting Affect the 2020 U.S. Election?[*]

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Abstract

The 2020 U.S. election saw record turnout, a huge increase in absentee voting, and brought unified national Democratic control—yet these facts alone do not imply that vote-by-mail increased turnout or had major partisan effects. Using new microdata on millions of individual voters as well as aggregated turnout data across all 50 states, this paper offers the first causal analysis of the impact of absentee vote-by-mail during the COVID-19 pandemic. Focusing on natural experiments in Texas and Indiana, we find that 65-year-olds turned out at nearly the same rate as 64-year-olds, despite the fact that only 65-year-olds could vote absentee without an excuse. Being just old enough to vote no-excuse absentee did not substantially increase Democratic turnout relative to Republican turnout. Voter interest appeared to be more important in driving turnout across vote modes, neutralizing the electoral impact of Democrats voting by mail at higher rates during the historic pandemic. Our results do not justify attempts to roll back voting access—the safety, security, and convenience of a method of voting are important values independent of its effects on participation and should be incorporated into any policy analysis.

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1 Introduction

In the United States, the 2020 election, the COVID-19 pandemic, and the violent events of January 6th, 2021 poured gasoline onto an already raging debate about how the nation should administer its elections and, in particular, about voting by mail. While the two parties disagree vehemently over its value, pundits and practitioners on both sides seem to agree that it increases turnout and helps Democrats,[1] pointing out that the 2020 election featured an unprecedented expansion of voting by mail in response to the pandemic, had unusually high turnout, and resulted in unified Democratic control at the federal level. This conventional wisdom, despite being at odds with the beliefs of most election administration experts, structures the partisan debate over vote-by-mail, with many Republican state legislatures considering or implementing reforms to roll back vote-by-mail while most Democrats support its expansion.[2]

But did voting by mail significantly change participation and massively help Democrats in 2020? Or was turnout high in 2020 due more to high voter interest and engagement during an extraordinary election taking place under unprecedented circumstances? These questions speak directly to the health of democratic elections, as broad participation is thought to be a cornerstone of effective democracy (e.g., Verba, Schlozman, and Brady 1995; Lijphart 1997), and rules governing access to the ballot have often been used to suppress participation (e.g., Keyssar 2000; Keele, Cubbison, and White 2021).

In this paper, we provide the first causal evidence of the effect of no-excuse absentee voting—the most common form of vote-by-mail—during the 2020 presidential election and in historical context using newly assembled data from a natural experiment involving millions

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[1]For example: "When we see vote by mail increase in any state, we simultaneously see a turnout increase." (Amber McReynolds, chief executive of the National Vote at Home Institute). In "Republicans Pushed to Restrict Voting. Millions of Americans Pushed Back." Nick Corasaniti and Jim Rutenberg. *The New York Times.* Dec. 5, 2020; "I'm fairly convinced at this point that the Democratic strategy and the Democratic advantage in vote by mail was just crucially and critically important to Biden's win." (Tom Bonier, CEO of TargetSmart). In "Democrats took a risk to push mail-in voting. It paid off." *The Guardian.* Dec. 3, 2020.

[2]See for example `https://nymag.com/intelligencer/2021/02/republicans-launch-attacks-on-voting-by-mail.html`.

of individual voters. We start with an observational analysis of aggregate trends in turnout across all 50 states, comparing those that did and did not roll out no-excuse absentee voting for 2020. Then, we use administrative microdata from Texas and from Indiana on nearly 3 million voters, where we can leverage a "natural experiment" based on an age cutoff for no-excuse absentee voting eligibility (first analyzed prior to the pandemic for Texas in Meredith and Endter 2015). Using these datasets, we establish two basic facts that cast doubt on the conventional wisdom about vote-by-mail in 2020: First, states that did not offer no-excuse absentee voting in 2020 saw turnout increases similar in magnitude to states that offered no-excuse absentee voting for the first time in 2020. Second, we find that Texas and Indiana residents eligible to vote absentee without an excuse in 2020 were much more likely to vote absentee, but only slightly more likely to turnout compared to those just shy of the age threshold for voting absentee without an excuse. Finally, we show that while a greater share of Democrats preferred to vote absentee during the pandemic in Texas, the increase in absentee voting was offset by a smaller share of Democrats using early in-person voting. Having the option to vote absentee without an excuse did not, therefore, help Democrats gain a meaningful electoral advantage over Republicans. While our evidence casts doubt on the claim that extending no-excuse absentee voting in 2020 dramatically increased turnout and favored Democrats, our results do not justify attempts to roll back access to voting— even small effects can change election outcomes and many factors like the safety, security, and convenience of a voting method are important to consider when deciding how citizens can vote.

These facts suggest that no-excuse absentee voting did not meaningfully change the composition of the electorate during the 2020 election. They are inconsistent with the idea that vote-by-mail massively increased participation and dramatically boosted the Democratic party's performance. However, they are largely consistent with the predictions of election administration experts, as well as studies prior to the pandemic that generally suggested

that no-excuse absentee voting has had modest or null effects on turnout before COVID-19,[3] that it had been more successful at mobilizing already-engaged voters than marginal ones in previous elections (Berinsky, Burns, and Traugott 2001; Berinsky 2005; Monore and Sylvester 2011; Michelson et al. 2012), and that even universal vote-by-mail, a more dramatic policy, had relatively modest effects on participation before COVID-19 (e.g., Berinsky, Burns, and Traugott 2001; Gerber, Huber, and Hill 2013; Menger, Stein, and Vonnahme 2015; Thompson et al. 2020; Barber and Holbein 2020).[4] The pandemic was thought to greatly magnify the perceived costs of in-person voting,[5] and brought much more salience to vote-by-mail than had ever existed before. Studying vote-by-mail in 2020 thus presents a highly unique test case for theories seeking to explain why people vote in elections and how the decision to participate relates to the costs of voting.

Why did no-excuse absentee voting not have a bigger effect on the 2020 election, despite all of the rhetoric around it, and despite its evident popularity as a way to vote? The conventional wisdom that expanding vote-by-mail increased turnout substantially and dramatically helped the Democrats is built, implicitly if not explicitly, on a popular theory of political

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[3]See Table A.2 for a review of the literature. In most studies, the reported relationships between no-excuse absentee policies and overall turnout are null (e.g. Oliver 1996; Gronke, Galanes-Rosenbaum, and Miller 2007; Gronke et al. 2008; Giammo and Brox 2010), or positive but modest (e.g., Karp and Banducci 2001; Francia and Herrnson 2004; Leighley and Nagler 2009; Larocca and Klemanski 2011; Leighley and Nagler 2011)—though see Burden et al. (2014) for an estimated negative relationship. Studies that employ a clear causal design take one of two approaches. First, a few studies estimate the effects of no-excuse absentee on overall turnout using a difference-in-differences design, where the treatment occurs at the state level. These studies generally show null (Fitzgerald 2005; Springer 2012) or even negative (Burden et al. 2014) effects of no-excuse policies on turnout, though difference-in-differences estimates from state-level treatments are generally imprecise (Erikson and Minnite 2009). Second, Meredith and Endter (2015) estimates the effect of no-excuse absentee policies on turnout using an individual-level regression discontinuity design, leveraging Texas's 65 year-old age cutoff threshold. Meredith and Endter (2015) finds a null effect of the policy on overall turnout in the 2012 general election, though it did lead to a large increase in the share of voters who used absentee-by-mail voting, similar to previous work (Oliver 1996; Dubin and Kalsow 1996; Karp and Banducci 2001). The paper finds some suggestive evidence for a positive turnout effect when it focuses on counties where take-up of absentee voting was higher among eligible 65-year-olds.

[4]Universal vote-by-mail does not appear to have large effects on partisan turnout or vote shares (Thompson et al. 2020; Barber and Holbein 2020), either, but it does seem to increase turnout among low-propensity voters (Gerber, Huber, and Hill 2013) and affects voters' choices in primary elections (Meredith and Malhotra 2011).

[5]The degree to which in-person voting was in fact dangerous, and thus more costly than normal during the pandemic, is unclear. There is research suggesting meaningful amounts of SARS-CoV-2 transmission at the polls, but there is also research suggesting little transmission (Leung et al. 2020). In the end, many Americans chose to vote by mail, while many others chose to vote in person.

participation that links the decision to vote in an election to the convenience of how one is able to cast a vote (Downs 1957; Riker and Ordeshook 1968; Wolfinger and Rosenstone 1980; Piven and Cloward 1988), suggesting that there are many marginal voters who will turn out if doing so is convenient and will not turnout otherwise. But others argue that, in high-salience elections like 2020, there are probably few marginal voters who base their decision to participate on the relative costs of one mode of voting over another, so long as the inconvenience and difficulty of in-person voting remains within reasonable bounds.[6] When an election is highly salient, voters are more engaged, and, having paid the cognitive costs to engage, are less sensitive to costs related directly to the act of voting; when an election is less salient, on the other hand, voters are less engaged and there is more space for the costs related to voting to affect the decision to participate.

Consistent with this view, we find evidence that no-excuse absentee voting *does* increase turnout by one to two percentage points in past midterm elections but not in presidential elections, indicating that convenience voting affects participation more when voter interest is low at baseline. Also consistent with this view, we find that the effect in 2020 is no larger for low-propensity voters.

The results of our paper are important for understanding why people vote and can help to inform future reforms intended to encourage participation in elections. They are not intended to address key normative concerns critical to the vote-by-mail debate. Whether expanding vote-by-mail is a good policy or not depends on evaluating its value to voters and to democracy, which is why election administration experts do not generally focus on its effects on turnout to evaluate it as a policy. Does it facilitate safe ways to vote during the pandemic? Do voters want their states to expand voting by mail? Can it be done in a secure fashion that engenders faith in the electoral process? These are some of the key questions that a principled approach to evaluating vote-by-mail from a policy perspective would need to ask that are beyond the scope of our study. The fact that no-excuse absentee voting does

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[6]See "Making Voting Easier Doesn't Increase Turnout." Adam Berinsky. *Stanford Social Innovation Review.* Feb. 8, 2016.

not appear to advantage one party over the other in a dramatic fashion is not a reason to implement or not implement the policy—it might be a good policy to implement no matter what, or it might be a bad policy to implement even if it's neutral from a partisan perspective. Likewise, the fact that it does not increase turnout, with the implication that rolling it back probably would not decrease turnout noticeably, does not imply that the public should not remain vigilant about potential voter suppression efforts related to election administration.

2 Vote-by-Mail and Turnout in 2020: No Evidence of Large Absentee Turnout Effect in Nationwide Analysis

In 2020, a number of states rolled out opportunities to vote by mail, particularly to vote absentee without an excuse, for the first time. In this section, we assemble data to evaluate whether the extension of no-excuse absentee voting had an obvious effect on turnout in 2020.

To evaluate whether there is any evidence that states that implemented vote-by-mail in 2020 saw higher turnout than other states, we assembled data on turnout and on election administration policies for all fifty states. We describe this data collection process in detail in Section A.1 in the online appendix. Election turnout data is from McDonald (2021) and was downloaded from The United States Elections Project website.[7] All data was merged at the state-year level.

As Figure 1 shows, there is no evidence that turnout rose dramatically more in states that switched on no-excuse absentee voting fully for 2020 than in states that did not. Instead, turnout is up dramatically for both groups of states. Compared to the 2016 presidential election, turnout was up roughly 4.8 percentage points in states that did not implement no-excuse absentee voting for 2020, and up roughly 5.6 percentage points in states that did.

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[7]http://www.electproject.org/

Figure 1 – Comparing Rates of Turnout for States With Different Vote-by-Mail Policies in 2020. States that implemented no-excuse absentee voting in 2020 for the first time do not exhibit noticeably bigger increases in turnout in 2020 than states that did not implement it.
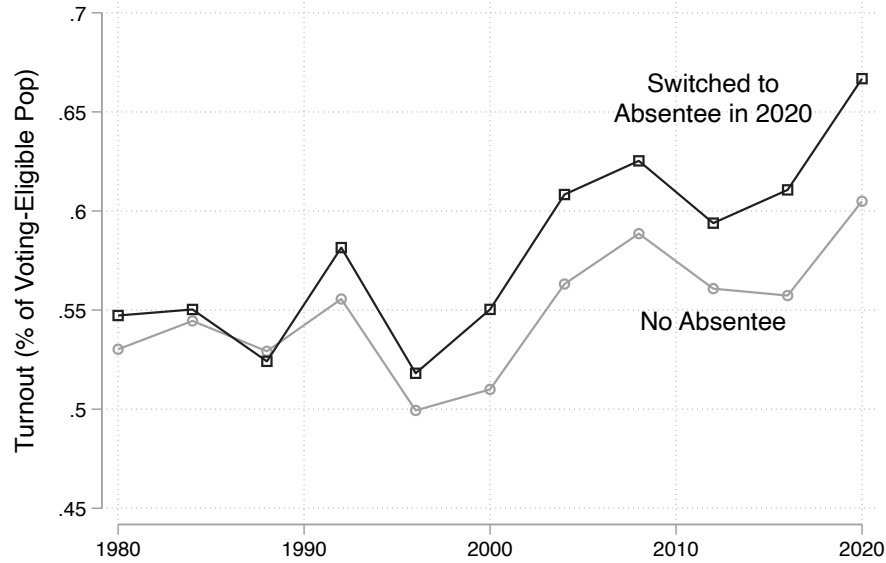
States implementing full no-excuse absentee voting in 2020 are: AL, AR, CT, DE, KY, MA, MI, MO, NH, NY, PA, SC, VA, WV. States without full no-excuse absentee voting are: IN, LA, MS, TX.

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This 0.8 percentage point difference in the increase from 2016 for the two groups of states does not necessarily indicate a modest but positive effect of no-excuse absentee voting, either. It could well be statistical noise; in fact, between 2012 and 2016, turnout increased by 1.7 percentage points in states that would go on to implement no-excuse absentee voting in 2020 (but which had not yet implemented it in 2016), and by -0.003 percentage points in states that would go on to not implement it in 2020 (or in 2016). This roughly 1.7 percentage-point gap is more than twice as large as the gap in 2020, yet cannot reflect an effect of absentee voting. Hence, it gives a sense of the amount of random variation that can give rise to different election-to-election changes in turnout.

These estimates are noisy and the empirical design is not strong—the timing of vote-by-mail implementation is not random, and parallel trends is unlikely to be met—but they

do not suggest major effects of vote-by-mail on turnout in 2020, and they seem inconsistent with hyperbolic claims made about the role of vote-by-mail in the 2020 election.

Properly estimating the effect of no-excuse absentee policies on turnout is difficult because the states that implement no-excuse absentee differ systematically from those that do not implement these policies.[8] Idiosyncratic differences in 2020, or persistent trends over time that differ in states that changed their policies for 2020, make it difficult to derive any strong conclusions from a nationwide analysis. While suggestive, we need a stronger empirical strategy to isolate the causal effect of no-excuse absentee voting.

3 The Causal Effect of Vote-by-Mail in 2020: Quasi-Experimental Evidence from Texas and Indiana

To obtain stronger causal evidence, we focus on the states of Texas and Indiana, where we can leverage an age cutoff that these states employ in their vote-by-mail programs, following Meredith and Endter (2015). In this section, we begin by discussing the case and data. We then to turn to visual evidence, describe our formal estimation strategy, present our main esimtates, and discuss a large number of checks we run to validate our findings.

3.1 Overview of Texas and Indiana Age Cutoff Policies

In Texas and Indiana, voters under the age of 65 on Election Day must provide a valid excuse in order to vote absentee, while voters age 65 or older on Election Day may apply for an absentee ballot without providing an excuse.[9] We focus on Texas and Indiana because they

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[8]Biggers and Hanmer (2015) does not find evidence that the partisan makeup of the state legislature or governorship influences the likelihood of enacting no-excuse absentee policies. But states with larger populations of older voters, states that are larger in geographic size, and states in the West are more likely to adopt no-excuse absentee policies, raising questions about the validity of making cross-state comparisons to estimate the effects of no-excuse absentee policies.

[9]Common excuses for requesting an absentee ballot include a disability, or not planning to be present in one's county on Election Day. See Figures A.1 and A.2 in the Appendix for copies of the absentee ballot request forms from Texas and Indiana which include a list of valid excuses.

maintained the 65-year cutoff for voting absentee without an excuse for the general election and report voter date of birth publicly in the voter file.

3.2 Administrative Data on Voting in Texas and Indiana

We construct a new dataset on Texas elections before and during COVID-19 from a few main sources. First, we acquired the Texas voter file from the Texas Department of Elections. Each row in the file is a voter, and it includes their state-issued voter ID number, name, date of birth, county, and turnout in the 2020 general election. Texas also records vote mode, meaning we can observe whether each person voted absentee-by-mail, early in-person, or at their polling place on Election Day. We supplement the 2020 file with files produced immediately after each even-year primary, runoff, and general election from 2012-2018 from Ryan Data & Research,[10] a company that has maintained the list of Texas registrants over time, compiled from Texas Department of Elections voter files. With these additional files, we avoid conditioning on those who remain registered in 2020, sidestepping a common source of bias in voter file studies (e.g., Nyhan, Skovron, and Titiunik 2017).

We build a similar dataset on Indiana elections, but it is more limited in a few important ways. First, we only have access to voter files collected following the 2018 and 2020 elections, both provided by the political data vendor L2. Second, the 2018 file does not report vote mode, so we cannot measure how use of vote mode changes over time in Indiana.

Texas and Indiana do not have traditional party registration systems, so we define a voter's party affiliation based on each voter's most recent participation in a partisan primary or primary runoff election.[11]

The voter file in any given year is limited to the citizens registered at the time of the election. If access to no-excuse absentee voting makes a citizen more likely to register and more likely to vote, conditioning on registration will understate the effect of a no-excuse

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[10]https://www.ryandata.com/

[11]See https://www.sos.state.tx.us/elections/laws/advisory2018-15.shtml for a description of how party affiliation works in Texas. Party affiliation is similar in Indiana.

absentee policy on voter turnout. We address this by estimating the voting population by age and county on election day and estimating the non-voting population as the remainder after subtracting the number of voters from the population totals. To do this, we compute the number of county residents by age on election day starting with county-age level census population estimates.[12] These estimates reflect respondent age in July of the estimate year. All of the elections we study are held four months later in early November, so we use national year and month of birth population estimates to adjust the number of residents to account for the additional four months of aging. Also, the Census last produced estimates in 2018, so we assume that all residents aged two years between 2018 and 2020, ignoring mortality for this last year. Lastly, because this data is top-coded at age 85, we restrict our analyses to voters under the age of 85. Once we have population estimates by year, age, and county, we add a row to our dataset for each non-voter county resident by age and year.

3.3 Graphical Evidence Shows Large Takeup of Absentee Voting, Yet No Major Turnout Effect of Vote-by-Mail in 2020

First, we show graphical evidence that voters with access to no-excuse absentee voting used that vote mode at a noticeably higher rate during the pandemic in 2020 than in previous elections. Recall that no-excuse absentee voting was just one of several options available to voters, who also had the option of voting early in-person or at their polling place on Election Day. The two left panels of Figure 2 shows the share of ballots cast that were cast absentee-by-mail across age, separately for the past three presidential elections in Texas and for 2020 in Indiana. As we see, 65-year-olds took advantage of being eligible to vote absentee in pre-COVID-19 elections, as previously documented in Meredith and Endter (2015). In 2020, many more 65-year-olds took advantage of the ability to vote absentee: about 17% of ballots cast by 65-year-olds in the 2020 general election were absentee votes. This pattern shows that voters appreciate the opportunity to vote absentee, especially during the pandemic. It

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[12]See https://seer.cancer.gov/popdata/download.html

Figure 2 – **Absentee Voting and Turnout Across Age and Elections in Texas and Indiana.** In Texas and Indiana, only voters aged 65 or older can vote absentee without providing an excuse. This creates a large and discontinuous increase in voting absentee for 65-year-olds, which grew dramatically in 2020 during the pandemic. Yet, turnout does not increase discontinuously between age 64 and 65, implying that the discontinuous increase in absentee voting is offset by a reduction in other modes.
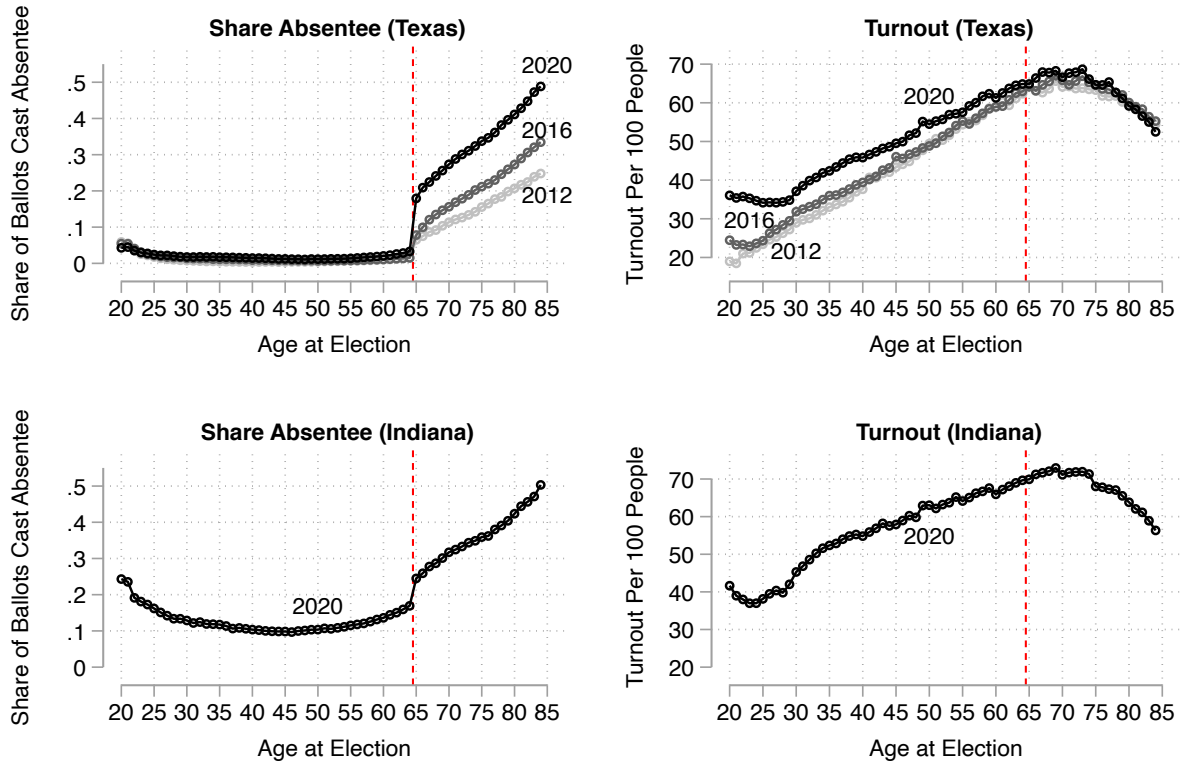
also strongly suggests that many 64-year-olds would like to vote absentee but are not able to.

If the conventional wisdom about the 2020 election is right—that the expansion of vote by mail massively increased turnout and helped the Democrats—then we should see a noticeable increase in turnout for 65-year-olds, because of their ability to vote by mail. The two panels on the right of Figure 2 show that this is not the case. Turnout looks almost identical for 65-year-olds and 64-year-olds in Texas and Indiana in 2020; there is no evidence at all for a jump, in the figure. While 65-year-olds did avail themselves of their ability to vote by mail, there is no noticeable increase in their turnout compared to 64-year-olds.

We now dig deeper to confirm this initial conclusion with formal statistical analyses.

3.4 Using the Age Cutoff to Estimate the Effect of No-Excuse Absentee Voting

To estimate the effect of no-excuse absentee policies on turnout, we would like to carry out an experiment where some voters have access to voting absentee without an excuse, while other similar voters, voting in the same election, do not. To approximate this ideal experiment, we take advantage of an age discontinuity in Texas and Indiana, where voters 65 years old can vote absentee without an excuse, while voters 64 years old must provide an excuse to vote absentee. Using OLS, we estimate the equation

$$Y_{iat} = \beta_t (\text{Age} = 65)_{iat} + \delta_t + \epsilon_{iat}, \tag{1}$$

where Y is the outcome—voted, voted absentee, or voted early in-person, for example—for individual i, in age bin a, in an election at time t. Because we subset to voters age 64 and 65 at the time of each election, there are only two age bins in the regressions below. The β_t term represents election-specific gaps between 65 and 64-year-olds, and δ_t represents election fixed effects.

The coefficient of interest, β_{2020}, tells us how much having access to no-excuse absentee increases turnout in 2020, during the pandemic. In this simple differences comparison, β_{2020} represents this quantity if the turnout rate for 64 and 65-year-olds would be identical had 65-year-olds not been eligible to vote absentee. We zoom in on 64 and 65-year-olds such that this comparison is more plausible. Since we expect that 65-year-olds will typically be slightly more likely to participate in any election, we use multiple difference-in-differences and regression discontinuity analyses in Section 3.6 to evaluate the robustness of our main findings to alternative identification assumptions.

Table 1 – Effect of No-Excuse Absentee Voting on Turnout and
Vote Mode, Texas and Indiana General Elections.

	Overall Turnout Pr(Voted)[0-100%]		Absentee Voting Pr(Absentee)[0-100%]		Early In-Person Pr(Early)[0-100%]		Election Day In-Person Pr(Elec. Day)[0-100%]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State	TX	IN	TX	IN	TX	IN	TX	IN
No-Excuse (Age=65) × 2020	**0.02**	**0.25**	**9.50**	**5.34**	**-8.81**	**-3.24**	**-0.67**	**-1.85**
	(0.12)	(0.22)	(0.06)	(0.17)	(0.13)	(0.23)	(0.06)	(0.20)
No-Excuse (Age=65) × 2018	2.31	1.13	4.42		-1.60		-0.51	
	(0.13)	(0.24)	(0.04)		(0.13)		(0.09)	
No-Excuse (Age=65) × 2016	1.21		4.05		-2.20		-0.65	
	(0.13)		(0.05)		(0.14)		(0.09)	
No-Excuse (Age=65) × 2014	2.86		3.91		-0.54		-0.51	
	(0.14)		(0.04)		(0.13)		(0.11)	
No-Excuse (Age=65) × 2012	1.92		3.25		-0.99		-0.34	
	(0.14)		(0.04)		(0.14)		(0.10)	
2020	2.52	8.01	1.21		11.64		-10.33	
	(0.13)	(0.23)	(0.03)		(0.14)		(0.08)	
2018	-4.26		-0.26		-0.92		-3.07	
	(0.14)		(0.02)		(0.14)		(0.10)	
2016	0.61		0.03		4.10		-3.52	
	(0.14)		(0.03)		(0.14)		(0.10)	
2014	-19.41		-0.58		-19.43		0.59	
	(0.14)		(0.02)		(0.13)		(0.11)	
Intercept (mean)	62.34	61.66	0.93	11.79	45.68	34.71	15.74	23.16
Intercept Year	2012	2018	2012	2020	2012	2020	2012	2020
# Obs	2,645,223	324,230	2,645,223	167,322	2,645,223	167,322	2,645,223	167,322

Robust standard errors in parentheses. Unit of observation is an individual by year. Indianans and Texans aged 64 or younger who are eligible to vote must provide a valid excuse if they wish to vote absentee. Those aged 65 or older who are eligible to vote can vote absentee without an excuse. Data on turnout and vote mode in Texas covers all presidential and midterm year elections between 2012 and 202 ¿ 0. Data on turnout in Indiana covers the 2018 and 2020 elections. Data on different vote modes in Indiana only covers the 2020 election.

3.5 Regression Estimates of the Effect of No-Excuse Absentee Voting in Texas and Indiana

Table 1 presents our formal estimates of the effects of Texas and Indiana's no-excuse absentee policy on overall turnout and vote mode.[13]

The first row of the table shows the estimated jump for 65-year-olds compared to 64-year-olds (this quantity does not need to be added to any main effect to get the total effect, as the regression included a full set of interactions of the age 65 indicator and the year).

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[13]To guard against concerns about possible divergent trends over time, we investigate parallel trends before 2020 in Texas in Appendix A.6. We also report a version of the main specification restricted to 2018 and 2020. We also report results from a specification with county-by-year fixed effects in Appendix A.10. These results leave our main conclusions unchanged.

In the first column, we see that the estimated increase in turnout for 65-year-olds, who are eligible to vote absentee without an excuse in Texas, is 0.02 percentage points—i.e., 2 basis points. The upper bound of the 95% confidence interval (with robust standard errors) for this effect is 0.26 percentage points. In the second column, we present a similar estimated effect of no-excuse absentee in Indiana, though the estimate is noisier. Both columns confirm our graphical evidence that suggested no major effect of vote-by-mail on turnout in 2020. Despite the salience of voting by mail in 2020, and despite the attention paid to the potential health risks of voting in person during the pandemic, the ability to vote by mail in Texas and Indiana had at most, a quite modest effect on turnout.

Interestingly, we do find initial evidence for a positive, though still relatively modest, effect on turnout in previous years, with estimates ranging from roughly 1.1 percentage points in 2018 in Indiana to 2.9 percentage points in 2014 in Texas. These jumps appear to be larger in midterm elections than in presidential elections, suggesting that vote-by-mail might be more effective at mobilizing voters when voter attention and salience are lower.

The remainder of the table breaks down this overall turnout effect into its constituent parts, studying the three mutually exclusive and exhaustive voting modes in Texas and Indiana—absentee voting, voting early in person, and voting on election day in person. These three estimates by construction sum to the estimate on overall turnout.

Looking across the columns, it is evident that being old enough to vote by mail in 2020 led to noticeably higher rates of voting by mail (columns 3 and 4), but that nearly all of this increase came from a decrease in voting early in person (columns 5 and 6), and voting in person on election day (columns 7 and 8). While rates of absentee voting increased by approximately 9.5 percentage points in Texas and 5.3 percentage points in Indiana, rates of early in person voting decreased by roughly 8.8 percentage points in Texas and 3.4 percentage points in Indiana, and rates of in person voting on election day decreased by roughly 0.7 percentage points in Texas and 1.85 percentage points in Indiana. Hence, almost all of the effect of eligibility on voting absentee came from voters who would have otherwise voted in

person early or on election day, and this is an important part of why the policy appears to have no effect on turnout during the pandemic.

The similarly limited effect of no-excuse absentee on 2020 turnout in Texas and Indiana is especially notable given how different voting patterns are in Texas and Indiana. In Texas, an unusually large share of voters vote early in person—57% of 64-year-olds in 2020—and many fewer vote in person on election day—5% of 64-year-olds in 2020. Meanwhile, in Indiana, 35% of 64-year-olds voted early in person in 2020, and 23% voted in person.

3.6 Accounting for Different Levels of Turnout by Age

The estimates above present the simplest and most straightforward way to analyze the effects of Texas's and Indiana's age cutoff on voting by mail and turnout. However, because age and turnout are correlated (see Figure 2 as well as Highton and Wolfinger 2001; Bhatti, Hansen, and Wass 2012), overall comparisons of 64 and 65-year-olds risks confusing the effect of absentee voting eligibility with the simple fact that 65-year-olds are a year older than 64-year-olds. Further, a number of life events occur and government benefits become available around age 65 that could further increase or decrease voter participation (Campbell 2003, 2012). This upward bias is probably not large and is unlikely to affect the 2020 analysis much, since we found a non-effect on turnout in 2020 without accounting for it, but it is important to try to get the best estimate we can, and it is particularly important for estimates for prior years, where we did find positive estimates in the analysis above.

To address this concern, we pursu three strategies. First, we use a day-level regression discontinuity design to estimate the effect of being born just in time to not need an excuse to vote absentee. Second, we use a year-level regression discontinuity design to estimate using the data we prepared for our earlier analyses. Finally, we use a difference-in-differences design to estimate the difference between the effect in 2020 vs previous presidential years. We focus these analyses on Texas where we have the necessary data to conduct all of them.

We discuss these analyses and provide additional implementateion details in Sections A.7, A.8, and A.9.

Across all three analyses, we find the same pattern—access to absentee voting without an excuse did not make 65-year-olds more likely to participate in 2020. In fact, the effect of no-excuse absentee eligibility is normally small and was likely smaller in 2020 than in previous years, just as in our main analysis.

3.7 Effects of Absentee Eligibility for Low vs High-Propensity Voters

Because voter turnout was extraordinarily high in 2020, and citizens over 60 years old are generally quite likely to vote, our Texas and Indiana analyses are focused on citizens who were very likely to vote even without a no-excuse absentee policy. Might this mask an effect for lower propensity voters, and especially for younger voters who could vote no-excuse absentee in many other states? In Figure A.6 in the online appendix we focus our Texas analysis on low-propensity voters. We find that extending no-excuse absentee voting did not make low-propensity voters more likely to turn out in 2020. This suggests two important takeaways: First, the non-effect of no-excuse absentee voting we document for 65-year-olds in Texas may generalize to other age groups, and therefore to other states where no-excuse absentee voting was made available to all age groups. Second, it is consistent with the theoretical argument that lowering the costs of voting through convenience voting reforms generally has modest or null effects on turnout because the dominant driver of individuals' decisions to participate is interest rather than convenience.

3.8 Partisan Effects of Vote-by-Mail

One of the major narratives around vote-by-mail in 2020 is that it helped Democrats electorally in a big way—more Democrats embraced absentee voting while Republicans opposed

it and chose to vote in person instead (Kousser et al. 2020; Lockhart et al. 2020). Based on our main findings, we would not expect that partisan use of vote-by-mail would be an important factor in election outcomes since most of its use was offset by a drop in in-person voting. Still, this could mask an increase in Democrats voting by mail and a decrease in Republicans voting in-person, tilting the electorate toward Democrats. While we find strong evidence that Democrats were more likely to take advantage of their absentee voting eligibility, this did not meaningfully change the composition of the electorate in Texas and Indiana in 2020 compared to previous elections.

Figure 3 compares the rates of absentee voting, as a proportion of all ballots cast, across age and party for 2020 in Texas and Indiana.[14] In the two left panels, we see a much greater jump in adoption among Democrats than Republicans in 2020 in both Texas and Indiana. In the two right panels, we see that Democrats who are eligible to vote absentee in 2020 due to their age were noticeably less likely to vote early in person. Meanwhile, Republicans, who were less likely to take up absentee voting when eligible, were only slightly less likely vote early in person if their age made them eligible to vote absentee.[15]

As we saw in our main findings, the higher rate of absentee voting among eligible Democrats is offset by the lower rates of in-person voting, implying that the extension of no-excuse absentee voting did not dramatically advantage one party or the other. In Table A.8 in the online appendix, we offer formal estimates from a regression discontinuity design that reach the same conclusion. Taken together, we can easily dismiss hyperbolic claims that no-excuse absentee voting will usher in an era of permanent Democratic majorities. But, in a state like Georgia, where Biden defeated Trump by roughly one quarter of one percentage point, we have no way of ruling out the possibility that no-excuse absentee voting could have tipped the difference one way or the other. Our results should also not be taken as evidence

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[14]Data on vote mode is only available for 2020 in Indiana, so we are unable to learn whether takeup of absentee voting is more split along partisan lines in 2020 than in previous years. As we mentioned earlier, we define party based on a voter's most recent partisan primary or runoff participation.

[15]In Section A.12.2 in the online appendix, we show that this partisan gap in substitution patterns more than doubled betwen 2016 and 2020 in Texas.

**Figure 3 – Share of Ballots Cast Absentee, By Age and Party, 2020
Texas and Indiana General Elections**. The partisan gap in absentee
voting is evident in both Texas and Indiana. The greater share of Democrats
adopting absentee voting is offset by a smaller share of Democrats using early
in-person voting.
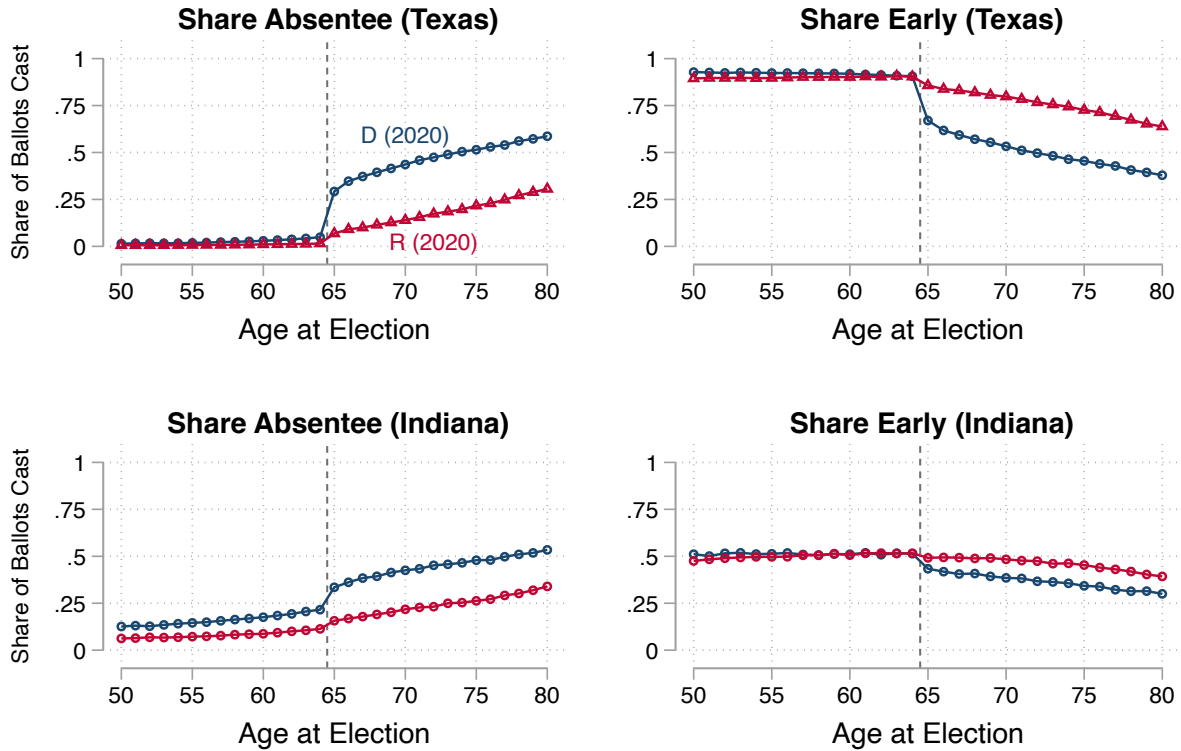
that rolling back vote-by-mail policies in places like Georgia does not constitute important
voter suppression—we simply lack the statistical power to assess this one way or the other.

4   Conclusion

The 2020 election brought extraordinary challenges to the American electoral system. The
dramatic expansion of vote-by-mail in response to the COVID-19 pandemic, the sharp in-
crease in partisan polarization concerning questions of election administration, and the un-
precedented refusal of former President Trump to acknowledge the election results have all
contributed to a crisis of confidence in American democracy. This crisis has triggered an

ongoing debate about how the U.S. should administer its elections, and about what role absentee voting should play going forward.

A conventional wisdom about vote-by-mail in the 2020 election has already congealed and is setting the terms of this debate. By this account, the expansion of vote-by-mail triggered widespread adoption of absentee voting, which in turn massively increased turnout, which in turn played a big role in helping he Democratic party. Both parties have accepted this narrative and are engaged in rhetorical combat on these terms.

The problem with this conventional wisdom is that it is based on a fallacy. It's true that more people voted by mail than ever before in the 2020 election. It's also true that turnout was extraordinarily high in 2020. And it's also true that the Democratic party won the Presidency and the Senate and maintained control of the House. But these facts do not imply that voting by mail increased turnout or helped the Democrats in dramatic ways.

In fact, as we've shown, the major effect of expanding absentee voting is to change *how* people vote, not *whether* they vote. Simply observing that many people voted by mail in 2020, and that many of the people who voted by mail were Democrats, is insufficient to conclude that vote-by-mail helped the Democrats; many of these voters would probably have voted in person had they not had the opportunity to vote absentee instead.

Using nationwide data, we have shown that states that implemented absentee voting for the 2020 election saw no obvious, dramatic increases in turnout relative to states that did not. Indeed, turnout was up across the board in 2020, and increased markedly in states that did not expand their absentee voting programs at all.

Using data from Texas and Indiana, we offered a more rigorous evaluation of the effects of absentee voting, taking advantage of a natural experiment where 65-year-olds could vote absentee without an excuse while 64-year-olds could not. This rule led many more 65-year-olds to vote absentee than 64-year-olds, but it did not make them turn out at higher rates. In fact, turnout was up most for younger voters who could not vote absentee without an excuse; in Texas, turnout was up most for voters in their 20s, almost none of whom voted

absentee. Moreover, the proportion of voting 65-year-olds in the 2020 election who were Democrats was not noticeably higher than the proportion of voting 64-year-olds who were Democrats, despite the large gap in absentee voting between the two age groups.

The results of our paper do not offer a clear recommendation for the policy debate around vote-by-mail, but they do suggest that both sides of the debate are relying on flawed logic. Vote-by-mail is an important policy that voters seem to like using, and it may be a particularly important tool during the pandemic. Despite all that, and despite the extraordinary circumstances of the 2020 election, vote-by-mail's effect on turnout and on partisan outcomes is muted, just as research prior to the pandemic would have suggested.

Documenting that the effect of vote-by-mail on turnout is so muted even during a historic pandemic is important for our theories of why people vote. Even during COVID-19, the chance to cast your vote without having to go to the polls in person made little difference for participation. Instead, turnout increased dramatically everywhere because voters on both sides cared more than usual about the outcome. This does not mean that the costs of voting are never important—especially when they are made artificially high in an attempt to suppress participation—but it does suggest that expanding participation requires understanding how to engage voters and make them interested in the election more than it requires focusing on the details of different convenience voting reforms.

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Online Appendix

Intended for online publication only.

Contents

A.1 Vote-by-Mail and Turnout in 2020: Nationwide Analysis Data

Our nationwide dataset consists of indicators for three major election administration policies—no-excuse absentee voting, early voting, and universal vote-by-mail elections—and a count of ballots cast in presidential elections in all 50 states between 1980 and 2020. Election administration policies through 2008 were collected from Pew's "Early and Absentee Voting Dataset."[16] The Pew data records states' election policies as written in relevant statutes and administrative codes. For elections after 2008, we coded indicators of election administration polices based on the reports of leading news and voter-information organizations.[17]

In order to accommodate varying terminology, early voting is broadly defined, including early voting, in-person absentee voting, and advance voting variants. No-excuse absentee includes states where individuals were allowed to cite COVID-19 generally as a valid excuse in 2020. States that allowed no-excuse absentee voting only under limited circumstances, like only for voters over the age of 65 (as in Indiana, for example) or only for voters with a specific issue related to COVID-19 (like Louisiana), are counted as requiring an excuse.

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[16]https://www.pewtrusts.org/en/research-and-analysis/reports/0001/01/01/nonprecinct-place-voting
[17]https://apps.npr.org/early-voting-2012/;
https://www.npr.org/2020/09/14/909338758/map-mail-in-voting-rules-by-state;
https://www.pewtrusts.org/en/research-and-analysis/reports/0001/01/01/nonprecinct-place-voting;
https://www.vote.org/early-voting-calendar/

A.2 Texas and Indiana Absentee Ballot Application

Figure A.1 shows a sample absentee ballot from Texas. As section 5 of the form shows, valid reasons for voting by mail include being 65 years of age or older, a disability, expecting to be absent from one's county on Election Day, or confinement in jail.

Figure A.1 – Texas Absentee Ballot Application

Figure A.2 shows a sample absentee ballot from Indiana. As section 4 of the form shows, valid reasons for voting by mail include being 65 years of age or older, a disability, and expecting to be absent from one's county on Election Day.

Figure A.2 – Indiana Absentee Ballot Application

APPLICATION FOR ABSENTEE BALLOT BY MAIL ONLY IN 2020
For Election on 11 /3 / 2020
State Form 47090 (R29 / 4-20) Indiana Election Division (IC 3-11-4-2; 3-11-4-5.1; 3-11-10-24)

(ABS-MAIL)

INSTRUCTIONS: Complete and return application so it is received by county election board at least twelve (12) days before election day. **DEADLINE: For the June 2, 2020 Primary Election, deadline for county to RECEIVE is May 21, 2020 BY 11:59 p.m. (local prevailing time). For November 3, 2020 General Election, deadline for county to RECEIVE is OCTOBER 22, 2020 BY 11:59 p.m. (local prevailing time). THIS APPLICATION CAN BE MAILED, E-MAILED, FAXED, OR HAND-DELIVERED. If you receive this completed application from a voter, you must file the completed application with the county or Indiana Election Division by noon, ten (10) days after receiving it or by the absentee deadline, whichever comes first. You must provide the date you received the completed application in box 5.**

County of residence: ALLEN

1. INFORMATION OF ABSENTEE BALLOT APPLICANT

Name *(Please print.)*	Date of birth *(mm/dd/yy)* ___/___/___	Last Four Digits of Social Security Number *(Completing this box is optional.)* _____ **OR** ☐ I do not have a Social Security Number.

Change of Name *(If you changed your name since you registered to vote, please print your FORMER NAME to authorize an update to your voter registration:*

Registration Address *(number and street)*	City/Town, State, ZIP Code	Telephone Number *(Optional)* ( )

2. ABSENTEE BALLOT MAILING ADDRESS *(Please mail the absentee ballot for the election to me at this address if different from registration address.)*

Mailing Address *(number and street)*	City/Town, State, ZIP Code

3. PRIMARY ELECTION ONLY

Under state law, you must request a major political party ballot to vote in a primary election. You may vote on a public question without voting a political party ballot, if a referendum (public question) is held on the same day as the primary. **I apply for the ballot of the political party, a majority of whose candidates I voted for at the last general election, or whom I intend to vote for in the next general election:**

☐ **DEMOCRATIC PARTY**　☐ **REPUBLICAN PARTY**　*OR*　I do not wish to vote in either party's primary but wish to vote on a　☐ **PUBLIC QUESTION ONLY**

4. REASON TO VOTE ABSENTEE BALLOT BY MAIL

☐ I have a specific, reasonable expectation of being absent from the county on election day during the entire twelve (12) hours that the polls are open.

☐ I will be confined to my residence, a health care facility, or a hospital due to illness or injury during the entire twelve (12) hours that the polls are open.

☐ I will be caring for an individual confined to a private residence due to illness or injury during the entire twelve (12) hours that the polls are open.

☐ I am a voter with disabilities. *NOTE: If you are unable to mark the ballot or sign the ballot security envelope, you must contact the county election board to process your application.*

☐ I am a voter at least sixty-five (65) years of age.

☐ I will have official election duties outside of my voting precinct.

☐ I am scheduled to work at my regular place of employment during the entire twelve (12) hours that the polls are open.

☐ I am unable to vote at the polls in person due to observance of a religious discipline or religious holiday during the entire twelve (12) hours the polls are open.

☐ I am a voter eligible to vote under the "fail-safe" procedures in IC 3-10-11 or 3-10-12.

☐ I am a member of the military or a public safety officer.

☐ I am a "serious sex offender" (as defined in IC 35-42-4-14(a)).

☐ I am prevented from voting due to the unavailability of transportation to the polls.

Contact your county election board if you wish to vote by absentee ballot in person at the county or before a traveling board; you want your power of attorney to apply for you; or are in Attorney General Confidentiality Program.

I swear *or affirm* under the penalties of perjury that all information set forth on this application is true to the best of my knowledge and belief. Perjury is punishable by imprisonment for up to 2½ years, a fine of up to $10,000, or both.

Signature of voter *(or person designated to sign by a voter with disabilities who is unable to sign)* X	Date signed *(mm/dd/yy)* ___/___/___

NOTE: 5. *IF YOU RECEIVED THIS COMPLETED APPLICATION FROM THE VOTER, PUT THE DATE IT WAS RECEIVED:*
_____ ____, 20_____.

6. INFORMATION OF INDIVIDUAL ASSISTING ABSENTEE BALLOT APPLICANT

Name *(Please print.)*	Date of birth *(mm/dd/yy)* ___/___/___	Telephone Number *(Day)* ( )	Telephone Number *(Evening)* ( )

Registration Address *(number and street)*	City/Town, State, ZIP Code

Mailing Address *(number and street)*	City/Town, State, ZIP Code

I swear *or affirm* under penalties of perjury that I am not the employer of this voter, an officer of the voter's union, or an agent of the employer or union of this voter and have no knowledge or reason to believe that the individual submitting the application: (1) is ineligible to vote or to cast an absentee ballot; or (2) did not properly complete and sign the application.

Signature of Person Assisting Voter with Application X	Date signed *(mm/dd/yy)* ___/___/___

FOR OFFICE USE ONLY

Date *(mm/dd/yy)* ___/___/___	Precinct	Is applicant required to provide additional documentation to the county voter registration office but has not yet done so? ☐ Yes ☐ No

A.3 Early In-Person Voting Frequency by State

In this section, we show how common voting early in-person is in each state. As we note in the main text, Texas is a state where early in-person voting is very common, and we suspect the effects of extending no-excuse absentee policies on turnout would be larger in states with fewer convenience voting options. Figure A.3 uses survey data from the 2008 Survey of the Performance of American Elections (Alvarez et al. 2009; Alvarez, Levin, and Sinclair 2012), which asks each respondent who voted in the 2008 general election to report their vote mode. Figure A.3 shows the share of voters in each state who report voting early in-person. As we see, early in-person voting is more common in Texas (over 60% of voters) than almost any other state, and as the data in the body of our paper shows, the early voting rate in Texas has increased substantially since 2008, too.

Figure A.3 – Early In-Person Voting Share, by State The x-axis shows the share of votes cast in the 2008 general election that were reported as voting early in-person, and each point represents a state. As we see, early in-person voting is very common in Texas (TX), and is more common in Texas than nearly every other state.
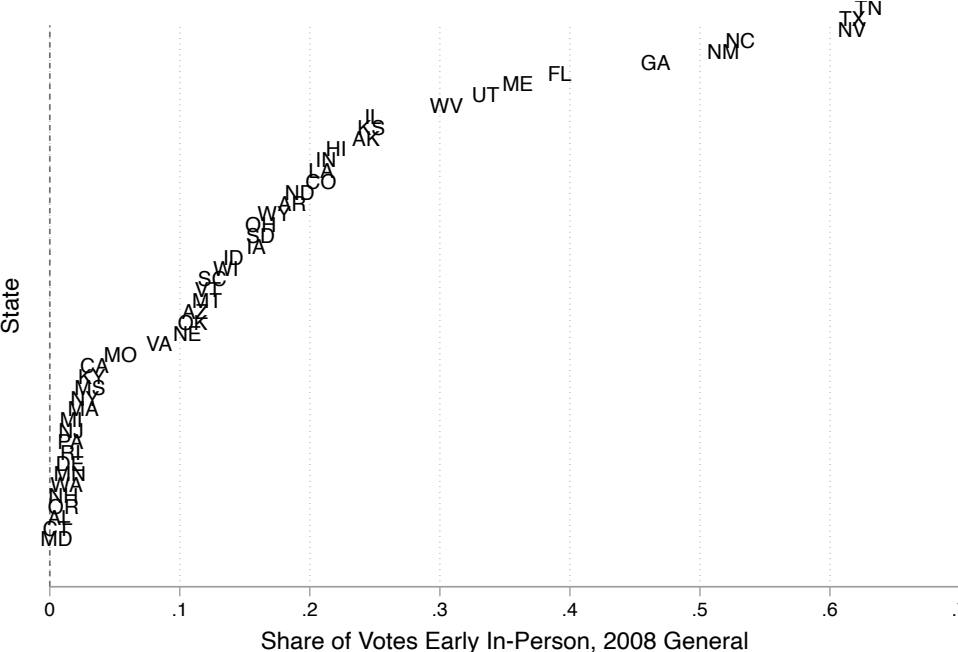
A.4 No-Excuse Absentee Policies by State

In this section, we summarize each state's absentee voting policy for the 2020 general election.

Table A.1 – Review of No-Excuse Absentee Policies for 2020 General Election. Universal Absentee refers to a policy where states mail every registered voter an absentee ballot application, in contrast to Universal Vote-by-Mail, where each registered voter is sent a mail ballot. States where COVID-19 fears are considered a valid excuse are coded as No-Excuse.

State	Abbr.	2020 General Election Policy	State	Abbr.	2020 General Election Policy
Alabama	AL	No-Excuse	Montana	MT	No-Excuse[18]
Alaska	AK	No-Excuse	Nebraska	NE	Universal Absentee, No Excuse Required
Arizona	AZ	Universal Absentee, No Excuse Required	Nevada	NV	Universal Vote-by-Mail
Arkansas	AR	No-Excuse	New Hampshire	NH	No-Excuse
California	CA	Universal Vote-by-Mail	New Jersey	NJ	Universal Vote-by-Mail
Colorado	CO	Universal Vote-by-Mail	New Mexico	NM	No Excuse[19]
Connecticut	CT	Universal Absentee, No Excuse Required	New York	NY	No-Excuse
Delaware	DE	Universal Absentee, No Excuse Required	North Carolina	NC	No-Excuse
Florida	FL	No-Excuse	North Dakota	ND	No-Excuse
Georgia	GA	No-Excuse	Ohio	OH	Universal Absentee, No Excuse Required
Hawaii	HI	Universal Vote-by-Mail	Oklahoma	OK	No-Excuse
Idaho	ID	No-Excuse	Oregon	OR	Universal Vote-by-Mail
Illinois	IL	Universal Absentee, No Excuse Required	Pennsylvania	PA	No-Excuse
Indiana	IN	Excuse Required	Rhode Island	RI	Universal Absentee, No Excuse Required
Iowa	IA	Universal Absentee, No Excuse Required	South Carolina	SC	No-Excuse
Kansas	KS	No-Excuse	South Dakota	SD	No-Excuse
Kentucky	KY	No-Excuse	Tennessee	TN	Excuse Required[20]
Louisiana	LA	Excuse Required[21]	Texas	TX	Excuse Required
Maine	ME	No-Excuse	Utah	UT	Universal Vote-by-Mail
Maryland	MD	Universal Absentee, No Excuse Required	Vermont	VT	Universal Vote-by-Mail
Massachusetts	MA	Universal Absentee, No Excuse Required	Virginia	VA	No-Excuse
Michigan	MI	No-Excuse Required	Washington	WA	Universal Vote-by-Mail
Minnesota	MN	Universal Absentee, No Excuse Required	West Virginia	WV	No-Excuse
Mississippi	MS	Excuse Required[22]	Wisconsin	WI	No-Excuse[23]
Missouri	MO	No-Excuse	Wyoming	WY	No-Excuse

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[18] Counties authorized to send mail-in ballot applications.

[19] Counties authorized to send mail-in ballot applications.

[20] Can cite COVID-19 as excuse if caring for individuals with special vulnerability.

[21] Absentee eligibility extended to medically vulnerable individuals, individuals under quarantine or who are caring for quarantined patients, and those experiencing COVID-19 symptoms.

[22] Can cite COVID-19 as excuse if under physician-ordered quarantine or caring for individual under quarantine.

[23] Absentee ballot applications sent to most general election voters.

A.5 Summary of the Extant Literature on No-Excuse Absentee Effects

This section summarizes the literature to date on the effects of no-excuse absentee programs. Each row of Table A.2 is a study on the effects of no-excuse absentee policies on turnout. Each column summarizes information about that study, including its setting, research design, effect on overall turnout, and its effect on absentee turnout.

Table A.2 – **Review of No-Excuse Absentee Effects Literature.** X-Section (X-S) refers to a cross-sectional design, and DiD refers to a difference-in-differences design, and RDD refers to a regression discontinuity design.

Paper	Setting	Design	Unit	Treatment Level	Turnout Effect	Absentee Mode Effect
Oliver (1996)	US	X-Section	Individual	State	Null to Modest +	Large +
Karp and Banducci (2001)	US	X-Section	Individual	State-Year	Modest +	Large +
Francia and Herrnson (2004)	US	X-Section	St. Leg District	State	Modest +	
Fitzgerald (2005)	US	DiD	State-Year	State-Year	Null	
Gronke, Galanes-Rosenbaum, and Miller (2007)	US	Panel	State-Year	State-Year	Null	
Leighley and Nagler (2009)	US	Panel	State-Year	State-Year	Null to Modest +	
Giammo and Brox (2010)	US	Panel	County-Year	State-Year	Modest − to Modest +	
Larocca and Klemanski (2011)	US	Pooled X-S	Individual	State-Year	Modest +	
Leighley and Nagler (2011)	US	Panel	State-Year	State-Year	Modest +	
Springer (2012)	US	DiD	State-Year	State-Year	Null	
Burden et al. (2014)	US	Pooled X-S	Individual	State-Year	Modest − to Large −	
Burden et al. (2014)	US	DiD	County-Year	State-Year	Modest −	
Meredith and Endter (2015)	TX	RDD	Individual	Age Discontinuity	Null	Large +

A.6 Evaluating Trends in Turnout Among 64 and 65-Year-Olds

In this section, we present graphical evidence supporting our identification strategy. 65-year-olds are permitted to vote absentee without an excuse during our entire study period, and 64-year-olds have always needed an excuse. We use a difference-in-differences design to study how COVID-19 changed the effect of this policy. This design only works if we can safely assume that 64-year-olds and 65-year-olds would have been on the same trend if COVID-19 had not occurred. We assess the plausibility of this assumption by plotting the turnout and absentee voting rates for both groups over time. We find that turnout and absentee voting rates move approximately in parallel for 64-year-olds and 65-year-olds over time, suggesting that our parallel trends assumption is plausible.

Figure A.4 – Trends in Turnout and Absentee Voting for 64 and 65-Year-Olds.
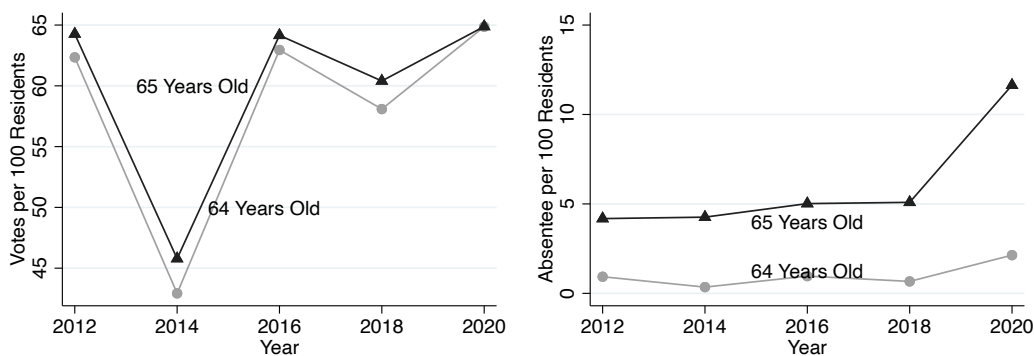
Starting in 2017, Texas implemented two policies that might increase absentee turnout for voters over 65. The first law slightly extends the amount of time an absentee ballot can arrive after election day and still be counted.[24] The second law automatically sends election judges from each party to any assisted living facility with more than 5 absentee ballot requests so that any resident can fill out an application and vote absentee on the spot, even if they were not the ones who requested an absentee ballot.[25] While these laws may have had an effect on absentee voting rates, it is not so large as to dominate other changes across elections.

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[24]https://capitol.texas.gov/billlookup/History.aspx?LegSess=85R&Bill=HB1151
[25]https://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=85R&Bill=HB658

A.7 Effects of No-Excuse Absentee Voting: Day-Level RD Analysis

In this section, we present additional estimates of the effect of no-excuse absentee eligibility in Texas comparing individuals' age using their precise birthdate, rather than just age. This approach allows us to restrict the comparison at the eligibility cutoff to individuals very similar birthdates. Doing so allows us to alleviate concerns about potential underlying differences between 64- and 65-year olds. Since precise estimates of population by exact birthday are not available, we report our turnout measure as the share of voters in the preceding presidential election year $(t-4)$ who turned out in t.

The running variable in the regression discontinuity design expresses the number of days passed since an individual's 65th birthday at the day of the respective election. We restrict analyses to individuals within 700 days of their 65th birthday, so approximately 2 years around the threshold. Below, we present graphical analyses in support of our main results using the Calonico, Cattaneo, and Titiunik (2014) approach and fitting a fourth-order polynomial to outcomes in Texas' general elections in 2020 and 2016.

We report results from the day-level RD analysis in Figure A.5 and Table A.3. The estimates show a sizable first-stage effect on take-up of absentee voting at the birthdate threshold, and, consistent with the analysis above, no effect on turnout. Using the `rdrobust` approach from Calonico, Cattaneo, and Titiunik (2014), we estimate that being just old enough to vote absentee without an excuse causes more than a 7 percentage-point increase in the rate of voting absentee, yet causes a -0.76 percentage-point *decrease* in the share of 2016 voters who turned out in the 2020 election. The upper bound of the 95% confidence interval for this estimate is 0.2 percentage points—similar the upper bound we estimated above in the year-level analysis.

There are two potential limitations to this approach, however. Perhaps because voters do not pay close attention to the eligibility conditions of signing up for absentee voting, and because you sign up for absentee voting well in advance of the election when you are not necessarily closely attuned to whether your birthday falls on election day or not, uptake in Texas's vote-by-mail program is not complete at the birthdate cutoff—a fact first observed in Meredith and Endter (2015). As the uptake increases to the right of the threshold, just a few days after individuals' 65th birthday, the local average treatment effect estimated right at the threshold could underestimate the overall effect of the policy, which phases in over time. Second, because we do not have data on the population of Texas by date of birth, we cannot construct the ideal denominator for measuring turnout rates like we can in the year-level analysis.

Figure A.5 – Share of Previous Election's Voters Voting In Next Election (left); Share of Absentee Voters Among All Voters In Election.
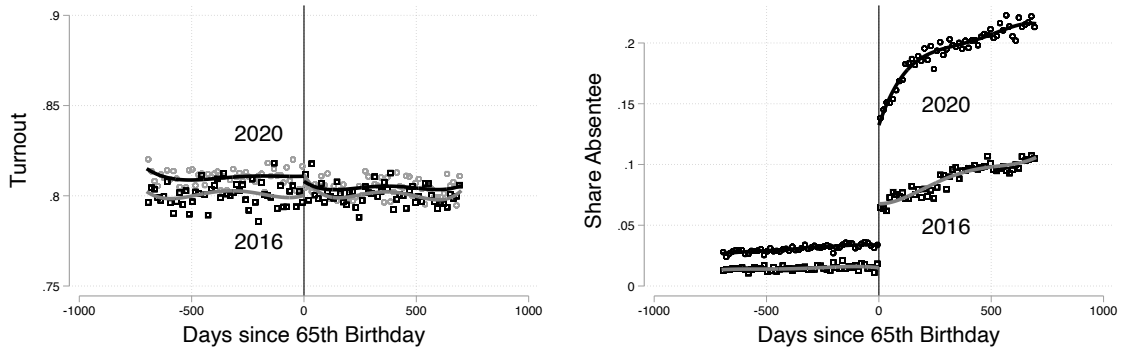
Table A.3 – Day-level RD Shows Very Small Effects on Turnout, Large Effects on Absentee Share.

	Turnout [0-100]		% Absentee [0-100]	
	(1)	(2)	(3)	(4)
Age 65+ at Election	1.09	-0.76	2.70	7.13
	(0.56)	(0.48)	(0.24)	(0.30)
BW (left)	174	205	118	170
BW (right)	174	205	118	170
N	130049	171071	91,825	145839
Year	2016	2020	2016	2020

Robust standard errors in parentheses. Unit of observation is an individual voter in a presidential election year. Age 65+ at Election is a binary indicator if voter was 65 years or older at the time of the election.

	Turnout [0-100%]				
	(1)	(2)	(3)	(4)	(5)
No Excuse (Age 65) × 2020	0.88	0.13	-1.41	0.15	-0.56
	(0.08)	(0.12)	(0.18)	(0.08)	(0.12)
No Excuse (Age 65) × 2018	2.08	1.30	1.28	0.92	1.28
	(0.08)	(0.13)	(0.20)	(0.09)	(0.12)
No Excuse (Age 65) × 2016	0.68	-0.95	-0.43	-0.54	0.07
	(0.08)	(0.13)	(0.20)	(0.09)	(0.12)
No Excuse (Age 65) × 2014	2.25	1.38	2.41	1.09	1.53
	(0.09)	(0.14)	(0.21)	(0.10)	(0.13)
No Excuse (Age 65) × 2012	0.74	0.76	1.18	0.46	0.78
	(0.09)	(0.14)	(0.21)	(0.10)	(0.13)
BW	10	10	10	20	20
Spec	Linear	Sq	Cubic	Sq	Cubic
# Observations	26,404,531	26,404,531	26,404,531	48,248,213	48,248,213

Robust standard errors in parentheses. Unit of observation is an individual
by year. Running variable model estimated separately for each year.

A.8 Effects of No-Excuse Absentee Voting: Year-Level RD Analysis

To try to account for the age trend issue in the year-level analysis directly, we can estimate age trends on either side of the 65-year-old age cutoff, akin to a regression discontinuity design or interrupted time series analysis. However, this analysis is fairly weak compared to the day-level RD. Estimating the running variable at the year level does not provide much data, and the estimates are quite sensitive to the bandwidth and specification used.

Table A.4 shows the results across a variety of specifications for two different bandwidths.[26] In all cases, we estimate the running variable model separately for each year, because, as Figure 2 showed, the steepness of the relationship between age and turnout varies by election.

Looking across the top row, we see that while implementing the RD makes the estimates noisy and more fragile, there is no consistent evidence for a large and positive effect. While

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[26]Because we use frequency weights to mimic an individual-level dataset of the entire population of the state of Texas, we are unable to use the popular rdrobust estimation package, which cannot accommodate frequency weights.

several estimates are positive and significant for 2020, the largest upper bound of the 95% confidence interval here among the significant estimates is still only an effect of 0.57 percentage points. Moreover, in the most flexible cubic specifications, the estimate actually becomes negative, and the 95% confidence interval does not contain any positive effects. The only larger positive estimate comes in column 1, but it is by far the noisiest estimate—likely because, based on Figure 2, the functional form to the right of the discontinuity looks distinctly parabolic and not linear.

Interestingly, the year-level RD approach does sharpen the contrast between effects in previous presidential years vs. previous midterm election years. The RD estimates are not terribly stable, looking across the columns, but do support the idea of a meaningful and positive effect on turnout in 2018 and 2014, with more modest and possibly null effects in 2016 and 2012. Again, this suggests that the mobilizing effect of vote by mail, while never very large, are larger when voter attention and salience are lower. Nevertheless, no obvious evidence for a large effect is found; the largest positive estimate we report is 0.88 percentage points, while the largest negative one is -1.41 percentage points, giving a sense of the instability of this approach.

**Table A.5 – Effect of No-Excuse Absentee Voting on Turnout and
Vote Mode, Texas Presidential General Elections, 2012-2020.**

	Overall Turnout Pr(Voted)[0-100%]		Absentee Voting Pr(Absentee)[0-100%]		Early In-Person Pr(Early)[0-100%]		Election Day In-Person Pr(Elec. Day)[0-100%]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No-Excuse (Age=65) × 2020	-1.53	-1.52	5.84	5.76	-7.19	-7.14	-0.14	-0.14
	(0.16)	(0.15)	(0.07)	(0.07)	(0.16)	(0.16)	(0.09)	(0.09)
# Obs	1,602,969	1,602,969	1,602,969	1,602,969	1,602,969	1,602,969	1,602,969	1,602,969
Year FE	Y	N	Y	N	Y	N	Y	N
County-by-Year FE	N	Y	N	Y	N	Y	N	Y
Age FE	Y	N	Y	N	Y	N	Y	N
County-by-Age FE	N	Y	N	Y	N	Y	N	Y

Robust standard errors in parentheses. Unit of observation is an individual by year. Texans aged 64 or younger who are eligible to vote must
provide a valid excuse if they wish to vote absentee. Those aged 65 or older who are eligible to vote can vote absentee without an excuse.

A.9 Effects of No-Excuse Absentee Voting in 2020: Difference-in-Differences Analysis

As we discussed above, pur regression discontinuity analyses address confounders that smoothly
change with age. For example, the average citizen becomes slightly more likely to cast a bal-
lot as they age. The regression discontinuity design cannot address confounders that change
discretely at the same age threshold as access to no-excuse absentee voting. For example,
some government programs are available for 65-year-olds and not 64-year-olds.

We address this concern by shifting our focus from whether no-excuse absentee affects
tunout to whether the effects were much larger in 2020 than in previous years. We estimate
this difference in the effects using a difference-in-differences analysis, comparing the age 65-
age 64 turnout gap in Texas in 2020 to the gap in 2012 and 2016. Table A.5 presents the
results.

Contrary to the expectation that access to absentee voting was especially important for
promoting participation in 2020, we find that the turnout gap between 65-year-olds and 64-
year-olds shrunk in 2020 relative the two previous presidential elections. This finding lines
up with our main results in the body of the paper.

We urge caution in interpreting these results. As we mention while discussing our main
analysis and the regression discontinuity analyses, turnout increased in 2020 most among
young people. This feature of 2020 reduces the turnout gap in 2020 relative to previous years
even if the effect of no-excuse absentee voting was the same in 2012, 2016, and 2020.

Still, the much smaller estimated effect in 2020 relative to previous years casts doubt on
the conventional wisdom that the effect of no-excuse absentee would be greatest in 2020.

Table A.6 – Effect of No-Excuse Absentee Voting on Turnout and Vote Mode, Texas General Elections, 2012-2020.

	Overall Turnout Pr(Voted)[0-100%]		Absentee Voting Pr(Absentee)[0-100%]		Early In-Person Pr(Early)[0-100%]		Election Day In-Person Pr(Elec. Day)[0-100%]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No-Excuse (Age=65) × 2020	**0.02**	**-0.00**	**9.50**	**9.50**	**-8.81**	**-8.81**	**-0.67**	**-0.70**
	(0.12)	(0.12)	(0.06)	(0.06)	(0.13)	(0.13)	(0.06)	(0.06)
No-Excuse (Age=65) × 2018	2.31	2.35	4.42	4.42	-1.60	-1.56	-0.51	-0.51
	(0.13)	(0.13)	(0.04)	(0.04)	(0.13)	(0.13)	(0.09)	(0.09)
No-Excuse (Age=65) × 2016	1.21	1.24	4.05	4.06	-2.20	-2.13	-0.65	-0.69
	(0.13)	(0.13)	(0.05)	(0.05)	(0.14)	(0.14)	(0.09)	(0.09)
No-Excuse (Age=65) × 2014	2.86	2.83	3.91	3.92	-0.54	-0.53	-0.51	-0.56
	(0.14)	(0.14)	(0.04)	(0.04)	(0.13)	(0.12)	(0.11)	(0.10)
No-Excuse (Age=65) × 2012	1.92	1.80	3.25	3.25	-0.99	-1.04	-0.34	-0.41
	(0.14)	(0.14)	(0.04)	(0.04)	(0.14)	(0.14)	(0.10)	(0.10)
2020	2.52		1.21		11.64		-10.33	
	(0.13)		(0.03)		(0.14)		(0.08)	
2018	-4.26		-0.26		-0.92		-3.07	
	(0.14)		(0.02)		(0.14)		(0.10)	
2016	0.61		0.03		4.10		-3.52	
	(0.14)		(0.03)		(0.14)		(0.10)	
2014	-19.41		-0.58		-19.43		0.59	
	(0.14)		(0.02)		(0.13)		(0.11)	
Intercept (2012 mean)	62.34		0.93		45.68		15.74	
# Obs	2,645,223	2,645,223	2,645,223	2,645,223	2,645,223	2,645,223	2,645,223	2,645,223
County-by-Year FE	N	Y	N	Y	N	Y	N	Y

Robust standard errors in parentheses. Unit of observation is an individual by year. Texans aged 64 or younger who are eligible to vote must provide a valid excuse if they wish to vote absentee. Those aged 65 or older who are eligible to vote can vote absentee without an excuse.

A.10 Within-County Estimates of No-Excuse Absentee Voting Eligibility

In this section, we present results from additional specifications that analyse the effect of no-execuse absentee voting eligibility on overall turnout and vote modes.

In Tables A.6 (Texas) and A.7 (Indiana), we report the estimates from regression specifications with country-by-year fixed effects. Odd columns replicate the estimates reported in Table 1, while even columns report the estimates for the specification with county-by-year fixed effects. Throughout all four outcomes (overall turnout and different vote modes), we observe no meaningful difference between estimates from the two specifications.

Table A.7 – Effect of No-Excuse Absentee Voting on Turnout and Vote Mode, Indiana General Elections, 2018 and 2020.

	Overall Turnout Pr(Voted)[0-100%]		Absentee Voting Pr(Absentee)[0-100%]		Early In-Person Pr(Early)[0-100%]		Elec. Day In-Person Pr(Elec. Day)[0-100%]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No-Excuse (Age=65) × 2020	**0.25**	**0.30**	**5.34**	**5.37**	**-3.24**	**-3.18**	**-1.85**	**-1.89**
	(0.22)	(0.22)	(0.17)	(0.17)	(0.23)	(0.22)	(0.20)	(0.20)
No-Excuse (Age=65) × 2018	1.13	1.14						
	(0.24)	(0.24)						
2020	8.01		11.79		34.71		23.16	
	(0.23)		(0.11)		(0.16)		(0.14)	
Intercept (2018 mean)	61.66							
# Obs	324,230	324,230	167,322	167,322	167,322	167,322	167,322	167,322
County-by-Year FE	N	Y	N	Y	N	Y	N	Y

Robust standard errors in parentheses. Unit of observation is an individual by year. People in Indiana aged 64 or younger who are eligible to vote must provide a valid excuse if they wish to vote absentee. Those aged 65 or older who are eligible to vote can vote absentee without an excuse.

Figure A.6 – No Effect of No-Excuse Absentee Policy on 2020 General Election Turnout for Low-Propensity Voters. This graph shows the turnout rate in 2020 across age for people who voted in the 2016 general election and the 2018 midterm vs. those who only voted in the 2016 general election, who are lower-propensity voters.
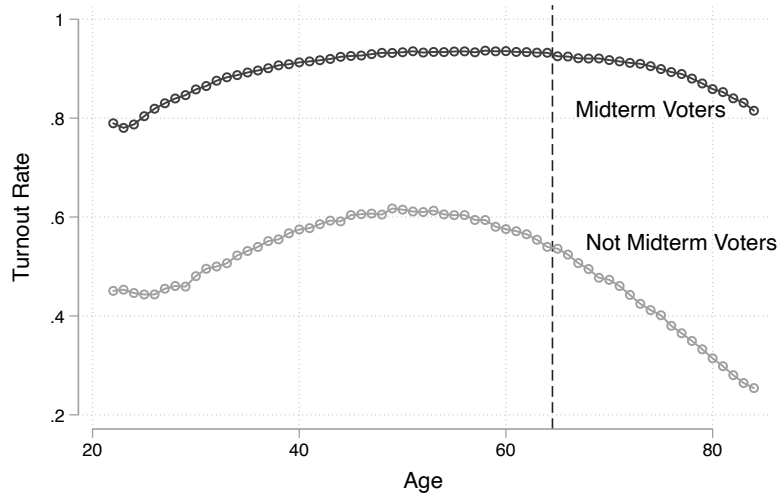
A.11 Effects of Absentee Eligibility for Low vs High-Propensity Voters

Because voter turnout was extraordinarily high in 2020, and citizens over 60 years old are generally quite likely to vote, our Texas and Indiana analyses are focused on citizens who were very likely to vote even without a no-excuse absentee policy. Might this mask an effect for lower propensity voters, and especially for younger voters who could vote no-excuse absentee in many other states?

In Figure A.6 we present evidence that extending no-excuse absentee voting did not make low-propensity voters more likely to turnout in 2020, in Texas at least. Citizens who voted in 2016 and 2018 were much more likely to vote in 2020 than those who voted in 2016 but not 2018—93% of the 64-year-old midterm voters voted in 2020 while only 54% of the 64-year-old non-midterm voters participated in 2020. Yet, even for the lower-propensity voters, extending no-excuse absentee voting did not increase participation, as illustrated in the lack of a discontinuous jump up in the turnout rate from age 64 to age 65 for non-midterm voters in the plot.[27]

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[27]In this analysis, we cannot distinguish between movers and non-voters. While this will generally suppress the overall turnout level and the effect size at the discontinuity, we expect the moving rate to be relatively smooth at the threshold, making this strong evidence of a limited effect for lower-propensity voters.

That the effect of no-excuse absentee voting is similar for those who voted in 2018 and those who did not suggests two important takeaways: First, the non-effect of no-excuse absentee voting we document for 65-year-olds in Texas may generalize to other age groups, and therefore to other states where no-excuse absentee voting was made available to all age groups. Second, it is consistent with the theoretical argument that lowering the costs of voting through convenience voting reforms generally has modest or null effects on turnout because the dominant driver of individuals' decisions to participate is interest rather than convenience.

| | Texas | | | Indiana | | |
| | Dem % of Turnout [0-100] | | | Dem % of Turnout [0-100] | | |
	(1)	(2)	(3)	(4)	(5)	(6)
No-Excuse (Age $\geq$ 65)	0.22	-0.57	-0.39	0.53	0.42	-0.84
	(0.14)	(0.21)	(0.13)	(0.28)	(0.42)	(0.26)
# Obs	391,619	3,714,875	6,387,178	116,771	1,092,475	1,829,944
Ages Included	64-65	55-75	45-85	64-65	55-75	45-85
Age Specification	–	Cubic	Cubic	–	Cubic	Cubic

Robust standard errors in parentheses. Columns 1 and 4 present the simple difference in means for voters aged 65 vs. 64. Columns 2-3 and 5-6 present estimates that include a broader range of ages and adjust for age trends using cubic specifications of age estimated separately on either side of the discontinuity.

A.12 Additional Results On Partisan Effects Of Absentee Voting Eligibility

A.12.1 Partisan Effects of No-Excuse Absentee Voting On Turnout (Texas and Indiana)

In Figure 2, we demonstrate that voting access to voting by mail causes Democrats to adopt more mail voting than Republicans but causes a similarly sized drop in Democrats voting in person. As a result, no-excuse absentee policies should not offer a permanent sizable advantage to either party. Table A.8 reports formal estimates of the effect of no-excuse absentee voting on the Democratic share of turnout in Texas and Indiana in 2020.

The first column presents the simple difference in the percentage of 2020 voters (that is, those who turned out) who were Democrats, between those aged 64 and those aged 65. Approximately 0.2 percentage points more voters were Democrats among 65-year-old voters. The upper bound of the 95% confidence interval is 0.5 percentage points.

In the next two columns, we address the possibility of trending across age which could bias the simple difference in means. To do so, we expand the range of ages included, and we flexibly control for trends in age on either side of the discontinuity using a cubic polynomial. When we do this, the estimate turns negative and remains small in magnitude.

The final three columns replicate this analysis for Indiana. In column 4, the simple difference in means shows roughly a 0.5 percentage-point increase in the percentage of voting 65-year-olds who are Democrats in 2020, with the upper bound of the 95% confidence interval

at about 1.1 percentage points. However, this difference shrinks, and in column 6 turns negative, when we try to account for trending.

A.12.2 Partisan Effects of No-Excuse Absentee Voting on Vote Mode (Texas)

In this section, we extend our analysis to show that despite the much larger rate of absentee voting among 65-year-old Democrats in 2020 compared to 65-year-old Republicans, the option to vote absentee without an excuse did not have large effects on the partisan composition of overall turnout in 2020. In column 1 of Table A.9, we estimate the effect of the no-excuse absentee policy on whether on the share of overall turnout of ballots cast by Democrats. We include a set of year fixed effects to control for unobservable characteristics of the election that might affect the Democratic share of turnout, like candidates on the ballot, for example. The interaction terms in column 1 of Table A.9, then, tell us the difference in the Democratic share of turnout between 65-year-olds, who can vote absentee without an excuse, and 64-year-olds, who cannot.

As the table shows, in 2020, the Democratic share of turnout among 65-year-olds was about 0.22 percentage points higher than the Democratic share of turnout among 64-year-olds. The 95% confidence interval ranges from -0.06 to + 0.5 percentage points, so we can rule out dramatic effects of the no-excuse absentee policy on the partisan share of turnout. Moreover, the effect in 2020 is estimated to be smaller than in 2018 and 2016 (though a formal test would not reject the null of no difference), which is hard to square with the narrative that these policies had an especially large partisan effect in 2020.

Despite the modest-to-null effects of no-excuse absentee voting on the partisan composition of the electorate, in columns 2-7 we provide formal estimates to document the substantial polarization in vote mode. Columns 2, 4, and 6 of Table A.9 show the effects of the no-excuse absentee policy on the share of Democratic turnout that uses absentee voting, early in-person voting, and election day voting, respectively. Columns 3, 5, and 7 show the same for Republicans.

As we saw graphically in Figure 3, having access to no-excuse absentee voting in 2020 led to a large increase in the use of absentee voting among Democrats, about 24.4 percentage points, compared to about an 11.1 percentage point increase among Republicans. Comparing this difference between Democrats and Republicans separately for each year, we see that the partisan gap in vote mode appeared prior to 2020, but has grown dramatically during the COVID-19 pandemic. As we showed graphically in Figure 3, these increases in absentee

Table A.9 – Effect of No-Excuse Absentee Voting on Party Turnout, Texas General Elections, 2012-2020.

	Dem % of Turnout	Absentee % of Turnout		Early % of Turnout		Elec. Day Ballots % of Turnout	
		D	R	D	R	D	R
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
No-Excuse (Age=65) × 2020	**0.22**	**24.37**	**11.09**	**-23.61**	**-9.96**	**-0.76**	**-1.13**
	(0.14)	**(0.22)**	**(0.10)**	**(0.24)**	**(0.14)**	**(0.12)**	**(0.11)**
No-Excuse (Age=65) × 2018	0.25	11.14	6.09	-9.59	-4.39	-1.55	-1.70
	(0.15)	(0.18)	(0.08)	(0.30)	(0.18)	(0.26)	(0.17)
No-Excuse (Age=65) × 2016	0.47	8.78	5.61	-7.86	-4.15	-0.91	-1.46
	(0.14)	(0.18)	(0.08)	(0.30)	(0.17)	(0.26)	(0.16)
No-Excuse (Age=65) × 2014	-0.11	11.44	7.78	-8.54	-4.13	-2.90	-3.65
	(0.17)	(0.24)	(0.10)	(0.47)	(0.24)	(0.44)	(0.23)
No-Excuse (Age=65) × 2012	-0.09	3.02	5.35	-2.40	-3.96	-0.62	-1.40
	(0.13)	(0.16)	(0.08)	(0.40)	(0.18)	(0.39)	(0.17)
2020	11.77	3.49	1.21	13.65	14.94	-17.15	-16.15
	(0.13)	(0.12)	(0.05)	(0.31)	(0.15)	(0.29)	(0.15)
2018	8.49	0.05	-0.45	5.62	2.74	-5.67	-2.29
	(0.14)	(0.10)	(0.04)	(0.34)	(0.17)	(0.33)	(0.17)
2016	6.28	0.38	-0.04	7.24	5.07	-7.63	-5.03
	(0.14)	(0.11)	(0.05)	(0.34)	(0.17)	(0.33)	(0.17)
2014	4.92	-0.28	-0.77	-9.37	-13.06	9.65	13.83
	(0.15)	(0.11)	(0.05)	(0.43)	(0.21)	(0.42)	(0.21)
Intercept (2012 mean)	14.73	1.39	1.51	76.97	72.63	21.64	25.87
# Obs	1,570,098	337,728	1,232,370	337,728	1,232,370	337,728	1,232,370

Robust standard errors in parentheses. Unit of observation is an individual by year. Texans aged 64 or younger who are eligible to vote must provide a valid excuse if they wish to vote absentee. Those aged 65 or older who are eligible to vote can vote absentee without an excuse.

voting for both parties are drawn primarily from substitution away from early in-person voting.

In sum, our evidence suggests that no-excuse absentee voting has a modest-to-null effect on how Democratic the composition of turnout is in an election. Although we cannot conclusively say that no election outcome could be changed by no-excuse absentee voting—indeed, it is unlikely any statistical analysis could ever reach this conclusion—we can say that the modest size of the effect is at odds with much of the public discussion about vote-by-mail and the supposed strength of its benefit for Democrats.