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How Did the COVID-19 Pandemic Influence School Board Elections?

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Media reports suggest that parent frustration with COVID school policies and the growing politicization of education have increased community engagement with local public schools. However, there is no evidence to date on whether these factors have translated into greater engagement at the ballot box. This paper uses a novel data set to explore how school board elections changed following the start of the COVID-19 pandemic. I find that school board elections post-COVID were more likely to be contested, and that voter turnout in contested elections increased. These changes were large in magnitude and varied with several district characteristics.

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How Did the COVID-19 Pandemic Influence School Board Elections?*

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Abstract

Media reports suggest that parent frustration with COVID school policies and the growing politicization of education have increased community engagement with local public schools. However, there is no evidence to date on whether these factors have translated into greater engagement at the ballot box. This paper uses a novel data set to explore how school board elections changed following the start of the COVID-19 pandemic. I find that school board elections post-COVID were more likely to be contested, and that voter turnout in contested elections increased. These changes were large in magnitude and varied with several district characteristics.

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1 Introduction

Long a key battleground in the culture wars, schools have become an even greater source of community activism and political conflict since the onset of the COVID-19 pandemic. Faced with the extraordinary challenge of determining how to provide safe and effective learning for students amidst the uncertainties created by the on-going pandemic, school boards responded with policies on remote learning, mask mandates and vaccine requirements. Attendance at school board meetings soared as angry parents, students, and teachers sought to express their views. Parent frustrations related to schooling during 2020-21 were a factor in electoral upsets in Virginia and New Jersey and voter dissatisfaction even led to recall elections in San Francisco (Kamenetz, 2021; Fuller, 2022). Around the same time, the political polarization occurring nationally inserted itself into local schooling decisions. Media reports describe conflicts at school board meetings over hot-button cultural issues from COVID-19 restrictions to Critical Race Theory to LGBTQ rights (Allen, 2021; Borter et al., 2022; Feuer, 2021; Uliano, 2021).

These events serve to remind policymakers and the public of the critical role played by local school boards. Composed of nearly 90,000 lay members elected in mostly non-partisan contests, school boards oversee the education of 50 million children and have broad responsibilities for district governance that include the allocation of $600 billion in expenditures. Boards not only lead the development and implementation of district policies, but also hire district superintendents and play a role in supervising six million public school employees (Dervarics and O'Brien, 2019; Hess and Meeks, 2010). Prior research finds that the composition of a school board can have meaningful impacts on important outcomes such as spending (Fischer, 2022; Kogan et al., 2021b; Shi & Singleton, 2023), segregation (Macartney and Singleton, 2018), and even student achievement (Fischer, 2022).[1]

However, there is almost no evidence to date on whether public frustration over COVID

[1]Related, there is evidence of private returns from office: Billings et al. (2022) document that the election of a new board member causes the home values in their neighborhood to rise on average.

policies or activism surrounding cultural issues has translated into greater engagement at the ballot box. This lacuna is due both to the recency of events and the fact that school board election data is maintained at the local level, making it difficult to gather consistent information across many districts. One exception comes from Ballotpedia, a nonprofit and nonpartisan organization, that recently recently reported a dramatic increase in school board recall efforts in 2021 and 2022 (Ballotpedia, 2023b).[2]

In this paper, I use a novel data set from Ballotpedia to explore how school board election outcomes changed following the start of the COVID-19 pandemic in March 2020. The goals of this paper are modest and purely descriptive. I seek to document the changes in school board elections over the past five years, and examine and whether the magnitude of the changes differed across districts.

I find that school board elections post-COVID were more likely to be contested, and that voter turnout in contested elections increased. Moreover, I show that changes in voter turnout were associated with several district characteristics. Increases in voter turnout were larger in districts where a higher proportion of adults have college degrees, where students score higher on standardized achievements and where a greater share of voters supported Trump in the 2016 presidential election. Conversely, changes in voter turnout were smaller in districts that experienced larger declines in student enrollment in fall 2020. While these associations are intriguing, they should not be viewed as definitive evidence of causal relationships. Moreover, due to data limitations I am not able to determine the extent to which specific district policies (e.g., decisions to offer remote versus in-person schooling in SY 2020-21) impacted school board elections. Nonetheless, these results provide evidence that recent events have increased formal engagement with local school politics.

[2]Ballotpedia has also reported on school board elections that generated conflict on cultural issues (Ballotpedia, 2023a).

2 Prior Literature

Unfortunately, prior research on school boards does not provide a clear prediction of how voters would respond to the COVID-19 pandemic and other contemporaneous events. Voter turnout in school board elections historically has been quite low - often only 5 to 10 percent (Cai, 2020). While voter turnout is higher in November elections in even-numbered years, corresponding to national Presidential and midterm elections, it rarely approaches 50% (Kogan et al., 2018). Regardless of election timing, research suggests that voters in school board elections are demographically quite different than the students attending local schools.[3] Thus, events like school closures that primarily impact families who attend local schools may not drive turnout as much as one might expect.

There is a rich literature in political science studying whether school boards are held accountable for their performance. However, the evidence to date is mixed. In an early study, Berry and Howell (2005) analyze precinct-level election data for local races in South Carolina. They find that voters rewarded incumbents for test score achievements in presidential election years (when voter turnout is higher), but not in off years (when voter turnout is lower). Payson (2017) found a similar pattern among school board elections in California. Other studies examine how highly publicized measures of district performance influences school board elections. Using data from North Carolina, Holbein (2016) examines how the failure of a local school under the No Child Left Behind (NCLB) accountability regime influences school board election outcomes. By matching voters to the nearest public school and leveraging a quasi-experimental regression discontinuity design to mitigate selection bias, the author is able to generate causal estimates of the new accountability information. He finds school failure leads to a substantial increase in voter turnout and increases the competitiveness of these races, with the effects driven by behavior of more affluent voters. However, Kogan et al. (2016) come to a different conclusion in their study in Ohio. This study also uses

[3]Kogan et al. (2021a) find voters who turn out in these elections are older, less likely to have children, and more likely to be white than the students in the affected districts.

excellent data and a convincing research design. The authors find that district performance on state and federal performance indicators have little impact on school board turnover, the vote share of sitting school board members or superintendent tenure. The different results may be explained by the focus on different outcomes in addition to differences in the local contexts, notably that North Carolina has on-cyle elections (i.e., even years that correspond to national elections) while Ohio has off-cycle elections. Taken together, the prior research suggests that voters may voice dissatisfaction at the ballot box, but not in all elections.

3 Data, Outcomes and Sample

This analysis relies on school board election data collected by Ballotpedia, a nonprofit organization that aggregates election data for various races and provides information on politics, elections and policy on various topics. Ballotpedia claims that its data includes entries for every district within the top 100 largest cities as well as the top 200 districts by enrollment, and all recalls (regardless of district or city size). A review of the data matched to 2021 enrollment from the Common Core of Data suggests that the Ballotpedia data does capture the largest districts, with the exception of several districts that have board members appointed by the Mayor. According to Ballotpedia's sampling design, small districts were included if they served children within the boundaries of one of the 100 largest cities in the U.S., which also appears to be the case based on a review.

The data includes information at the candidate x race level from 2018 to 2022 (approximately 9,000 unique candidates in 4,300 unique races for 3,000 unique offices). The raw data includes information on the office (which can be an at-large seat in the district or a seat associated with a specific district subdivision or ward), the race stage and/or type (primary, primary runoff, general, general runoff, special, and recall) and each individual candidate. Each office can have multiple races from multiple partisan primaries and a general election for a given year. I aggregate the data to the race level by collapsing information on all of

the candidates, creating variables to describe the candidates, the total votes cast, and the winners.[4] See Appendix Section 10.A for more details.

3.A District Characteristics

I match the election data to information on school districts using a crosswalk that links district names in Ballotpedia to NCES district IDs.[5] The analysis relies on several different public data sources.[6] Student enrollment counts come from the Common Core of Data (CCD), the U.S. Department of Education's primary database on public elementary and secondary schools. Student demographics, student achievement and demographics of the district's catchment zone (e.g., median household income, proportion of adults with a college degree, unemployment rate) come from the Stanford Education Data Archive (SEDA).

To measure local political partisanship, I calculate each district's Republican vote share in the 2016 presidential election using data from the Harvard Voting and Election Science Team. To calculate vote shares, I assign precinct vote totals to districts based on the proportion of each precinct lying in each district, and then sum these vote totals over all precincts in each district to calculate the weighted district-level vote share. More details can be found in the Appendix Section 10.D. The measure of teacher union strength comes from a state-level index created by the Fordham Institute. This index, which has been used in previous work on teachers' unions and the Covid-19 pandemic (Brunner et al., 2020; DeAngelis & Makridis, 2021), includes data on union membership and resources; political involvement; collective bargaining power; favorability of state education policies (e.g., performance pay, teacher tenure); and reputation among state political leaders. Because the index was originally created using data from 2008-2012, I update some some of its measures to reflect recent

[4]We do not include ranked choice elections, which only occur in two districts (Oakland, CA and Cambridge, MA). We drop one election where one candidate is coded as receiving 30 million votes (Lincoln, NE in 2021).

[5]I drop 17 races from four districts that did not match. On investigation, it turns out that these races took place at the county/region level and thus do not involve local school districts as typically defined. These include: Western Maricopa Education Center District, AZ; Riverside County Board of Education Trustee, CA; Sacramento County Board of Education, CA; San Diego County of Education, CA.

[6]For additional details about variable definitions and construction, see the Data Appendix.

policy changes. See Appendix Section 10.C for details.

3.B Key Outcomes

The analysis focuses on several election outcomes. The first is a binary measure to indicate that the election was contested. Elections are not contested if the number of candidates equals the number of open seats. A second outcome reflects the competitiveness of a race by measuring the number of candidates per seat. To measure voter turnout, I create a variable for the number of votes per seat per adult civilian population within the school district's boundary. Population data comes from the 2015-19 ACS matched to school district boundaries using GIS maps provided by the National Center on Education Statistics (NCES). Note that for district/ward elections, this measure will understate turnout because the denominator reflects the population of the entire district. However, this should not influence our measure of change over time, which is the focus of our analysis. Two final outcomes focus on the role of incumbents: the fraction of seats with an incumbent running and the fraction of incumbents who won their seats.

3.C Recall Elections

As reported by Ballotpedia, the number of recall efforts increased dramatically in 2021 and 2022 (Ballotpedia, 2023b). Appendix Figure A1 shows the number of districts with at least one recall increased from 1 in 2018 and 3 in 2019 to 6 in 2021 and 9 in 2022. Given the roughly 13,000 school boards in the U.S., these numbers are tiny but do suggest a change in voter attitudes following the pandemic. Appendix Table A1 shows summary statistics of districts with at least one recall, separately by time period. While the sample size is very small, there is suggestive evidence that districts with recalls post-pandemic are more likely to be urban, with larger enrollments and a larger proportion of college educated residents. Interestingly, the proportion of black and Hispanic students, and the proportion of economically disadvantaged students, in recall districts does not appear to differ much

across time periods. In the post-COVID era, recall districts had a smaller proportion of 2016 Trump voters, suggesting that districts experiencing recalls after March 2020 were somewhat less politically conservative than those experiencing recalls before COVID.

3.D Sample

The analysis sample excludes recalls, special elections and runoffs. Because districts with multiple wards can have multiple races on the same election date, I use the term "office" to refer to both at large district races as well as ward specific races within a district. In total, the sample includes 3,989 races for 2,268 unique offices in 520 unique districts. Roughly 57% of these races were contested, leaving a sample of contested elections that includes 2,264 races for 1,644 unique offices in 477 unique districts. Because election cycles vary across offices, and district enrollment changes altered the Ballotpedia sample frame slightly over the analysis period, the analysis sample is not balanced. Not all districts have elections in the same years, and the number of elections per district during the sample period varies considerably. Among the 1,644 offices that held contested elections, for example, 69% held a single election, 26% held two elections and the remainder held three or more elections. In total, 255 districts (452 offices) held at least one contested election before and after the start of the COVID-19 pandemic. To account for the changing composition of offices in our sample over time, the analysis will rely on models that include office fixed effects. This means that we will be examining changes over time *within* specific offices to estimate how outcomes differed after the start of the pandemic.

Table 1 provides descriptive statistics the sample. Roughly 80% of the races were general elections, followed by nonpartisan primaries (16%) and partisan primaries (4%). The majority of the elections in the sample (53%) took place in November, with May (21%) and August (9%) being the next most common months. Virtually no elections took place in March, July or September. Elections were about twice as common in the even years (2018, 2020 and 2022) as the odd years (2019 and 2021). In contested elections, the average number

of candidates per seat in was 2.5, and 67% of races included an incumbent. Voter turnout ranged from virtually zero to nearly 69%, with an average of roughly 13%. Consistent with the sampling design, the average size of school districts in the sample of contested elections is quite large, with enrollment of 32,151. The median district in the sample enrolls 16,175 students, and there are 105 districts with enrollments less than 5,000.

4 Results

To begin, I explore what factors were associated with school board election outcomes prior to the COVID-19 pandemic. Table 2 shows estimates from OLS regressions limited to all races taking place before March 10, 2020. The outcome in column 1 is a binary variable indicating that the election was cancelled (i.e., uncontested). Note that the sample here is limited to "regular" elections, which excludes special elections, recalls and runoffs. The outcome in column 2 focuses on all regular contested elections, and the outcome is the natural logarithm of votes per seat per capita.

The results indicate that contested elections are more common in larger districts, and less common in races with an incumbent running. Primaries are less likely to be contested than general elections, and races for a seat in a particular ward of the district are less likely to be contested than races for an at-large seat. Contested elections are least common in suburban districts (the omitted category).

In contested elections, turnout is lower in primaries and in elections for a particular ward seat (relative to an at-large seats). Turnout is highest for elections in November, likely because many other local, state and national races are on the ballot. Turnout declines with the size of the district. In particular, a 10% increase in district enrollment is associated with a .9% reduction in voter turnout. Conditional on district size, turnout is higher in both urban and rural areas relative to suburban areas.

The results also reveal interesting associations between turnout and various social, eco-

nomic and political characteristics. Turnout is positively associated with student achievement and negatively associated with the proportion of Black and Hispanic students in the district. The fraction of the district that voted for Donald Trump in 2016 is negatively associated with turnout. However, we do not place a causal interpretation on these results because it is likely that other harder-to-observe factors are associated with both turnout and our measured district characteristics.

4.A Changes After the Start of the COVID-19 Pandemic

Turning to the changes that took place following the pandemic, Table 3 shows OLS regression estimates of the relationship between timing and the probability of having a contested election. Column 1, which simply includes a post-COVID indicator, shows that the likelihood of a race being contested dropped by roughly 7 percentage points after March 10, 2020 - from 53% to 46%. The effect increases slightly when one controls for district and race characteristics in column 2. To control for the changes in the sample composition, the model shown in column 3 includes office fixed effects, which increases the effect to 10 percentage points. The results shown in columns 4 and 5 indicate that the increasing prevalence of contested races post COVID is driven entirely by general elections. The prevalence of contested races in general elections increased by 11 percentage points (roughly 25%) while the prevalence of contested primaries did not change.

Focusing on contested elections, I next examine how turnout changed over the course of the pandemic. Figure 1 shows the average votes per capita separately by month.[7] Looking at how the heights of the same-colored bars change over time, one can see some indication that voter turnout increased following the onset of COVID-19 in the U.S. In particular, turnout rates seem particularly high in 2020. Also, spring elections in 2022 look to have notably

[7]To simplify the presentation, I focus only on elections in April, May, June, August and November, months which contain 96% of elections in our sample. I regress turnout on year x month indicators (using April 2018 as the reference category) and office fixed effects. I add the regression estimate for each month x year indicator to the reference category, and then average the results by year x season for simplicity. The analysis sample is limited to contested general elections, and excludes elections in August 2019 and August 2021 because of small sample sizes.

higher turnout compared with elections at the same time prior to the pandemic, although the same does not appear to be true for summer elections.

To control for extraneous factors that may be correlated with turnout, we estimate a series of OLS regressions. The results are presented in Table 4. Note that because the outcome is a logarithm, we will interpret the coefficients as approximate percent changes in turnout. Column 1 shows that turnout is 25% higher in elections taking place after March 10, 2020. This differential shrinks to 21% when we control for district and election characteristics (column 2). Looking more closely at the timing in column 3, it appears that the larger increase in voter turnout took place at the beginning of the pandemic – during the spring and summer of 2020. Turnout was 44% higher in summer 2020 compared with 20% higher afterwards.[8] In auxiliary models, we examined whether there were any notable time trends in voter turnout prior to COVID-19. We did not find any significant pre-trends, although our pre-pandemic sample is limited to two years.

November elections are notable in the data for having much larger voter turnout. Moreover, November 2020 is unique in our sample as the only presidential election. Indeed, given the controversy surrounding this election, one might think it is unique even among other presidential elections. For this reason, to test the robustness of our results, we estimate our models excluding all of the November elections from the sample. The estimates in column 4 show that excluding November elections actually increases the magnitude of the post-COVID effect (48% relative to 44%).

Finally, we estimate models that include office fixed effects, limiting our analysis to changes in voter turnout in the exact same offices before and after the onset of the pandemic (columns 5 and 6). While the estimates become less precise, they remain significantly different than zero and the story is qualitatively the same. Specifically, turnout in contested school board elections was substantially higher following the onset of the COVID-19 pandemic, and

[8]There are several potential explanation for this pattern. Individuals who were not working as a results of pandemic lockdowns may have had more time and/or increases in mail-in ballot options may have made voting easier.

particularly so in the summer of 2020. All of these voter turnout models appear to be driven by general elections, although our sample of primary elections is relatively small and our estimates are not precise enough to rule out moderately large increases in some specifications (see Appendix Table A2).

Given the changes in the likelihood of contested elections and the turnout in such elections, it is natural to wonder if the pandemic and associated events impacted other aspects of school board elections. Appendix Table A3 presents OLS estimates for several other outcomes of interest. To the extent that the pandemic generated more interest in the roles and responsibilities of local school boards, one might expect the number of candidates for board seats to increase after the onset of COVID. These results are reported in Panel A. There is some evidence of small but imprecise (and not significant) positive effects. The results for elections in summer 2020 are sensitive to the inclusion of November elections, but the most comprehensive models in column 4 show suggestive evidence of positive effects as well.

The increased attention paid to school board activities may have influenced whether incumbents decide to run for reelection, although it is not clear the direction of the effect. The estimates in Panel B indicate that incumbents were no more or less likely to run for reelection after the onset of COVID. To the extent that voters were frustrated with how the district handled the pandemic, one might hypothesize that incumbents would be less likely to win reelection after March 2020. The results in Panel C indicate no significant differences in the likelihood of incumbents winning following the onset of COVID-19. However, these estimates are very imprecise, limiting the conclusions one should draw from this analysis.

4.B Heterogeneity by District Characteristics

The analysis above suggests that voter turnout in school board elections increased substantially after the start of the COVID-19 pandemic. A natural next question is what factors were driving these changes. Unfortunately, the ability to examine potential determinants is limited by the relatively small sample and the fact that it is not representative of many

smaller districts. For this reason, we do not attempt a multivariate analysis aimed at determining whether specific district characteristics or policies *caused* voter turnout to increase.[9]

Instead, I examine bivariate associations between *changes* in voter turnout and several important economic, social and political characteristics of districts. To conduct this analysis, I first estimate the change in turnout for each of the 255 school districts in the sample that held contested elections both before and after the start of COVID-19.[10] Appendix Table A4 reports characteristics of this sample. The districts are large, with mean (median) enrollment of 39,445 (27,573) students. The average proportion of black and Hispanic students in these districts are 18% and 36% respectively, but range widely from virtually zero to nearly 100%. On average, students in these districts score slightly below average, but again the range is very large, with the interquartile range spanning from -0.32 SD to 0.18 SD.

Figure 2 shows scatterplots of these changes in voter turnout and different district characteristics. A predicted OLS regression line is overlaid on the scatterplots as a summary measure of the (linear) bivariate association. The regression estimates themselves appear in the top right corner of each plot.[11]

Several interesting associations stand out. Voter turnout increased more in districts with a higher proportion of adults with college degrees and with higher student achievement scores pre-pandemic. For example, the regression estimates indicate that districts with a 10 percentage point higher share of college graduates pre-pandemic would have experienced changes in turnout that were 4.3% higher on average. Conversely, districts with a higher proportion of economically disadvantaged students are predicted to have experienced smaller changes in voter turnout. Specifically, a 10 percentage point higher student poverty rate pre-

[9]Even with a larger and more representative sample, it would be difficult to estimate truly causal effects because district characteristics and/or policies are not random.

[10]Specifically, I regress the log voter turnout on the following independent variables: a binary indicator for the election type (general versus primary), binary indicators for the month the election was held, a binary indicator of whether an incumbent was running, a full set of office fixed effects, and interactions between individual district identifiers and a post-COVID indicator. The coefficients and standard errors estimates from these 255 district x post-COVID interaction terms provide estimates of the change in turnout for each district.

[11]To maximize the efficiency of the estimates, I weight the regressions by the inverse of the standard error of the turnout estimates.

pandemic is associated with changes in voter turnout 2.9% lower.

I find a positive association between politically conservative districts and changes in voter turnout. Districts with a 10 percentage point higher vote share for Trump in 2016 are predicted to experience 3.8% larger changes in voter turnout post pandemic. This is consistent with the higher levels of dissatisfaction expressed by conservative communities surrounding school closures and mask mandates, as well as the greater prevalence of cultural issues arising in the context of public schooling in these communities.

While these associations are intriguing, it is important to recognize that they are not strong evidence of what one might call "causal" moderation. Many factors, only some of which we can measure well with available data, are correlated with poverty, educational attainment and political partisanship, and these factors may confound the relationship between these district characteristics and school board election outcomes.

Finally, districts that experienced greater declines in student enrollment in fall 2020 saw larger increases in voter turnout. For example, the estimates suggest that districts that saw no change in enrollment would have seen voter turnout increase by 8.4% on average, while districts with enrollment declines of 5% would have realized voter turnout increases of 16.4% on average.[12]

This finding is consistent with the argument proposed by Albert Hirschman in his seminal work *Exit, Voice and Loyalty.* Hirschman (1970) recognized that that citizens in a democracy can express their preferences by participating in the system (voice) and/or taking advantage of an outside option (exit). Prior research has documented a 2.8% decline in public school enrollments in fall 2020, the largest single-year decline in U.S. history (Malkus, 2022). The results presented in the earlier section shows that citizens also used "voice" in the form of participation in school board elections. The negative association between changes in voter turnout and student enrollment changes is consistent with a model in which exit and voice are not merely substitutes, but can be utilized in tandem to express dissatisfaction.

[12]The change in student enrollment in fall 2020 is actually calculated as the change relative to prior enrollment trends. For additional details, see Braun and Jacob (2023).

5 Conclusions

The COVID-19 pandemic presented public schools with enormous challenges. District leaders faced intense criticism surrounding their decisions regarding remote schooling and masking. Community frustration fueled the growing politicization of local education, and conflict erupted at school board meetings over hot-button cultural issues.

However, there is almost no evidence to date on whether these events translated into greater engagement at the ballot box. As described by Hirschman (1970), citizens in a democracy can express their preferences by participating in the system (voice) and/or taking advantage of an outside option (exit). Prior research has documented substantial exit, as enrollment in public schools declined sharply (Malkus, 2022).

This paper documents substantial increases in "voice" as well. I find that voter turnout increased 80% earlier in the pandemic and was 27% higher than pre-pandemic levels through the end of 2022. Voter turnout increased more in districts with a higher proportion of adults with college degrees and more heavily Republication districts, and less in districts with a higher proportion of economically- disadvantaged students. Districts that experienced greater declines in student enrollment in fall 2020 saw larger increases in voter turnout.

While these findings cannot identify what factors were responsible for the changes, they provide the first quantitative evidence that public engagement with the politics of local schooling increased following the start of the pandemic. This is notable given the critical role played by local school boards. It is yet to be seen whether how the increased engagement will influence district policy or operation.

Future research should expand on this analysis in several ways. Examining a larger and more representative set of school districts will help researchers and policymakers to determine how well these results generalize. More careful causal analysis that leverages larger datasets holds the promise of determining whether specific district choices, or particular features of the local context, generated greater community engagement. One thing is clear – analysis of local school politics is increasingly important to understanding educational outcomes across

the country.

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6 Tables

Table 1. Summary Statistics on Analysis Sample of Races

	All	Contested	Uncontested
Election Outcomes			
Turnout (votes per seat per 1000 adults)	96.10	135.22	
Number of candidates per seat	2.02	2.50	
Fraction of seats with an incumbent running	0.69	0.64	
Fraction of incumbents who won	0.73	0.69	
Election Characteristics			
At-large seat	0.35	0.37	0.32
Ward/zone seat	0.65	0.63	0.68
General	0.79	0.89	0.67
Non-paristan Primary	0.16	0.10	0.25
Partisan primary	0.04	0.01	0.08
Number of seats	1.22	1.27	1.15
Total number of candidates	2.43	3.08	1.58
Any incumbent	0.71	0.67	0.76
Contested	0.57	1.00	0.00
Year of election			
2018	0.26	0.24	0.28
2019	0.11	0.11	0.11
2020	0.23	0.22	0.24
2021	0.11	0.12	0.09
2022	0.29	0.31	0.28
Month of election			
April	0.07	0.07	0.06
May	0.21	0.18	0.24
June	0.05	0.02	0.08
August	0.09	0.09	0.09
November	0.53	0.61	0.43
Other	0.06	0.03	0.10
District Characteristics			
District total enrollment (1,000)	44.14	49.97	36.48
Prop students in town locale schools	0.02	0.02	0.03
Prop students in rural locale schools	0.14	0.11	0.17
Prop students in urban locale schools	0.43	0.48	0.36
Prop black	0.18	0.19	0.18
Prop Hispanic	0.34	0.35	0.31
Prop free or reduced lunch in the district	0.54	0.55	0.53
District area-weighted Trump 2016 vote prop	0.44	0.42	0.46
BA+ rate	0.33	0.34	0.33
Standardized district mean test score	-0.04	-0.04	-0.03
Missing test scores	0.02	0.02	0.02
N (races)	3989	2264	1725

Notes: This table contains election and district characteristics for the analysis sample. This excludes recalls, special elections, and runoffs. "At-large seat" indicates that the election seat was for a school district and "Ward/zone seat" indicates that the seat was for a district subdivision, which is a political entity that can comprise multiple school districts. Contested elections indicate that the number of candidates receiving votes is greater than the number of seats up for election. The denominator for "Turnout" is comprised of the district-level adult civilian population (age >18) from the 2015-19 ACS 5-year estimates. District characteristics come from the 2017-18 Stanford Education Data Archive (SEDA). See Appendix 10 for details on the source and construction of variables shown here.

Table 2. Predictors of School Board Elections Prior to COVID-19

	(1)	(2)
	Contested	Log(turnout)
Log district total enrollment	0.089***	-0.092***
	(0.013)	(0.030)
Prop students in town locale schools	0.093	0.510
	(0.108)	(0.316)
Prop students in rural locale schools	0.146**	0.338*
	(0.068)	(0.180)
Prop students in urban locale schools	0.127***	0.169**
	(0.039)	(0.085)
Prop blacks in the district	0.038	-1.544***
	(0.126)	(0.301)
Prop Hispanics in the district	-0.041	-1.776***
	(0.103)	(0.258)
Prop free or reduced lunch in the district	0.017	0.652*
	(0.141)	(0.348)
District area-weighted Trump 2016 vote prop	-0.181	-0.809***
	(0.112)	(0.301)
BA+ rate	0.013	-0.204
	(0.168)	(0.435)
Standardized district mean test score	-0.081	0.515***
	(0.075)	(0.183)
Missing test scores	0.014	-0.072
	(0.090)	(0.115)
Ward/zone seat	-0.146***	-1.047***
	(0.027)	(0.068)
Partisan primary	-0.379***	-0.159
	(0.079)	(0.183)
Non-partisan primary	-0.201***	0.119
	(0.045)	(0.124)
Election included 1+ incumbents	-0.155***	-0.025
	(0.026)	(0.061)
Feb	-0.103	-1.887***
	(0.071)	(0.283)
Mar	-0.149*	-0.581***
	(0.088)	(0.183)
Apr	-0.006	-0.990***
	(0.046)	(0.114)
May	-0.079**	-1.422***
	(0.033)	(0.081)
Jun	-0.266***	-0.906***
	(0.069)	(0.156)

Aug	0.058	-0.344**
	(0.060)	(0.144)
Sept	-0.229	-2.783***
	(0.249)	(0.099)
Oct	-0.284**	
	(0.117)	
Dec	0.432***	-1.456***
	(0.041)	(0.184)
Outcome mean	0.525	-2.740
R-squared	0.148	0.578
N (races)	1532	805

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains OLS estimates for predicting election outcomes prior to COVID (March 10, 2020). Special elections and recall elections are excluded. The outcome for column 1 is an indicator of having a contested election (>0 votes received or the number of candidates in a race is greater than the number of seats). The outcome for column 2 is the log of the total votes per seat per adult civilian population (18+) in the school district. Ward/zone is an indicator for whether the seat was for a district subdivision, which is a political entity that can comprise multiple school districts (the omitted category is an at-large seat). Indicators for primary elections (partisan and non-partisan) are included with general elections being the omitted category. October drops out in column 2 because there were no contested elections in October. Month fixed effects are included and standard errors are clustered at the school board office level.

Table 3. OLS Estimates of the Relationship between COVID-19 and the Prevalence of Contested Elections

	(1)	(2)	(3)	(4)	(5)
Post-COVID	0.068***	0.085***	0.099***	-0.034	0.008
	(0.015)	(0.014)	(0.016)	(0.032)	(0.035)
General				0.244***	0.347***
				(0.036)	(0.055)
Post * general				0.139***	0.113***
				(0.037)	(0.039)
Pre-COVID outcome mean	0.525	0.525	0.525	0.525	0.525
Covariates	No	Yes	Yes	Yes	Yes
Office FE	No	No	Yes	No	Yes
R-squared	0.005	0.192	0.389	0.189	0.390
N	3989	3989	3989	3989	3989

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains OLS estimates for predicting an indicator variable for a contested election (>0 votes received or the number of candidates in a race is greater than the number of seats). Post-COVID is an indicator for if the election took place after March 10, 2020. Special elections and recall elections are excluded. Column 1 is a simple two-variable correlation between contested elections and the post-COVID indicator and column 2 and all subsequent columns include the following covarites: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. Column 3 adds office fixed effects. Column 4 includes an interaction term for being a general election and being post-COVID and column 5 adds office FE. In all models, month fixed effects are included (except column 1) and standard errors are clustered at the school board office level.

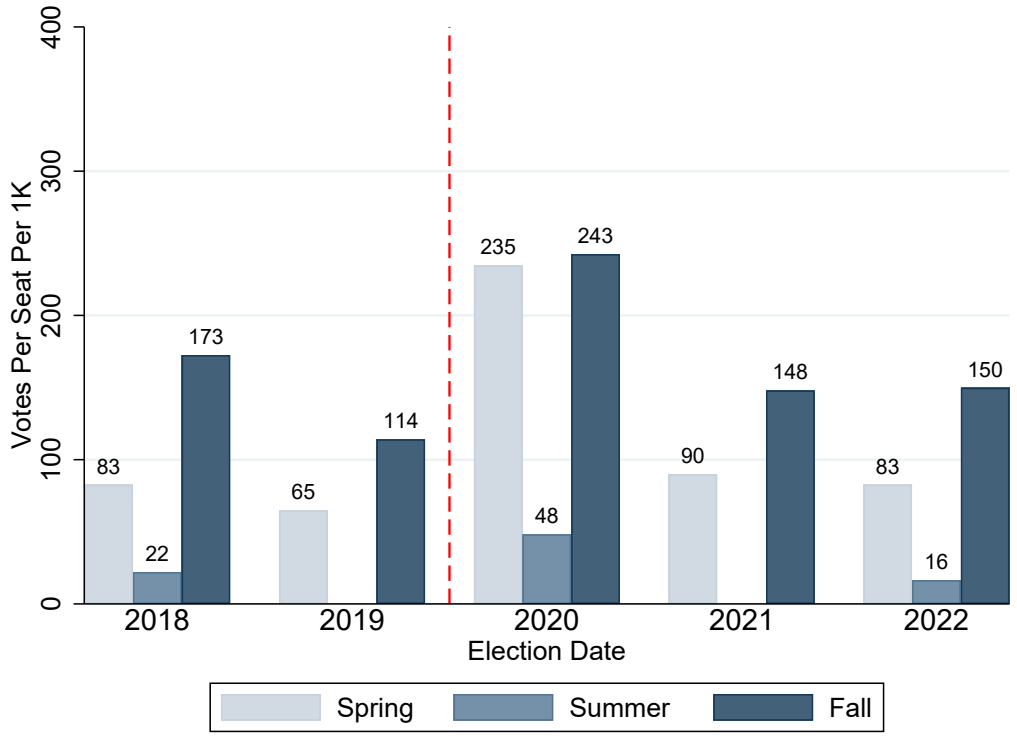
Table 4. OLS Estimates of the Relationship between COVID-19 and Voter Turnout

	(1)	(2)	(3)	(4)	(5)	(6)
Post-COVID	0.253***	0.209***				
	(0.041)	(0.029)				
Summer 2020			0.440***	0.481***	0.275*	0.596***
			(0.106)	(0.098)	(0.147)	(0.133)
Sept'20-Dec'22			0.197***	0.262***	0.103***	0.245***
			(0.029)	(0.047)	(0.038)	(0.082)
Covariates	No	Yes	Yes	Yes	Yes	Yes
Office FE	No	No	No	No	Yes	Yes
Include Nov	Yes	Yes	Yes	No	Yes	No
R-squared	0.011	0.548	0.549	0.620	0.979	0.979
N	2264	2264	2264	889	2264	889

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains OLS estimates for predicting the log of the total votes per seat per adult civilian population (18+) in the school district. Post-COVID is an indicator for if the election took place after March 10, 2020. Special elections and recall elections are excluded. Covariates include the following: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. Column 1 is a simple two-variable correlation with the post-COVID indicator and voter turnout. Column 2 and all subsequent columns includes covariates. Column 3 adds indicators for elections in summer 2020 (election date is between 03/10/2020 and 09/01/2020) and Sept'20-Dec'22 (election date is after 08/31/2020). Column 4 drops November elections, column 5 includes November elections and uses office FE, and column 6 includes office FE and excludes November elections. In all models, month fixed effects are included (except column 1) and standard errors are clustered at the school board office level.

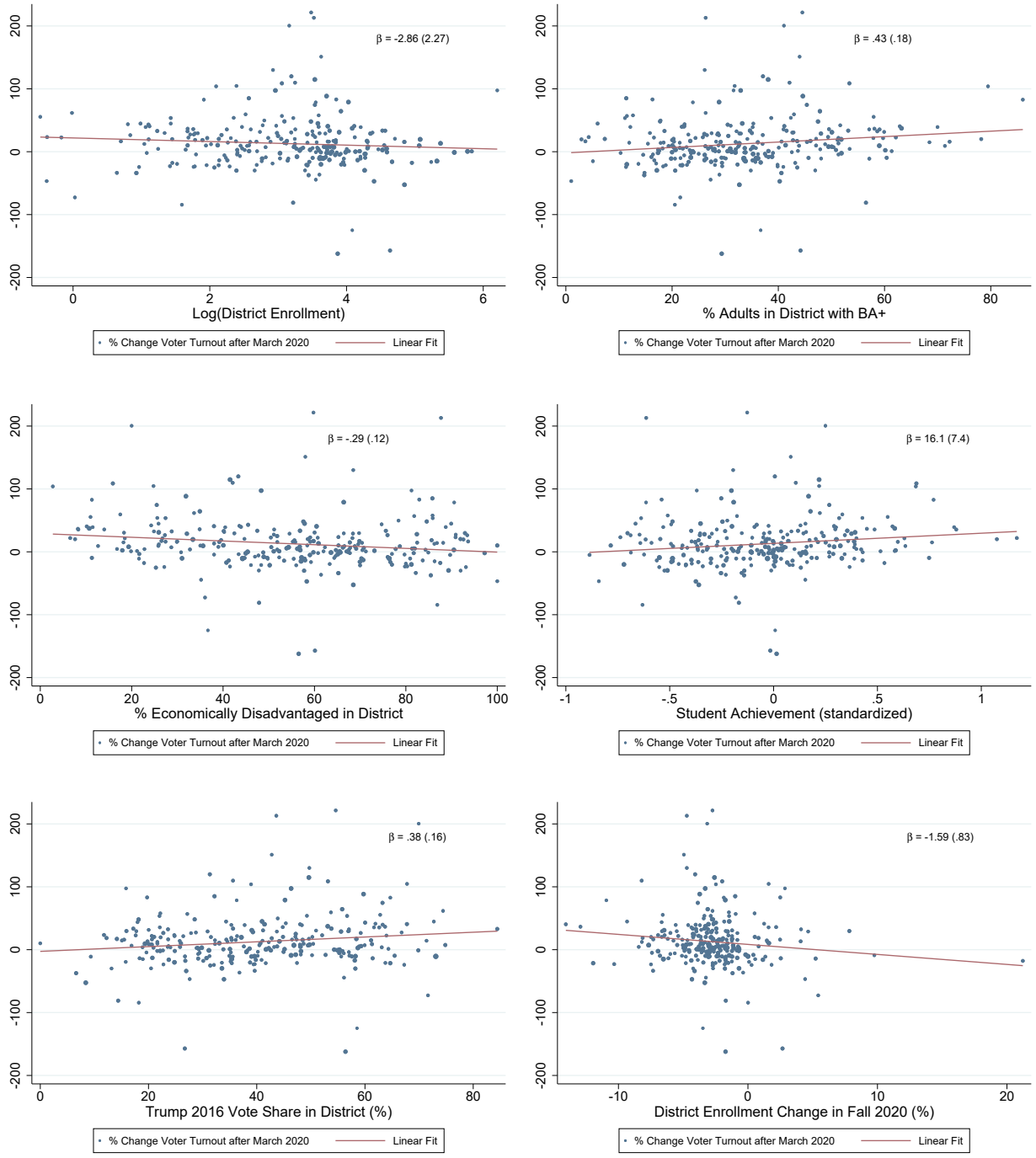
7 Figures

Figure 1. Voter Turnout in School Board Elections over Time



Note: This figure shows election turnout from 2018-22 (the number of votes per seat per 1,000 civilian population). We use our analysis sample of contested general elections, that excludes runoffs, recalls, special, and primary elections. August 2019 and 2021 are also excluded because of small sample sizes. We focus only on elections in April, May, June, August and November, which contain 96% of elections in our sample. Spring = April and May; Summer = June and August; Fall = November.

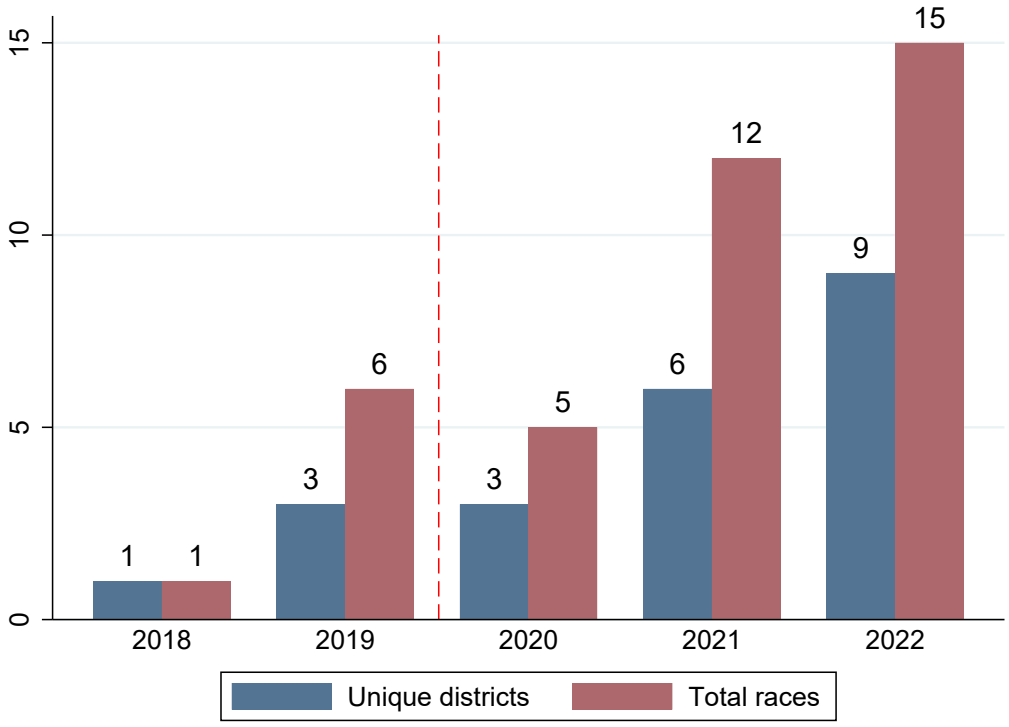
Figure 2. Relationship between Voter Turnout and District Characteristics



Note: This figure plots districts' percent change in voter turnout after March 2020 against various district characteristics. The sample includes 255 districts that had at least one school board election both before and after March 2020. The linear fit line and regression estimates come from bivariate OLS regressions weighting each observation with the inverse of the standard error of the voter change estimate (i.e., the outcome variable).

8 Appendix Figures

Figure A1. Changes in Number of Recalls over Time



Note: This figure shows the number of school districts and races subject to recalls from 2018-22. A recall involves removing school board members from office outside of regularly scheduled elections. Races refer to each candidate who was subject to a recall. There were no recall elections in 2020 prior to the onset of the COVID-19 pandemic.

9 Appendix Tables

Table A1. Characteristics of Districts Experiencing School Board Recall Elections

	Pre-covid	Post-covid	Difference
Prop students in rural locale schools	0.72	0.51	0.21
Prop students in suburban locale schools	0.17	0.16	0.02
Prop students in town locale schools	0.00	0.10	-0.10
Prop students in urban locale schools	0.11	0.23	-0.12
District total enrollment (1,000)	4.11	9.31	-5.21
BA+ rate	0.20	0.29	-0.09**
Prop free or reduced lunch in the district	0.50	0.46	0.04
Prop blacks in the district	0.02	0.02	-0.00
Prop Hispanics in the district	0.18	0.19	-0.01
Standardized district mean test score	-0.07	0.03	-0.10
Missing test scores	0.00	0.16	-0.16*
Fordham: union strength score (0-4)	2.09	2.16	-0.07
District area-weighted Trump 2016 vote prop	0.67	0.52	0.15*
N (districts)	8	31	

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains district characteristics of districts with recalls pre-COVID (March 10, 2020) and post-COVID. District characteristics come from the 2017-18 Stanford Education Data Archive (SEDA). Union strength is a state-level variable from the Fordham institute, based on union membership, politics, bargaining, policies, and reputation, where a higher score indicates greater union power. See Appendix 10 for details on the source and construction of variables shown here.

Table A2. OLS Estimates of the Relationship between COVID-19 and Voter Turnout

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	General				Primary			
Post-COVID	0.229***	0.329***	0.137***	0.292***	0.033	0.143*	0.008	0.068
	(0.032)	(0.048)	(0.044)	(0.094)	(0.065)	(0.081)	(0.082)	(0.122)
Outcome mean	-2.519	-2.519	-2.519	-2.519	-2.941	-2.941	-2.941	-2.941
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Office FE	No	No	Yes	Yes	No	No	Yes	Yes
Include Nov	Yes	No	Yes	No	Yes	No	Yes	No
R-squared	0.584	0.693	0.898	0.908	0.717	0.758	0.933	0.938
N	2013	698	2013	698	251	191	251	191

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains OLS estimates for predicting the log of the total votes per seat per adult civilian population (18+) in the school district for general and primary elections separately. Post-COVID is an indicator for if the election took place after March 10, 2020. Special elections and recall elections are excluded. Covariates include the following: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicator for ward/zone seat (omitted category is an at-large seat), and whether the election included an incumbent. In all models, month fixed effects are included and standard errors are clustered at the school board office level.

Table A3. Additional Election Outcomes

	(1)	(2)	(3)	(4)
	Includes Nov		Excludes Nov	
	Office FE	No Office FE	Office FE	No Office FE
Panel A. Number of candidates per seat				
Summer 2020	-0.330*	0.223	-0.381**	0.386
	(0.169)	(0.706)	(0.167)	(1.386)
Sept'20-Dec'22	0.139***	0.111	0.093	0.110
	(0.035)	(0.095)	(0.068)	(0.203)
Outcome mean	2.498	2.498	2.685	2.685
Outcome SD	(1.002)	(1.002)	(1.241)	(1.241)
Panel B. Fraction of seats with an incumbent running				
Summer 2020	0.010	0.019	0.003	0.081
	(0.010)	(0.067)	(0.009)	(0.145)
Sept'20-Dec'22	0.006	-0.013	0.005	-0.004
	(0.005)	(0.016)	(0.007)	(0.023)
Outcome mean	0.645	0.645	0.659	0.659
Outcome SD	(0.457)	(0.457)	(0.461)	(0.461)
Panel C. Fraction of incumbents who won				
Summer 2020	0.010	0.059	-0.001	0.266
	(0.066)	(0.280)	(0.070)	(0.349)
Sept'20-Dec'22	-0.026	-0.021	-0.039	-0.047
	(0.024)	(0.080)	(0.038)	(0.157)
Outcome mean	0.689	0.689	0.711	0.711
Outcome SD	(0.441)	(0.441)	(0.441)	(0.441)

Notes: *** p<0.01, ** p<0.05, * p<0.1. This table contains OLS estimates for three additional election outcomes: number of candidates per seat, number of incumbents per number of seats up for election, and the fraction of incumbents who won. The main predictors are two indicators for elections in summer 2020 (election date is between 03/10/2020 and 09/01/2020) and Sept'20-Dec'22 (election date is after 08/31/2020). Special elections and recall elections are excluded. All columns include the following covariates: district total enrollment, district urbanicity indicators, percent students black, Hispanic, and free or reduced-price lunch, district area-weighted Trump 2016 vote share, BA+ rate in district, average district achievement, indicators for ward/zone seat (omitted category is an at-large seat), primary elections (omitted category is general elections), and whether the election included an incumbent. In all models, month fixed effects are included and standard errors are clustered at the school board office level.

Table A4. Summary Statistics of Districts Having Elections Pre- and Post-COVID

	Mean	Min	P25	P50	P75	Max
District total enrollment (1,000)	39.445	0.619	10.050	27.573	45.149	495.255
Prop students in town or rural locale schools	0.113	0.000	0.000	0.020	0.154	1.000
Prop students in urban locale schools	0.532	0.000	0.144	0.544	0.955	1.000
Prop black	0.180	0.000	0.039	0.108	0.252	0.926
Prop Hispanic	0.362	0.015	0.134	0.292	0.522	0.988
Prop free or reduced lunch in the district	0.551	0.027	0.380	0.572	0.708	1.000
District area-weighted Trump 2016 vote prop	0.400	0.000	0.267	0.396	0.532	0.844
BA+ rate	0.338	0.010	0.227	0.323	0.432	0.860
Standardized district mean test score	-0.044	-0.886	-0.322	-0.029	0.183	1.171
N (255)						

Notes: This table contains descriptive statistics (mean, minimum, percentiles, and maximum) for the 255 districts that had contested elections pre- and-post-COVID (before and after March 10, 2020). District characteristics come from the 2017-18 Stanford Education Data Archive (SEDA). See Appendix 10 for details on the source and construction of variables shown here.

10 Data Appendix

10.A Election Data

Districts among the top 200 in terms of 2021 enrollment that do *not* appear in the Ballotpedia school board election sample:

- 1. Baldwin County, AL (Likely excluded because it's a fast-growing district that was not in the top 200 at the time of Ballotpedia's data coverage.)
- District of Columbia Public Schools, DC (Not sure why excluded, but could be because it's considered a state boards of education.)
- Hawaii Department of Education, HI (Not sure why excluded, but could be because it's considered a state boards of education.)
- City of Chicago SD 299, IL (School board appointed by mayor)
- Boston, MA (School board appointed by mayor)
- Cabarrus County Schools, NC (not sure why excluded.)
- Cleveland Municipal, OH (not sure why excluded)
- Philadelphia City SD, PA (School board appointed by mayor)
- LAMAR CISD, TX (Likely excluded because it's a fast-growing district that was not in the top 200 at the time of Ballotpedia's data coverage.)
- Washington District, UT (Not sure why excluded)

10.B District Demographic Characteristics

Demographic data comes from two sources: the CCD membership file and the Stanford Education Data Archive (SEDA) covariates file. CCD demographics include percent of

students who are female, White, Black, Hispanic, and other race. SEDA demographics include the district's mean standardized test scores, percent free-reduced lunch, ELL, special education, log median household income, percent adults with a bachelor's degree, and poverty rate. The neighborhood demographics come from matching American Community Survey (ACS) data to district shapefiles. SEDA covariates are missing for 493 districts (3.8 percent). For these districts, we imputed covariate values with the county-level equivalents.

SEDA harmonizes standardized test scores for students in grades 3-8 to a single comparable metric. We calculated a single metric for the district's test scores by averaging all grade-subject test scores (English/math), weighting each grade-subject by the inverse of the estimate's standard error. We used the most-recent available test scores; 86 percent of scores are from 2018, 4 percent from 2017, 5 percent from 2014, with a smattering from all earlier years. AK, AZ, MD, and NY districts are missing all test scores from 2018; most AK test scores are imputed from 2015, AZ scores from 2017, MD scores from 2017, and NY scores from 2014. SEDA does not report test scores for all districts; for example, they exclude all test scores from any state-year when state participation in standardized test subject was <95 percent. In our dataset, 89.4 percent of districts serving students in grades 3-8 have test scores.

10.C Union Strength

To measure the strength of teacher's unions in each state, we use an updated version of the Fordham Institute's 2012 index of state-level teacher's union strength and all index inputs. The index average scores from five areas of teacher union influence:

1. Members and Resources: includes percentage of teachers in a union, total yearly revenue for state NEA/AFT, state's normalized annual K-12 budget

2. Politics: includes relative political contributions to state candidates from unions and percentage of state convention delegates who are teachers

3. Bargaining: legality of collective bargaining (CB), topics covered by CB (index of 21 topics), whether the state is RTW, whether teachers can strike

4. Policies: use of performance pay, employer-employee pension contribution ratio, whether evaluations can be used for dismissal, whether student achievement is a component of evaluations, teacher tenure strength, criteria for layoffs and dismissal, class size restrictions, charter school policy

5. Reputation: aggregated results from surveys of state education insiders on topics including: the relative influence of teachers' unions, union influence on party platforms, union effectiveness at protecting interests, how hard unions fight for desired policies

One might worry that a 2012 index using 2007-11 data on the strength of state teacher unions' bargaining power is out of date. For example, Wisconsin passed Act 10 in 2011, which banned collective bargaining for public-sector unions. To address this concern, we re-collected the variables included in the Fordham bargaining sub-score and re-calculated the index values. The index includes whether CB is legal, whether teachers can strike, RTW status (coded as 0 = RTW, 4 = non-RTW), and the index of 15 areas over which teachers can bargain. We average these four scores to get the final score, which ranges from 0-4 (mean 2.03, median 1.84, IQR 1.16-2.83). The newer version of the Fordham index has a correlation of 0.99 with the older version; the newer bargaining sub-score has a correlation of 0.93 with the older sub-score.

10.D Partisanship

We calculated district-level Republican vote shares in the 2016 presidential election using district and precinct shapefiles and precinct-level voting results compiled by the Harvard Voting and Election Science Team. Construction happens in two stages, the first in ArcGIS and the second in Stata. In the first stage, We overlay district and precinct shapefiles and identify every precinct-district overlapping geography. In the second stage, we use the

precinct-district area overlaps to calculate district-level Republican vote shares as a weighted average of the Republican votes cast in all precincts overlapping with that district.

The algorithm works as follows. Say there are N districts (indexed by j) with at least some overlap with precinct i. The total area of precinct i in all districts is:

$$\text{area}_i = \sum_{j=1}^{N} \text{area}_{ij}$$

and the area of precinct i in area j is area_{ij}. Then, the fraction of precinct i's area contained in district A is $\frac{\text{area}_{iA}}{\sum_{j=1}^{N} \text{area}_{ij}}$. We assign shares of precinct vote totals to districts in proportion to this fraction:

$$\text{votes}_{iA} = (\text{total votes in precinct } i) \cdot \frac{\text{area}_{iA}}{\sum_{j=1}^{N} \text{area}_{ij}}$$

District A's total votes from all precincts is then:

$$\text{total votes}_A = \sum_{k \in supp(\text{overlap}_{kA})} \left[(\text{total votes in precinct } k) \cdot \frac{\text{area}_{kA}}{\sum_{j=1}^{N} \text{area}_{kj}} \right]$$

Analogously, district A's Republican vote total from all precincts is:

$$\text{repvotes}_A = \sum_{k \in supp(\text{overlap}_{kA})} \left[(\text{repvotes in precinct } k) \cdot \frac{\text{area}_{kA}}{\sum_{j=1}^{N} \text{area}_{kj}} \right]$$

The district's Republican vote share is

$$\text{VoteShareRepub} = \frac{\text{repvotes}_A}{\text{votes}_A}$$

Some district boundaries are defined such that their catchment zones overlap. This is particularly common in California, Arizona, Illinois, and Montana, where we have a lot of separate "elementary" and "high school" districts that serve the same students. For some

precincts in these states,

$$\sum_{j=1}^{N} \text{area}_{ij}$$

is greater than the actual precinct area. This would result in us assigning fewer votes to each district from that precinct than we would otherwise because we would be dividing by too large a denominator. Therefore, for any precincts where the sum of their precinct-overlap areas is greater than the precinct's actual size, we set the denominators to the total area of the precinct, rather than the sum of the overlap areas. The distributions of resulting Republican vote shares in these states for these two methods are incredibly similar.

12,808 districts (98.4 percent) have non-missing partisanship measures. In the average district's geographic catchment zone, 60 percent of voters supported the Republican in the 2016 election. In the median district, 63 percent of voters supported the Republican. Since Democratic voters tend to concentrate in cities, it makes sense that the mean/median district vote share is greater than 50 percent. If we weight districts by 2016 student enrollment, then the mean district's Republican vote share was 47 percent (median: 48 percent). The actual 2016 Republican national vote share was 46.1 percent.