



21-3 COVID-19 and the 2020 US Presidential Election

Did the Pandemic Cost Donald Trump Reelection?

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ABSTRACT

By Election Day 2020, the COVID-19 pandemic had killed 234,244 Americans and caused the sharpest macroeconomic downturn in US history. Regression analysis shows that in a “no pandemic” counterfactual or a counterfactual in which the severity of the pandemic was mitigated by 30 percent, Donald Trump would have lost the popular vote but won the electoral vote. In the 20 percent mitigation scenario, the electoral vote would have been tied, giving Trump a presumptive victory in the House of Representatives. For the second time in a row (and the third time since 2000), the candidate who lost the popular vote would have been elected president of the United States.

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INTRODUCTION

The COVID-19 pandemic was a massive public health and economic shock to the United States. By Election Day 2020, the United States had registered roughly 9.5 million cases and 234,244 deaths directly attributable to the disease.¹ The -3.5 percent annual decline in GDP for 2020 was the worst since World War II. More than 22 million jobs disappeared between February and April.² Labor force participation fell 1.8 percentage points, from 63.3 percent in February to 60.8 percent in May, before recovering to 61.5 percent in December.

Such a catastrophe was bound to have electoral implications. Analysis of county-level electoral data finds that race, diversity, education, and economic dislocation are all correlated with the voting pattern. The Republican vote share is negatively correlated with the pandemic, both through its direct public health impact (as measured by the COVID-19 case fatality rate) and through its associated economic dislocation (via labor market effects).

To show how the pandemic affected the election results, this paper examines three counterfactual scenarios. In a “no pandemic” counterfactual, Donald Trump loses the popular vote but wins in the Electoral College, after winning 79 Electoral College votes in six states he lost (Arizona, Georgia, Michigan, Nevada, Pennsylvania, and Wisconsin). In a scenario in which the severity of the pandemic was reduced by 30 percent, Trump takes Arizona, Georgia, Pennsylvania, and Wisconsin, winning reelection. If the pandemic severity had been mitigated by just 20 percent, a tie would have emerged in the Electoral College, presumably yielding a Trump victory following a vote by state delegations in the House of Representatives.

These results are chilling. For the Democratic candidate to have won the popular vote but lost the presidency for the second consecutive time (and the third time in six elections) would have severely damaged democratic legitimacy. The likelihood that absent the pandemic, Trump would have been reelected suggests that the wariness with which the United States’ partners regard the durability of the country’s return to conventional diplomacy in the Biden administration may not be misplaced.

CONTEXT

Donald Trump’s emphasis on immigration and international trade protection as his signature campaign issues in the 2016 election was a departure from the norm, and his victory took many observers by surprise. A surge in research on the determinants of voting patterns in US presidential elections followed in its wake. Economists were naturally drawn to the notion that Trump’s protectionism and populist appeal were tied to economic dislocation caused by trade competition, in some cases specifically with China (Che et al. 2016; Jensen, Quinn, and Weymouth 2017; Freund and Sidhu 2017; Bisbee 2019; Autor et al. 2020).³ Broz, Frieden, and Weymouth (2021) argue that similar dynamics can be observed elsewhere in the Organization for Economic Cooperation and Development (OECD).

1 See [Our World in Data](#) (accessed on March 10, 2021).

2 See [Current Employment Statistics-CES \(National\)](#) (accessed on February 18, 2020).

3 An exception is Lake and Nie (2021), who center their explanation on the politics surrounding the Affordable Care Act.

But another strand of research, based on individual voter survey data, calls into question the basic link between economic distress and political attitudes. Mutz (2018) shows that the likelihood of voting for Trump was uncorrelated with household economic distress or perceptions about the impact of international trade on household economic well-being. Instead, attitudes were correlated with voter perceptions of American global dominance and the group position of whites domestically. Cox, Lienesch, and Jones (2017) find that economic hardship was actually weakly correlated with support for Hillary Clinton in the 2016 election.

The role of education is contested. Once attitudes toward the threat to group status are considered, educational attainment is uncorrelated with support for Trump, according to Mutz. Fear of status erosion and impaired ability to use system dominance to extract benefits was what motivated white voters.⁴ Kaufman (2017) obtains a similar result, showing that support for Trump is positively correlated with authoritarian attitudes and income (but not education).

In this interpretation, concerns about the group position of whites is key. In a survey of 1,151 Republican-identified voters, Bartels (2020) shows that ethnic antagonism among Republican-affiliated voters is the strongest predictor of antidemocratic leanings, spanning education, locale, gender, and political attitudes. More than half of respondents agreed that “the traditional American way of life is disappearing so fast that we might have to use force to save it,” and a significant plurality (41 percent) agreed that “a time will come when patriotic Americans have to take the law into their own hands.”⁵ Democrats and Republicans are sharply polarized in this regard: These sentiments are concentrated in the contemporary Republican Party.

Thompson (2021) obtains similar results: Antidemocratic attitudes are orders of magnitude more prevalent among Republican voters than Democrats or Independents, and only Republicans perceive a racial threat connected to the notion of a majority-minority America.⁶ A January 2021 survey confirmed that a substantial share of Americans were open to the use of force to “arrest

4 Surveys by Pew Research document a decline among Americans in the country’s perceived global standing (see [Kim Parker, Rich Morin, and Juliana Menasce Horowitz, “Looking to the Future, Public Sees an America in Decline on Many Fronts,”](#) March 21, 2019). The fall was particularly acute among Republicans (see Alec Tyson, “[Most Americans Think the US Is Great, But Fewer Say It’s the Greatest,](#)” Pew Research Center, July 2, 2014). These concerns center on China, which is perceived as both an economic and strategic rival. Hostility toward China is rising broadly among Americans but is concentrated among Republicans, whites, and older Americans (see Laura Silver, Kat Devlin, and Christine Huang, “[Most Americans Support Tough Stance Toward China on Human Rights, Economic Issues,](#)” Pew Research Center, March 4, 2021).

5 Such attitudes can be primed. Surveys in which respondents were treated with information about President Obama or the impending end of white majority status obtained shifts toward supporting conservatism; the Tea Party (and within the Tea Party, racialized, as distinct from libertarian, aspects of its platform); Donald Trump; and intensified racism (Craig and Richeson 2014a, 2014b; Major, Blodorn, and Blascovich 2016; Willer, Feinberg, and Wetts 2016). Anti-immigrant and racist sentiments were important motives in voting for Trump, as revealed in a pre- and post-election surveys of individual voters (Hooghe and Dassonneville 2018). In the words of Bartels (2020, 22758), “The evolution of the Republican Party over the past few years suggests that a hostile takeover may not stay hostile for long, as rank-and-file supporters respond to new leadership and elected officials adapt themselves to new political realities.”

6 This result is consistent with survey data showing that nearly half of whites, and a majority of Republicans, believe that majority-minority status will have a negative impact on American customs and values (see [Kim Parker, Rich Morin, and Juliana Menasce Horowitz, “Looking to the Future, Public Sees an America in Decline on Many Fronts,”](#) March 21, 2019).

the decline of the traditional way of life” and supported taking violent action if elected officials did not act and that these views were concentrated among Republicans and white Evangelical Protestants (Cox 2021a, 2021b).⁷

In a critique of Mutz, Morgan (2018) argues that educational attainment is correlated with attitudes toward material interests, foreign policy attitudes, and status threat and demonstrates that the salience of education is highly conditional on other considerations. Using World Value Survey data, Inglehart and Norris (2016) argue that a division is widening among Americans, in significant part along an educational fault line, with regard to a nexus of attitudes, including racial and gender equality, sexual mores, and the desirability of an authoritarian leader for the United States, with people without college degrees 50 percent more likely to support this notion.⁸

Using survey data from just before the 2016 election and a psychological model of populism as insurance against elite betrayal, Di Tella and Rotemberg (2018) reach a similar conclusion regarding the existence of an educational or cultural fault line, albeit through a different route. Two groups—rural voters and white voters living in urban and suburban areas with less than two years of postsecondary education—respond to priming about the role of competence in policymaking with quantitatively significant increases in support for Trump. Di Tella and Rotemberg interpret this vote against competency as reflective of betrayal aversion, invoking historian Richard Hofstadter’s characterization of the “paranoid style” of American politics.

The economic and cultural explanations are not mutually exclusive, although the channels through which these effects operate are difficult to parse. Autor et al. (2018) find that political polarization is intimately tied not just to economic displacement as a result of trade shocks but specifically to industries employing large numbers of white men. White male voters likely experience such distress most acutely, insofar as they perceive threats to dominance both domestically and globally.⁹ Moreover, considerable evidence indicates that attitudes toward international trade and domestic minorities are not separable. Mansfield and Mutz (2009) argue that prejudicial attitudes toward domestic minorities is a better

7 Far more Republicans (55 percent) support force to defend the traditional way of life than Independents (35 percent) and Democrats (22 percent). The shares of Americans who support the use of force if elected officials do not act to defend the traditional way of life is 41 percent among white Evangelical Protestants, 39 percent among Republicans, 31 percent among Independents, and 17 percent among Democrats.

8 A 2016 preelection survey of white working-class voters found that “fears about immigrants and cultural displacement” were more important than economic concerns in predicting support for Trump (Cox, Lienesch, and Jones 2017). Almost two-thirds of the white working-class voters surveyed believed that American culture and way of life had deteriorated since the 1950s, and almost half report that they “often feel like a stranger in my own country.” More than two-thirds believed that America needs to be protected from foreign influence, a far higher figure than the 44 percent of college-educated Americans who hold these views. Twice as many of these white working-class voters believed that immigrants threaten America as believed that immigrants strengthen it. More than half believed that discrimination against whites was as big a problem as discrimination against Blacks and other minorities (70 percent of college-educated whites disagreed with this proposition). Sixty percent believed that the country is so off-track that it needs a strong leader willing to break the rules—roughly double the rate among college graduates.

9 Similarly, Freund and Sidhu (2017) find that the impact of trade on the Trump vote was conditional on the racial composition of the county. Trade shocks may be encouraging support for protectionism for conventional economic reasons (though Mutz’s finding on the lack of correlation between household economic distress and support for Trump calls even this result into question), but it seems clear that voter perceptions of trade effects are intimately tied to a nexus of issues revolving around race, education, and status.

predictor of trade policy attitudes than occupational or employment status. Cerrato, Ferrara, and Ruggieri (2018) find that individuals in “China shock”-exposed regions have harsher attitudes toward immigrants and racial minorities and tend to gravitate toward more extreme forms of their own religion.¹⁰ This tendency extends to adopting more favorable attitudes toward Christian fundamentalists (the in-group religion) and negative attitudes toward Muslims. Given that Muslims make up roughly 1 percent of the US population, it is hard to argue that such sociotropic views are a product of competition over scarce resources or labor market outcomes.

Noland (2020) attempted to run a horse race among these competing explanations. He found that economic dislocation accounted for some of the shift toward the Republican presidential candidate in the 2016 election but that its effect was mediated by race, diversity, education, and age, which were the predominate explanators. What could not be assessed was whether white anxiety is a purely cultural phenomenon, as the results could be interpreted as supportive of the “cultural backlash” hypothesis, either in the narrow sense that the 2016 election result was a reaction to the presidency of Barack Obama, or in the broader sense that economic anxiety following the global financial crisis and intensified international trade competition contributed to heightened social intolerance, or both.

MODELING VOTING PATTERNS

This paper extends that work using county-level presidential election results from *Dave Leip's Atlas of US Presidential Elections*.¹¹ The dependent variable is the change in the Republican vote share between the 2016 and 2020 elections. As an informal robustness check, and to give some sense of how US politics may have changed during the Obama-Trump period, some results from the periods 2012–16 and 2012–20 are also examined.

Explanatory variables are introduced in two waves, first a set of demographic and trade exposure variables, then pandemic-related indicators.¹² Values of explanatory variables are taken from time periods preceding the relevant electoral cycles. All regressions are estimated using robust standard errors, to account for the heteroskedasticity created by the widely differing county sample population sizes.

10 Social psychology research supports the notion that Christians regard themselves as more prototypically American than other citizens; Americans as a whole think of prototypical Americans as native born, residents most of their lives, having US citizenship, Christian, and probably white. The more nationalist the respondent, the more exclusive these boundary characteristics become (Theiss-Morse 2009).

11 Because of data limitations, Alaska, Puerto Rico, and the US Virgin Islands are not included in the analysis.

12 In Noland (2020), trade exposure variables were correlated with shifts in voting but unemployment generally was not. Baccini, Brodeur, and Weymouth (2021) also find that the unemployment rate is insignificantly correlated with vote shares in the 2020 election. Non-trade-related labor market indicators are introduced in the context of the pandemic in the following section.

Data on age, race, and ethnicity are from the 2010 US Census's Decennial data. Education-related data are based on Census's American Community Survey 5-Year Data from 2012 and 2016. The number of LGBT voters per capita is proxied by the number of gay-oriented establishments in each county listed in the 1999 *Spartacus* guide, a sort of "Green Book" for gay travelers.¹³

Much of the literature on individual voter surveys has uncovered unease among the white population with ethnic and religious minorities.¹⁴ It is well known in development economics that ethno-linguistic fractionalization (ELF)—a measure of the probability that two random individuals in an area do not share the same cultural identity—may be associated with intense political competition over rents generated and allocated by the political system (Alesina, Baqir, and Easterly 1999; Alesina and La Ferrara 2005). More specifically, voters in fractionalized polities may be unsupportive of the provision of public goods if they believe that the benefits will flow largely to out-groups.

To explore this idea, we calculated the change in ELF in the run-up to the election, where $ELF = 1 - \sum_{i=1}^6 p_i^2$ and p_i is a share of each race group.¹⁵ The expectation is that rising ELF will be associated with white discomfort and a shift toward the Republican candidate.

To these demographic measures were added indicators of trade exposure. If political allegiances follow economic interests, the import-competing manufacturing sector is expected to favor protectionism and the export-oriented services sector to support openness. These data are from the Bureau of Labor Statistics on the employment share in manufacturing and tradable services. Using the classification provided in appendix C of Jensen, Quinn, and Weymouth (2017), tradable services include information, finance, and business and professional services.¹⁶

Table 1 reports the results of regressions on demographic and trade exposure indicators. The share of county residents without a college education is robustly correlated with a shift toward the Republican candidate, Donald Trump, in all specifications. The interaction term of white and no college education is additionally significant in all specifications. In the 2012-16 and 2012-20 cycles, the interaction of no college education and being 50 or older is positively associated

13 The distribution of this variable is highly skewed, in significant part by the existence of tourist towns such as Provincetown, MA, and Key West, FL, that have many gay establishments but very small numbers of registered voters. These tourist destinations were excluded from the sample. "Green Book" refers to the motorist's guide published for African Americans during segregation.

14 Indicators of religious affiliation, the status of women, and the presence of hate crimes or groups were not found to be robustly correlated with voting patterns (Noland 2020).

15 The racial groups are defined as white, Black/African American, Asian, Alaskan Native/Native Americans, Native Hawaiians/Pacific Islanders, and Other. "Hispanic" is not a racial category in the US Census, but as Alesina, Baqir, and Easterly (1999) observe, the correlation between "Hispanic" and the "Other" category is 0.9, so for practical purposes "Other" can be interpreted as Hispanic.

16 In Noland (2020), the manufacturing data were disaggregated into high- and low-wage industries; when subindustry employment data were unavailable, the k th neighborhood method was used to estimate high- and low-wage industries' employment, following Jensen, Quinn, and Weymouth (2017). The hypothesis of equality of the coefficients on these two terms could never be rejected at conventional levels of statistical significance.

Table 1
Demographic and trade exposure variables

Variable	Specification		
	(1.1) 2016-20	(1.2) 2012-16	(1.3) 2012-20
Share of population without four-year college degree	0.0780*** (0.0127)	0.232*** (0.0167)	0.316*** (0.0196)
Share of African American or Black	-0.00310 (0.00921)	-0.0233** (0.0108)	-0.0260* (0.0146)
Share of Hispanic or Latinx	0.0713*** (0.00988)	-0.0682*** (0.00766)	0.00591 (0.0141)
Share of population without four-year college degree * share of white	0.0392*** (0.0114)	0.0571*** (0.0135)	0.0962*** (0.0179)
Share of population without four-year college degree * share of population 50 years or older	-0.0207 (0.0161)	0.191*** (0.0263)	0.171*** (0.0213)
Gay establishment	83.26*** (29.48)	61.57 (63.64)	143.4** (64.01)
Change in racial diversity	0.0642*** (0.0181)	0.135*** (0.0205)	0.205*** (0.0280)
Share of manufacturing in employment	-0.00226 (0.00443)	0.0433*** (0.00827)	0.0394*** (0.00848)
Share of tradable services in employment	-0.0436** (0.0180)	-0.00879 (0.0175)	-0.0504*** (0.0172)
Constant	-0.0651*** (0.00875)	-0.241*** (0.0104)	-0.313*** (0.0108)
Observations	3,050	3,054	3,053
R-squared	0.261	0.521	0.583

Note: Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations.

with the Trump vote share, but this indicator is insignificant in the 2016–20 cycle. This outcome is consistent with polling data that show older voters shifted away from Trump.¹⁷

The percentage of Black residents is negatively correlated with the Trump vote share in 2012–16 and 2012–20 but is insignificant in 2016–20, possibly signaling the unique appeal of Barack Obama to fellow African Americans and/or evidence of Republican inroads in the Black community in the 2020 election.¹⁸

A more dramatic shift is shown among Latinx voters, whose presence was negatively associated with Trump's share in 2012–16 but positively correlated in the 2016–20 cycle. This change is consistent with exit polling.¹⁹

There is some evidence of Republican inroads among LGBT voters, but the exit polling is weakest in this case.²⁰ Indeed, while ethnic, religious, sexual orientation, and class identities are normally thought of as fixed, there is evidence of a certain degree of fluidity. Using General Social Survey panels, Egan (2020) documents a small but significant share of Americans bringing their stated identities into alignment with their politics. This phenomenon is particularly the case with identities often acquired later in life, notably sexual orientation and no religion.

In specification (1.2), the regression on the 2012–16 electoral cycle, the estimated coefficient on manufacturing employment is positive and significant, as expected, but the coefficient on tradable services is statistically insignificant. In specification (1.1), the most recent cycle, the pattern of significance is reversed: Employment in tradable services is estimated with a statistically significant negative coefficient, as expected, and the coefficient on manufacturing employment is insignificant.²¹

The regressions explain more than half of sample variation for the earlier electoral cycles but only about half as much for 2016–20. One possible explanation is that the demographic data from the 2010 Census are increasingly outdated, which can be addressed when the 2020 Census becomes available. It

17 Josh Dawsey, "Poor Handling of Pandemic Cost Trump Reelection, Campaign Pollster Finds," *Washington Post*, February 1, 2021.

18 For exit poll results on Black voters, see Musa Al-Gharbi, "White Men Swung to Biden. Trump Made Gains with Black and Latino Voters. Why?" *Guardian*, November 14, 2020; William H. Frey, "Exit Polls Show Both Familiar and New Voting Blocs Sealed Biden's Win," Brookings Institution, November 11, 2020; and Mara Ostfeld and Michelle Garcia, "Black Men Shift Slightly toward Trump in Record Numbers, Polls Show," NBC News, November 4, 2020.

19 See Musa Al-Gharbi, "White Men Swung to Biden. Trump Made Gains with Black and Latino Voters. Why?" *Guardian*, November 14, 2020; Andre Tartar, Jeremy C.F. Lin, Katia Dmitrieva, Maria Eloisa Capurro, Catarina Saraiva, and Demetrios Pogkas, "Trump's New Latino Voters Are Sending Democrats a Message," Bloomberg, November 24, 2020; and Amelia Thomson-DeVeaux, Geoffrey Skelley, and Laura Bronner, "What We Know about How White and Latino Americans Voted in 2020," *Five Thirty-Eight*, November 23, 2020. Another possibility is that if counties with significant Latinx populations experienced growth in those populations after the 2010 Census, the coefficient could reflect a backlash against diversity by the white majority residents. This hypothesis can be examined more directly once the 2020 Census data become available.

20 Andrew Flores, Gabriele Magni, and Andrew Reynolds, "Had LGBT Voters Stayed Home, Trump Might Have Won the 2020 Presidential Election," *Washington Post*, December 1, 2020; John Riley, "Did 28% of LGBTQ People Really Vote for Trump?," *Metro Weekly*, November 12, 2020 (accessed on January 8, 2021).

21 Instrumental variable regressions for the China shock are similar to those in table 1; they are not reported, in the interest of brevity. The China shock variable captures an import competition effect but not export opportunity effects. Another issue is that in terms of the counterfactuals in the next section, data for the state of Hawaii are missing for the instrumental variable, making it less desirable for the counterfactual calculation than the sectoral employment shares, though in practical terms, the state is reliably "blue" (see Noland 2020 for details).

is also possible that the surge in turnout pulled more casual and first-time voters to the polls and contributed to a greater degree of randomness when comparing the 2012–16 and 2016–20 cycles, though specification (1.3), covering the shift between 2012 and 2020, has the highest R^2 of all.

In short, race and education are fault lines, and increasing diversity, holding the racial composition of the county constant, in and of itself contributes to the Republican vote share. It is unclear in this context whether education acts as a positional marker or a college education affects its recipient's political attitudes. Trade exposure plays a supporting role.

IMPACT OF THE COVID-19 PANDEMIC

The Trump administration's response to the pandemic was incompetent, combining misinformation and disorganization. On Election Day, Joseph R. Biden Jr. received more than 7 million more votes than Donald Trump, defeating him in the Electoral College 306–232 to win the presidency.

Capturing the impact of the pandemic on voting behavior is challenging. There is the perennial question of when voters form their decisions and thus at what point in the year conditions are most salient for shaping voting behavior (Fair 1978). That issue is complicated by an unknown degree by the unusually high level of early voting in the 2020 election. Another complicating factor is the fact that the pandemic came in waves, occurring at different points in time across states (and globally), and thus created potential sample-period sensitivity issues.

Case numbers are subject to data-collection issues. Inadequate testing in the early months of the pandemic reduced the number of recorded cases by an unknown degree. The different criteria for testing eligibility applied across states during the first wave of the pandemic, before the advent of widespread testing, raise additional issues.

In principle, one would want to evaluate excess deaths, which would capture not only deaths directly attributable to COVID-19 but also deaths that were the result of the health care system being overwhelmed and patients receiving inadequate treatment for non-COVID-19 conditions. Calculating this metric at the county level raises its own set of data and estimation challenges, however.

Two papers examining the impact of the pandemic reach diametrically opposing conclusions. Baccini, Brodeur, and Weymouth (2021) conclude that a 5 percent reduction in COVID-19 cases (but not deaths, which are not highly correlated with the vote) would have likely swung the election in Trump's favor. Lake and Nie (2021) conclude that the pandemic likely had a negligible impact on the election and, if anything, helped Trump. They attribute Trump's loss primarily to his undermining of the Affordable Care Act.²²

22 Baccini, Brodeur, and Weymouth create an instrumental variable for COVID-19 cases, arguing that voter party affiliation may affect personal behavior and be correlated with contracting the virus. Their instrument is the county share of employment in meatpacking plants. However, fewer than half of the counties in the United States have meatpacking plants. When Lake and Nie reproduce their results, they report that the meatpacking variable does not contribute much to the instrumental variables (IV) apart from the other correlates. Lake and Nie also use a version of the election data—the same version used in this paper—that was released after Baccini, Brodeur, and Weymouth completed their work. It contains roughly 400 additional observations, accounting for about 13 percent of the total sample. This difference in the underlying sample may contribute to the divergence in the results: Lake and Nie report that the Baccini, Brodeur, and Weymouth IV is uncorrelated with the vote; their preferred IV—the population share of nursing home residents—is positively correlated with the Trump vote. In this setting, it is not obvious that the COVID-19 variables are not predetermined. We eschew these IV approaches.

This paper examines three potential indicators of the pandemic: COVID-19 deaths per confirmed case (the case fatality rate) averaged across August–October, the change in labor force participation, and the share of employment in COVID-19-vulnerable sectors, all of which are robustly correlated with electoral outcomes.²³ For the first indicator, we construct the end-of-the-month case fatality rates using cumulative confirmed COVID-19 deaths and cases retrieved from the Johns Hopkins University Center for Systems Science and Engineering (JHU CSSE) (Dong, Du, and Gardner 2020) at the county level and take the average rates in August, September, and October 2020.²⁴ Change in labor force participation is measured as the percentage change in labor force between September 2019 and September 2020. The COVID-19-vulnerable employment share is measured as the share of 2019 county employment in the industries hardest-hit by COVID-19, as defined by the International Labor Organization and categorized through the North American Industry Classification System (NAICS) code.²⁵ Both sectoral employment data and monthly labor force data are from the Bureau of Labor Statistics.

Table 2 reports some of the regressions on these variables. In the first three specifications, the COVID-19 variables are entered singly. As expected, the association with the incumbent’s share of the vote is negative for the fatality rate (specification 2.1), positive for the growth in the labor force (specification 2.2), and negative for the prevalence of employment in COVID-19-vulnerable sectors (specification 2.3). (As a check on whether the last correlation was spurious, we applied employment in COVID-19-vulnerable sectors to the previous, prepandemic electoral cycle. The estimated regression coefficients were insignificant.)

In regressions (2.4) to (2.7), the regressors are entered in combination. The univariate correlations hold up robustly.

In table 3, the pandemic-related variables are added to the demographic and economic variables from table 1. The estimated coefficients on the pandemic-related variables maintain their statistical significance. The coefficients on the fatality rate and labor force participation remain generally stable, and the coefficient on employment in COVID-19-vulnerable industries doubles once the demographic and trade exposure variables are taken into account.²⁶ The

23 COVID-19 cases per voter and deaths per voter, or per population, were not statistically significant with and without other controls.

24 We focus on this time period because it was the run-up to the election and was less likely to be affected by problems in testing than the earlier months. Correlation coefficient estimates and statistical significance show some sensitivity to the sample period used (for example, the August case fatality rate is robustly correlated with vote share, whereas the October rate is not), but the choice of the month washes out in the multivariate analysis and does not affect the counterfactual results (for example, using the case fatality rate for August or August–October would not affect which states would flip under each scenario in table 4).

25 The COVID-19-vulnerable sectors include accommodation and food services; real estate, business, and administrative activities; manufacturing; wholesale and retail trade; and repair of motor vehicles and motorcycles. See table 2 in *ILO Monitor: COVID-19 and the world of work. Second edition: Updated estimates and analysis*.

26 The coefficient on employment in COVID-19-vulnerable industries remains negative and statistically significant if overall manufacturing employment is dropped from the regression. Likewise, the coefficient on a COVID-19-vulnerable nonmanufacturing employment variable is also negative and significant when manufacturing employment is included. What is being captured in table 3 is not some kind of interaction between COVID-19-vulnerable and overall manufacturing employment.

Table 2
COVID-19 variables

Variable	Specification						
	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)	(2.7)
COVID-19 deaths per confirmed case	-0.0839** (0.0355)				-0.0819** (0.0358)	-0.114*** (0.0233)	-0.112*** (0.0231)
Change in labor force size (percent)		0.000898*** (0.000152)		0.000997*** (0.000152)	0.000743*** (0.000149)		0.000834*** (0.000148)
Share of COVID-19-vulnerable employment			-0.0251*** (0.00456)	-0.0268*** (0.00461)		-0.0242*** (0.00447)	-0.0257*** (0.00454)
Constant	0.0183*** (0.000830)	0.0191*** (0.000679)	0.0246*** (0.00158)	0.0273*** (0.00174)	0.0199*** (0.000965)	0.0262*** (0.00154)	0.0285*** (0.00170)
Observations	3,074	3,111	3,077	3,077	3,074	3,049	3,049
R-squared	0.004	0.017	0.010	0.031	0.017	0.019	0.035

Note: Robust standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations.

Table 3
Demographic and trade exposure variables plus COVID-19 variable

<i>Dependent variable = Change in Republican vote share from 2016 to 2020</i>					
Variable	Specification				
	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)
Share of population without four-year college degree	0.0723*** (0.0122)	0.0706*** (0.0128)	0.0809*** (0.0125)	0.0692*** (0.0121)	0.0733*** (0.0125)
Share of African American or Black	0.000553 (0.0092)	-0.00252 (0.0093)	-0.00333 (0.0094)	0.000448 (0.0095)	-0.00275 (0.0095)
Share of Hispanic or Latinx	0.0783*** (0.0100)	0.0701*** (0.0096)	0.0686*** (0.0099)	0.0737*** (0.0097)	0.0670*** (0.0096)
Share of population without four-year college degree * share of white	0.0337*** (0.0114)	0.0454*** (0.0118)	0.0402*** (0.0117)	0.0402*** (0.0120)	0.0470*** (0.0121)
Share of population without four-year college degrees* share of population 50 years or older	0.0141 (0.0143)	-0.0239 (0.0159)	-0.0289* (0.0161)	0.00175 (0.0142)	-0.0327** (0.0159)
Gay establishment	65.13** (26.4100)	85.03*** (30.8100)	73.79*** (28.5600)	58.28** (26.8900)	75.44** (29.9700)
Change in racial diversity	0.0750*** (0.0184)	0.0608*** (0.0177)	0.0596*** (0.0180)	0.0644*** (0.0177)	0.0544*** (0.0174)
Share of manufacturing in employment	0.00163 (0.0041)	-0.00415 (0.0044)	0.0452*** (0.0086)	0.0463*** (0.0080)	0.0458*** (0.0084)
Share of tradable services in employment	-0.0284* (0.0163)	-0.0462*** (0.0176)	-0.0244 (0.0168)	-0.0128 (0.0147)	-0.0257 (0.0161)
COVID-19 deaths per confirmed case	-0.0845*** (0.0190)			-0.0755*** (0.0183)	
Change in labor force size (percent)		0.000955*** (0.0001)		0.000789*** (0.0001)	0.00103*** (0.0001)
Share of COVID-19-vulnerable employment			-0.0515*** (0.0086)	-0.0507*** (0.0079)	-0.0543*** (0.0084)
Constant	-0.0687*** (0.0080)	-0.0598*** (0.0086)	-0.0574*** (0.0076)	-0.0566*** (0.0067)	-0.0516*** (0.0074)
Observations	3,022	3,050	3,031	3,007	3,031
R-squared	0.295	0.28	0.273	0.32	0.294

Note: Robust standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' calculations.

estimated coefficients on employment in manufacturing and tradable services continue the pattern of one or the other being significant with the expected sign; in specification (3.4), in which all variables are entered jointly, the estimated coefficient on manufacturing employment is statistically significant with the expected positive sign. That regression explains roughly one-third of sample variation.

Using specification (3.4), we estimate a “no pandemic” counterfactual change in the Republican vote share by setting the COVID-19 fatality rate and vulnerable employment share equal to zero and holding the change in labor force participation at its 2019 level. Data are missing for a small number of counties; they are assigned their state’s averages. Maine and Nebraska allocate Electoral College votes by congressional district. The counties do not map precisely to congressional districts, so Maine and Nebraska are treated like the other winner-take-all states. All shifts are between the Democratic and Republican candidates (minor party candidates are disregarded). We then take the difference between the counterfactual “no pandemic” change in vote share and the predicted change in the vote share under specification (3.4). The difference between the two estimates yields the additional vote share that Trump would have received had there been no pandemic.

In the counterfactual, Trump’s vote share increased by 2 percentage points on average across counties nationally. Of this shift, 8 percent comes from the COVID-19 case fatality rate, 12 percent from the effect via COVID-19-vulnerable industries, and 80 percent from the decline in the labor force. Counterfactual 2020 Republican vote counts are calculated at the county level, as the product of 2020 total vote counts and the predicted Trump vote share under “no pandemic” scenario. These vote counts are then aggregated to the state level.

Table 4 summarizes the state-level results. In the absence of the pandemic (column e), Trump’s share of the popular vote rises 2 percentage points. He flips six states—Arizona, Georgia, Michigan, Nevada, Pennsylvania, and Wisconsin, accounting for 79 electoral votes—thereby winning the election 311-227 in the Electoral College, although he still loses the popular vote by about 500,000 votes.

Table 4 also presents the counterfactual vote counts if the impact of the pandemic had been mitigated by 30 percent (column f) and 20 percent (column g). These scenarios are calculated by setting the COVID-19 fatality rate and COVID-19-vulnerable employment share at 70 or 80 percent of actual values, and the change in labor force participation as a weighted average of its 2019 level plus 70 or 80 percent of the additional changes observed for 2020. Under the 30 percent mitigation scenario, Trump wins Arizona, Georgia, Pennsylvania, and Wisconsin, earning 57 additional Electoral College votes and reelection, despite losing the popular vote by approximately 5 million votes. If COVID-19 severity had been reduced by 20 percent, Trump would have won Arizona, Georgia, and Wisconsin, giving him 37 additional Electoral College votes, to generate a 269-269 tie in the Electoral College. The election would then have gone to the House of Representatives, where the Republicans’ majority of state delegations would have handed him a victory (figure 1).

As there are concerns about the fragility of the estimators of COVID-19’s direct impact (cases, deaths, and the case fatality rate), the counterfactuals are recomputed using regression (3.5), dropping the case fatality rate and using only the two economic indicators. The qualitative results largely hold. Trump loses

Table 4
Counterfactual vote counts by state, 2020

State	Electoral College votes	Total votes	Biden's victory margin	Trump's victory margin	Additional votes Trump would have received if		
					No COVID-19	30% mitigation	20% mitigation
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Alabama	9	2,323,282	—	591,546	46,025	13,808	9,205
Arizona	11	3,397,388	10,457	—	71,224	21,367	14,245
Arkansas	6	1,219,069	—	336,715	24,559	7,368	4,912
California	55	17,511,515	5,103,821	—	348,096	104,429	69,619
Colorado	9	3,256,980	439,745	—	62,428	18,728	12,486
Connecticut	7	1,824,280	365,389	—	41,209	12,363	8,242
Delaware	3	504,010	95,665	—	8,444	2,533	1,689
District of Columbia	3	344,356	298,737	—	4,291	1,287	858
Florida	29	11,091,758	—	371,686	230,217	69,065	46,044
Georgia	16	4,997,716	11,779	—	112,508	33,752	22,502
Hawaii	4	574,469	169,266	—	10,694	3,208	2,139
Idaho	4	868,241	—	267,098	14,253	4,276	2,851
Illinois	20	6,038,952	1,025,024	—	120,393	36,118	24,079
Indiana	11	3,033,118	—	487,103	68,321	20,496	13,664
Iowa	6	1,690,871	—	138,611	44,701	13,410	8,940
Kansas	6	1,372,303	—	201,083	25,458	7,637	5,092
Kentucky	8	2,136,768	—	554,172	55,992	16,798	11,198
Louisiana	8	2,148,062	—	399,742	37,113	11,134	7,423
Maine	4	813,742	74,335	—	15,249	4,575	3,050
Maryland	10	3,037,030	1,008,609	—	64,355	19,306	12,871

State	Electoral College votes	Total votes	Biden's victory margin	Trump's victory margin	Additional votes Trump would have received if		
					No COVID-19	30% mitigation	20% mitigation
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Massachusetts	11	3,631,402	1,215,000	—	79,042	23,713	15,808
Michigan	16	5,547,053	154,188	—	133,335	40,000	26,667
Minnesota	10	3,277,171	233,012	—	66,339	19,902	13,268
Mississippi	6	1,313,686	—	217,322	24,580	7,374	4,916
Missouri	10	3,025,962	—	465,722	63,033	18,910	12,607
Montana	3	603,674	—	98,816	8,783	2,635	1,757
Nebraska	5	956,383	—	182,263	16,136	4,841	3,227
Nevada	6	1,405,376	33,596	—	24,501	7,350	4,900
New Hampshire	4	806,182	59,267	—	21,160	6,348	4,232
New Jersey	14	4,564,216	725,061	—	120,057	36,017	24,011
New Mexico	5	923,965	99,720	—	14,535	4,361	2,907
New York	29	8,632,055	1,992,783	—	182,448	54,734	36,490
North Carolina	15	5,524,802	—	74,481	129,787	38,936	25,957
North Dakota	3	361,819	—	120,693	5,362	1,609	1,072
Ohio	18	5,932,398	—	475,669	136,149	40,845	27,230
Oklahoma	7	1,560,699	—	516,390	22,752	6,826	4,550
Oregon	7	2,374,321	381,935	—	48,181	14,454	9,636
Pennsylvania	20	6,938,383	82,155	—	144,995	43,498	28,999
Rhode Island	4	516,383	107,564	—	9,501	2,850	1,900
South Carolina	9	2,513,329	—	293,562	54,760	16,428	10,952
South Dakota	3	422,609	—	110,572	7,129	2,139	1,426
Tennessee	11	3,053,851	—	708,764	69,728	20,919	13,946

State	Electoral College votes	Total votes	Biden's victory margin	Trump's victory margin	Additional votes Trump would have received if		
					No COVID-19	30% mitigation	20% mitigation
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Texas	38	11,315,056	—	631,221	205,313	61,594	41,063
Utah	6	1,505,828	—	304,858	23,674	7,102	4,735
Vermont	3	367,428	130,116	—	7,471	2,241	1,494
Virginia	13	4,460,524	451,138	—	87,790	26,337	17,558
Washington	12	4,087,631	784,961	—	81,907	24,572	16,381
West Virginia	5	794,652	—	309,398	15,031	4,509	3,006
Wisconsin	10	3,298,041	20,682	—	61,953	18,586	12,391
Wyoming	3	276,765	—	120,068	2,988	896	598
Alaska ^b	3	359,530	—	36,173	n.a.	n.a.	n.a.
Total	538	158,535,084	15,074,005	8,013,728	3,273,949	982,185	654,789
If all additional counterfactual votes for Trump came from Biden							
Additional Electoral College votes Trump would have received					79	57	37
Biden's actual 2020 popular vote victory margin					7,060,277	7,060,277	7,060,277
Additional popular votes Trump would have received					3,273,949	982,185	654,789
Biden's counterfactual popular vote victory margin					512,380	5,095,908	5,750,698

n.a. = not available

a. Maine and Nebraska are treated like the other winner-take-all states.

b. Because of data limitations, counterfactual for Alaska could not be computed, thus assumption is made that there is no change to Alaska's vote share in the counterfactuals.

Note: The 2020 state-level vote counts and margins presented in this table are aggregates from county-level data. The total number of votes and the victory margins therefore do not precisely match the certified national aggregates of the 2020 election outcome.

Source: Authors' calculations using data from *Dave Leip's Atlas of US Presidential Elections*, county-level data, version 0.9.

Figure 1
Who wins the 2020 presidential election without COVID-19?

Alternative election scenarios by pandemic severity



Sources: Authors' calculations based on table 3 (specification 3.4) and table 4.

the popular vote in all three scenarios. With respect to the Electoral College, he wins in the “no pandemic” scenario and ties in the two “pandemic mitigation” scenarios, tantamount to victory in all three scenarios.

The results discussed above were estimated using ordinary least squares (OLS). The dependent variable is the change in the Republican vote share across the electoral cycle. The elections are organized by state, and in some jurisdictions, the voting rules themselves may have been changed between elections, or were adjusted in response to the pandemic, possibly affecting turnout.

To take this possibility into account, regressions (3.4) and (3.5) were reestimated using state fixed effects. The regressions show some evidence of overfitting (the Black population share is now strongly associated with the Trump vote share gain), but generate similar qualitative results: Trump loses the popular vote in all three scenarios, wins in the Electoral College in the “no pandemic” scenario, and ties in the two mitigation scenarios.

The question naturally arises as to whether a 20–30 percent reduction in pandemic severity was plausible. The 1.8 percentage point drop in US labor force participation was significantly larger than that observed in a number of comparable G20 countries (ILO and OECD 2020, figure 6). Simulations presented in Baqaee et al. (2020) indicate that under an alternative set of public health and economic policies, significantly improved GDP and unemployment outcomes would have been possible. In terms of the labor market, improved performance on the order of 20–30 percent appears to have been attainable.

The evidence is less clear cut with respect to public health. The case fatality rate in the United States (2.5 percent) was slightly lower than the world average (2.6 percent) in the three months leading up to the election.²⁷ A 20–30 percent improvement in case fatality does not put the United States beyond the performance of G7 peers Germany and Japan. Similar evidence can be adduced from other case and mortality-related indicators. That said, all these comparisons are confounded by the fact that at a particular moment in time, countries are at different points in their pandemic wave cycles.

Longitudinally, the US national-level case fatality rate declined from its peak of 6.3 percent in May to 3.1 percent in August and 2.5 percent in October 2020; the rate stabilized at about 1.8 percent in early 2021. The question is whether the decline could have been accelerated. The simulations reported by Baqaee et al. imply that it could have been and that a 20–30 percent reduction in the fatality rate from the October level was possible.

These observations suggest that mitigation on the relevant scale was not an insurmountable task, especially because 80 percent of the shift in counterfactual vote shares comes from the shock to the labor force, with additional impact coming via COVID-19-vulnerable employment. The bottom-line conclusion that mitigation of a requisite magnitude would have changed the electoral outcome is consistent with postelection polling analysis of 10 key states by the Trump campaign’s pollster, who concluded that Trump lost the election largely because of his mishandling of the pandemic.²⁸

CONCLUSION

The United States is in the midst of a catastrophic pandemic. As of early March 2021, more than 514,000 Americans had died, with more deaths to come. Economic growth for 2020 was the worst since the World War II, and at the trough, more than 22 million Americans had lost their jobs.

The United States is politically polarized, with attitudes toward race playing a central role, reinforced by differences in education and economic distress. Many citizens view growing racial diversity as a threat, boosting the Republican vote share.

A shock as big as the COVID-19 pandemic was bound to affect the 2020 presidential election. Both the direct impact of the pandemic on public health and indirect effects through the economy predictably depressed the vote for the incumbent, who badly mismanaged the pandemic.

27 World average data from [Our World in Data](#).

28 Josh Dawsey, “[Poor Handling of Pandemic Cost Trump Reelection, Campaign Pollster Finds](#),” *Washington Post*, February 1, 2021.

A counterfactual “no pandemic” calculation shows that absent the pandemic, Trump would have been reelected, though he would have once again lost the popular vote. Even with the pandemic, reducing the severity of its effect by 20–30 percent would have likely resulted in Trump’s reelection. The second election in a row (and the third in six elections) in which the popular vote winner was not elected president would have gravely damaged the legitimacy of US democracy.

The 2020 election was never going to be a referendum on Trump’s “America First” foreign policy. But the notion that but for a devastating pandemic, Trump would have been reelected suggests that apprehensions outside the United States about the durability of an American return to more conventional diplomatic values in the Biden administration are not unfounded.

The Trump administration’s handling of the COVID-19 pandemic was a public health catastrophe. In retrospect, it was political malpractice as well.

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