JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS Vol. 56, No. 7, Nov. 2021, pp. 2439–2473

doi:10.1017/S002210902100048X

Buying the Vote? The Economics of Electoral Politics and Small-Business Loans

Ran Duchin
Boston College Carroll School of Management
duchinr@bc.edu (corresponding author)

John Hackney
University of South Carolina Moore School of Business
john.hackney@moore.sc.edu

Abstract

We study the relation between electoral politics and government small-business lending, employment, and business formation. We construct novel measures of electoral importance capturing swing and base voters using data from Facebook ad spending, independent political expenditures, the Cook Political Report, and campaign contributions. We find that businesses in electorally important states, districts, and sectors receive more loans following the onset of the COVID-19 crisis, controlling for funding demand and both health and economic conditions. Estimates from survey and observational data show that electoral politics and the allocation of government funds affect employment, small-business activity, and business applications.

I. Introduction

In this article, we seek to provide novel empirical evidence on the role of election-year political incentives in the government's allocation of emergency funds and their real economic effects. We focus our attention on the COVID-19 outbreak, which was an unexpected economy-wide shock that triggered a large-scale government-aid response. This response disbursed trillions of dollars across states, businesses, and individuals during a period of economic stress, when the benefit of government aid is potentially greatest. The outbreak also coincided with the 2020 presidential election year in the United States, which was characterized by strident political polarization. According to Gallup, 82 percentage points separated Republicans' (89%) and Democrats' (7%) average job-approval ratings of President Trump during his third year in office, the largest degree of political polarization in any presidential year measured by Gallup (Jones (2020)).

We argue that the confluence of a massive emergency government-aid package and a polarized presidential race generates a unique setting to identify the role of electoral politics in the allocation of government funds and its economic consequences. In particular, a large body of evidence in political economy

For helpful comments, we thank Mara Faccio, Jarrad Harford, and conference participants at the 2020 International Conference of the Taiwan Finance Association.

suggests that voters reward incumbents based on economic conditions in the year before Election Day rather than throughout their tenure (e.g., Kramer (1971), Fair (1978), Kiewiet (1983), Alesina, Londregan, and Rosenthal (1993), and Achen and Bartels (2004)). Furthermore, Achen and Bartels (2004) conclude that long-term economic growth contributes little or nothing to the incumbent party's electoral prospects. Such voter behavior introduces incentives to implement election-year policies that improve the reelection prospects of incumbents, possibly with considerable economic effects and at the cost of long-term economic growth (e.g., Tufte (1978)).

The empirical analyses focus on the Paycheck Protection Program (PPP), which was a central piece of the 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act. The PPP was administered by the Small Business Administration (SBA) and extended forgivable loans to businesses to cover payroll, utilities, mortgage, and rent costs. The combination of the attractive terms of the PPP and the sharp decline in economic activity resulting from shelter-in-place policies led to initial oversubscription to the PPP and, consequently, credit rationing. As such, the PPP could have been a powerful instrument to implement election-year allocative policies. Using detailed data on the allocation of forgivable PPP loans, we investigate the link between the politics of an election year and the allocation of government funds in response to the COVID-19 crisis across states, congressional districts, and industries in the United States and the corresponding consequences for employment and business activity.

Our article lies in the intersection of two voluminous literatures. The first studies the effect of government spending on economic outcomes during periods of economic stress (e.g., Clemens and Miran (2010), Chodorow-Reich, Feiveson, Liscow, and Woolston (2012), Wilson (2012), and Fishback and Kachanovskaya (2015)). The second studies the link between politics and government spending (e.g., Ritt (1976), Ray (1980), (1981), Kiel and McKenzie (1983), Atlas, Gilligan, Hendershott, and Zupan (1995), Levitt and Poterba (1999), Sapienza (2004), Dinç (2005), Hoover and Pecorino (2005), Faccio, Masulis, and McConnell (2006), Aghion, Boustan, Hoxby, and Vandenbussche (2009), Cohen, Coval, and Malloy (2011), Duchin and Sosyura (2012), Goldman, Rocholl, and So (2013), Adelino and Dinç (2014), Tahoun (2014), Tahoun and Van Lent (2019), Schoenherr (2019), and Brogaard, Denes, and Duchin (2021)). We add to these literatures by emphasizing the role of election-year politics and political polarization in the government's emergency response to the historic COVID-19 crisis and its consequences.

To investigate the role of electoral politics in the allocation of government funds, we introduce novel measures of states', districts', and industries' political importance in an election year. Our main hypothesis is that electoral considerations may have tilted the allocation of PPP funds toward firms in areas or industries that could have a significant impact on the results of the 2020 election. The first set of measures aims to identify battleground states, districts, and sectors. Prior research shows that presidential campaigns strategically concentrate their resource allocation in battleground areas (e.g., Bartels (1985), Shaw (1999), (2008), James and Lawson (1999), Shachar and Nalebuff (1999), Panagopoulos (2006), and Akey, Dobridge, Heimer, and Lewellen (2018)).

To identify battleground states, we collect detailed data on political ad expenditures by the Trump campaign and by third parties, which are collectively higher in states with more competitive elections. In particular, we collect data on political ad spending on Facebook and measure the proportion of the Trump campaign's Facebook ad spending across states. We also collect data published by the Federal Election Commission (FEC) on state political spending by third parties, which are not affiliated with any candidate, and measure the proportion of total third-party funding supporting or opposing Donald Trump's presidential campaign in each state. A combined higher proportion of Facebook and third-party spending indicates that the state is perceived as more important by both the Trump reelection campaign and by third-party political operatives.

To identify battleground congressional districts, we use the Partisan Voting Index (PVI) produced by the Cook Political Report. The PVI uses data from the last two presidential elections to determine the Democratic or Republican Party voting share in a district relative to the national average. Battleground districts are those with a PVI between D + 10 and R + 10, where neither party receives more than 10 percentage points relative to its average national share. Although districts have no direct bearing on the presidential election, we study the allocation of PPP loans across them because House district elections affect the ability of the administration to pass legislation and implement policies. Lastly, we identify battleground sectors based on the partisan industry classification of Gimpel, Lee, and Parrott (GLP) (2014), which uses a decade of campaign contributions to congressional candidates by corporations and trade associations.

The second set of measures aims to identify strategic political favoritism. According to this view, the combination of identity politics and strident political polarization gives rise to a strategic motive to allocate resources disproportionately to subgroups associated with the party's base because the outcome of elections is largely determined by the ability of politicians to mobilize base voters rather than swing or opposition voters (see, e.g. Bernstein (2005) and Brown-Dean (2019) for an overview of identity politics and its rise in the United States). These analyses extend existing research on political favoritism in the allocation of nonemergency government funds in the United States outside election years (e.g., Grossman (1994), Larcinese, Rizzo, and Testa (2006), and Berry, Burden, and Howell (2010)).

To measure strategic political favoritism at the state level, we use the most recent version of the Cook Political National Report preceding the passage of the CARES Act (Mar. 9, 2020). This report categorizes states according to their likely voting outcome in the 2020 presidential election. We classify a state as Republican if it is identified as "Likely Republican" or "Solidly Republican." At the congressional district level, we classify a district as Republican if the PVI is greater than R + 10. At the sector level, we identify Republican sectors as those in the top tercile of Republican leaning according to GLP (2014).

In the first set of analyses, we investigate the determinants of the allocation of PPP loans across states, districts, and sectors in the United States. The analyses focus on the first round of the PPP, which was oversubscribed and led to public outcry over its implementation and oversight. Because the allocation of PPP loans was an equilibrium outcome of both supply and demand, the analyses consider

the demand for PPP loans by controlling for application rates for PPP loans. The analyses are also adjusted for population size or aggregate eligible payroll, depending on data availability, because the PPP's primary focus was on supporting employment through businesses' payroll expenses.

At the state level, we find that battleground states and Republican states receive more first-round PPP capital. Adjusted for a state's aggregate eligible payroll expenses, an increase of 1 standard deviation in battleground political ad spending corresponds to an increase of 2.9 percentage points in the allocation of PPP loans, or an increase of 4.64% relative to the sample mean. Furthermore, Republican states receive 9.6 percentage points more first-round PPP capital compared with other states, or 15.4% more relative to the sample mean. We find similar results at the congressional district and sector levels. On a per-capita basis, electorally important districts, that is, battleground and Republican districts, receive 19.34% and 24.76% more PPP loans, respectively, compared with other districts. Similarly, scaled by total eligible payroll, battleground sectors receive roughly 30.9% more PPP loans relative to the sample mean.

These effects are highly statistically significant and persist after controlling for population size, the number of confirmed COVID-19 cases, unemployment claims at the onset of the COVID-19 crisis, growth rates of state-level gross domestic product (GDP) before the onset of the crisis, and the presence of banks with historical ties to flagship SBA loan programs. The findings also hold for an aggregate index of electoral importance that combines the individual measures. We also investigate the demand for PPP loans and show that it does not vary with electoral importance, suggesting that credit demand is not driving the effects. Overall, the estimates suggest that electoral politics play an important role in the provision of emergency government funding during an election year, highlighting the strategic importance of both swing and base voters.

We also consider the hypothesis that the effects are exacerbated by lax monitoring and credit rationing (see, e.g., Andrews and Omeokwe (2020). To test this hypothesis, we exploit the staggered implementation of the PPP. We argue that the public outcry that followed the initial stages of the PPP led to an increase in scrutiny between the first and second rounds of the program (see, e.g., Rudegeair, Haddon, and Simon (2020). Further, in the second round of the program, credit constraints were relaxed, and supply exceeded demand. Consequently, we expect the relation between electoral politics and credit provision to weaken between the rounds. Consistent with this hypothesis, the effect of electoral politics on the allocation of second-round PPP loans is economically small and mostly statistically insignificant. Importantly, however, the allocation of second-round PPP loans does not undo the effects of the first round: We find a combined positive effect of electoral importance across both rounds.

In the second set of analyses, we provide evidence on the real economic effects of electoral politics and the allocation of PPP loans. First, we provide 2-stage least squares (2SLS) estimates using data from the Small Business Pulse Survey (SBPS).[1] The survey is conducted by the U.S. Census Bureau and provides high-frequency information on the impact of COVID-19 on small businesses and on the

[1]See https://portal.census.gov/pulse/data/#about for a detailed description of this survey.

participation of small businesses in government programs such as the PPP. In the first-stage regression, we predict the allocation of PPP loans using the measures of electoral importance. In the second-stage regressions, we investigate the effects of the predicted PPP allocation on the reported economic impact of COVID-19 on small businesses.

The 2SLS estimates suggest that the effect of electoral politics on the allocation of PPP loans mitigates the negative effects of COVID-19 on small-business activity and employment. The estimated effects are statistically significant and economically meaningful. An increase of 10% in predicted PPP allocation corresponds to a decrease of 8.5% in the percentage of survey respondents who report a negative effect of COVID-19 on their business, and a decrease of 10% in the percentage of survey respondents whose businesses temporarily close. Similarly, it corresponds to a decline of 11.2% in reported employment reductions. Overall, small businesses in states that received politically driven PPP allocations are considerably more likely to expect a quick return to normal operations.

Second, we provide estimates from difference-in-differences tests of business applications and employment, where the first difference is between electorally important and all other states, and the second difference is before versus after the onset of the first round of the PPP. The estimates suggest that following the onset of the PPP, the decline in business applications was attenuated by 2.82%–8.33% in electorally important states. Further, the increase in continued unemployment claims was attenuated by 17.24%, and the declines in aggregate employment and employment per capita were attenuated by 1.71% and 1.44%, respectively. These effects hold after controlling for state and time fixed effects, as well as the interactions of the PPP time indicator with loan demand, population size, GDP growth rate, and the presence of SBA banks. In contrast, we do not find significant effects in placebo tests around the announcement of a national public health emergency before the onset of the PPP.

In the final set of analyses, we investigate predicted voting outcomes. Using data on daily share prices from the political prediction market PredictIt.org, we find that the allocation of PPP loans to electorally important states was associated with an increase in the likelihood of a Trump victory in those states compared with unimportant states, as reflected by daily returns on shares betting that Donald Trump would win the election. This increase, however, was not significant or long-lived enough to change the results of the Nov. 2020 presidential election.

Collectively, our findings suggest that election-year political considerations tilted the allocation of emergency government funds in response to the COVID-19 crisis toward businesses in electorally important states, districts, and industries. Our results add to the literature pioneered by Stigler (1971) and Peltzman (1976) that studies how politics influence economic policy. These allocational tilts have important real effects on business activity and employment, with potentially significant implications for elections.

II. The Paycheck Protection Program

The CARES Act was passed by Congress with overwhelming bipartisan support and signed into law by President Trump on Mar. 27, 2020. In total, the

CARES Act designated over $2 trillion to combat the adverse economic impact of the COVID-19 pandemic, amounting to 10% of total U.S. GDP, making it the largest economic relief package in the history of the United States.

The PPP was a centerpiece $659 billion business loan program established by Section 1102 of the CARES Act, which authorized the SBA to distribute loans to support payroll and overhead expenses to eligible small businesses through its nationwide network of lenders. Lenders that already participated in the SBA's flagship 7(a) program were automatically eligible to disburse PPP loans, whereas other lenders had to obtain authorization from the SBA.

Each PPP loan was guaranteed by the SBA, and loan applicants did not need to provide any collateral or personal guarantees to apply or be approved for a PPP loan. The PPP focused on small businesses, and as such, eligibility for the PPP was based on the existing statutory and regulatory definition of a "small-business concern" under Section 3 of the Small Business Act, 15 U.S.C. 632. The terms of PPP loans were highly attractive for the borrower. First, the principal of a PPP loan could be either partially or fully forgiven based on the usage of the loan proceeds. Second, even if not forgiven, PPP loans carried a low interest rate of 1%. Third, both the principal and interest payments were deferred until the loan was forgiven or, if the borrower did not apply for loan forgiveness, 10 months after the end of the 24-week cover period.[2] Consequently, millions of businesses in the United States immediately applied for PPP loans, which were accepted, approved, and disbursed on a first-come, first-served basis, leading to credit rationing and generating a setting susceptible to political favoritism.[3]

The first round of the PPP commenced on Apr. 3, 2020, amid government-mandated lockdowns in many states. Within 2 weeks, on Apr. 16, 2020, the entire first round of $349 billion was depleted, and the SBA stopped accepting new applications from lenders (see, e.g., Franck and Rogers (2020)). A bill to add $310 billion of funding was passed by Congress and signed into law by President Trump on Apr. 24, and the SBA began accepting new applications from lenders on Apr. 27. By the end of the two rounds, the SBA had disbursed $525 billion of the $659 billion appropriated by Congress. These numbers indicate stark differences in the demand for loans between the two rounds of the PPP: First-round PPP capital was quickly depleted, whereas second-round capital exceeded demand.

In addition to lower demand, the second round of the PPP was also accompanied by more stringent oversight. In particular, the first round was followed by public outcry surrounding the participation of large firms in the PPP. In a press briefing on Apr. 22, 2020, Treasury Secretary Mnuchin warned of "severe consequences" for large businesses that received PPP funds. On Apr. 28, the Treasury and SBA issued a joint statement that they would retroactively examine all loans over $2 million to certify that program qualifications were met. We therefore hypothesize that the apparent differences in both demand and oversight

[2]The SBA initially required that at least 75% of the loan be used for payroll, rent, mortgage interest, and utilities to be forgiven at the end of 8 weeks. On June 5, 2020, President Trump signed the PPP Flexibility Act, which reduced the proportion needed to be spent on payroll to 60% and extended the time period to use the funds from 8 to 24 weeks.

[3]Although the SBA did not release information about the number of PPP applications or application approval rates, it reported a total of 4.67 million loans disbursed by June 20, 2020.

between the two rounds of the PPP provide a natural backdrop against which to examine the impact of electoral politics on government funding amid changing oversight and credit-rationing conditions.

Lastly, there is mounting evidence that banks enjoyed significant discretion in the processing of PPP loans. First, several lawsuits were brought against JPMorgan Chase, Wells Fargo, Bank of America, and U.S. Bank by a range of California small businesses, alleging that the banks unfairly prioritized their large customers.[4] Second, several contemporaneous studies provide evidence of favoritism in banks' PPP loan origination. For example, Li and Strahan (2021) find that banks favored their existing customers. Duchin, Martin, Michaely, and Wang (2021) show that banks favored borrowers with personal connections to bank executives. The combination of both legal and academic evidence indicates that banks could influence the processing of PPP loans.

III. Data and Variables

A. The Allocation of PPP Loans

We measure the allocation of PPP loans across states, congressional districts, and sectors and scale it by aggregate measures of eligible payroll when available because the primary goal of the PPP was to support payroll expenses. These data come from the SBA, which provides detailed data on PPP loans, and from the Statistics of U.S. Businesses (SUSB), which provides detailed payroll data.

To study the allocation of PPP loans across states and sectors, we use aggregate state- and sector-level loan-approval data released by the SBA on loan approvals for each week of the PPP. We use the SUSB payroll data to estimate the total amount of payroll that was eligible for PPP funds within a particular state or sector. In particular, we use the latest edition of the SUSB (2017) and calculate the total annual payroll for all firms in NAICS sector 72 (Accommodation and Food Services) and for all firms with 500 employees or fewer in all other sectors.[5] Next, we aggregate these totals at the state or sector level (adjusted to 2019 dollars) and divide them by 12 to calculate the aggregate monthly payroll. Lastly, we multiply the monthly payrolls by 2.5 to approximate the procedure used by the SBA to determine maximum PPP loan amounts, which aim to cover 2.5 months of payroll expenses.

To study the allocation of PPP loans across congressional districts, we cannot use the weekly aggregate loan-approval reports because they are only available at the state and sector levels. Instead, we use loan-level data subsequently released by the SBA. Because district-level payroll data are partially unavailable, we measure the allocation of PPP loans across congressional districts based on the aggregate loan amounts scaled by the size of the population.

[4]For further details on the lawsuits, see: https://www.classaction.org/news/class-actions-say-wells-fargo-jpmorgan-chase-held-back-small-businesses-paycheck-protection-program-funds.

[5]Firms in the Accommodation and Food Services sector were exempt from the 500-employee PPP eligibility cap.

Table 1 shows that, on average, nearly 63% of state-level eligible payroll and 55% of sector-level eligible payroll were covered by the first round of PPP loans. At the district level, the average amount of first-round PPP loans per capita was \$176.3, with a median of \$169.3. The allocation of PPP loans is also depicted in Figure 1. The heat maps in Figure 1 show substantial variation in the allocation of PPP loans across states (Graph A) and districts (Graph B). In particular, Graph A shows that states in the Midwest and South received more PPP funding relative to their eligible payroll, whereas states on the coasts received relatively less. Graph C of Figure 1 shows the nontrivial variation in the allocation of PPP across sectors.

B. Electoral Importance

In this subsection, we briefly describe our measures of electoral importance. We provide a more detailed description in Appendix A3. We measure electoral importance via swing (BATTLEGROUND) and base (REPUBLICAN) voters across states, congressional districts, and sectors. Each unit of analysis utilizes unique data sources to quantify the extent to which states, districts, and sectors were important for the outcome of the 2020 presidential election.

At the state level, we define the variable BATTLEGROUND as the share of Trump Facebook ad spending and third-party ad spending in each state. This measure captures the relative level of competition in political ad spending. Moreover, the perceived electoral importance of states, as captured by the revealed preferences of political campaigns and operatives, is likely a potent instrument for electoral importance because it drives allocative decisions. Table 1 shows that the mean share of state-by-state political spending is 1.8%, with wide dispersion across states (standard deviation = 2.1%).

To identify battleground congressional districts, we utilize the PVI provided by the Cook Political Report. The PVI compares a district's average Democratic or Republican Party vote share in the past two presidential elections to the national average share for those elections. For example, a PVI of D + 5 implies that the share of votes for the Democratic presidential candidate in the state exceeded the national average share by 5 percentage points. At the district level, we define the indicator variable BATTLEGROUND to equal 1 if the PVI is between D + 10 and R + 10, and 0 otherwise. This definition provides a sufficient range to capture the congressional districts most "up for grabs" in the 2020 presidential election. Table 1 shows that roughly 44% of congressional districts are battleground districts.

We identify battleground 2-digit NAICS sectors using data from GLP (2014). At the sector level, we define the indicator variable BATTLEGROUND to equal 1 for sectors whose Republican leanings are in the middle tercile, and 0 otherwise. A list of battleground sectors can be found in Appendix A2.

To measure the support for the Republican Party across states, we define an indicator variable, REPUBLICAN, which equals 1 if a state is identified as "Likely Republican" or "Solidly Republican" in the Cook Political Report, and 0 otherwise. As shown in Table 1, 42% of the states are Republican states based on this definition. To measure the support of congressional districts for the

TABLE 1

Summary Statistics

Table 1 provides summary statistics for the variables used in the analyses. All variables are defined in Appendix A1.

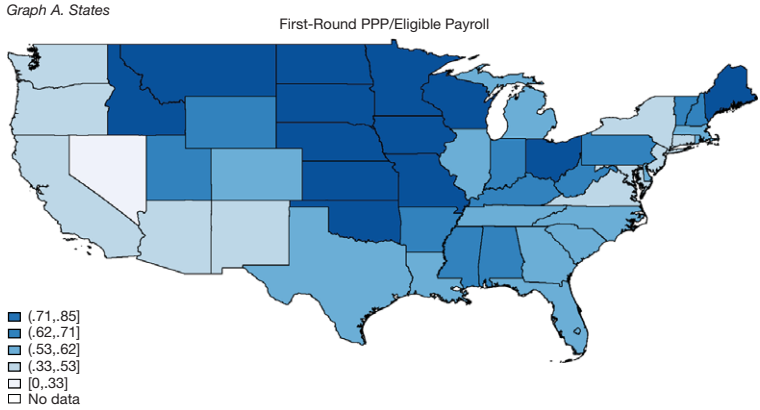
	No. of Obs.	Mean	P25	P50	P75	Minimum	Maximum	Std. Dev.
PPP Funding								
State								
PPP1 ($millions)	50	$6,803.89	$2,006.86	$4,465.70	$8,721.17	$837.02	$3,413.69	$6,852.59
PPP2 ($millions)	50	$3,357.13	$522.36	$1,672.79	$3,790.20	$173.71	$33,255.54	$5,508.32
PPP ($millions)	50	$10,161.02	$2,519.39	$6,359.24	$12,249.02	$1,021.04	$66,669.23	$12,013.29
PPP1_ELIG_PAYROLL	50	0.625	0.54	0.623	0.711	0.329	0.845	0.121
PPP2_ELIG_PAYROLL	50	0.222	0.154	0.202	0.275	0.107	0.392	0.081
PPP_ELIG_PAYROLL	50	0.848	0.814	0.85	0.882	0.659	0.985	0.066
District								
PPP1_ELIG_POP	435	176.29	103.088	169.273	238.668	3.204	467.793	94.361
PPP2_ELIG_POP	435	242.748	140.297	201.213	315.66	4.36	975.514	148.491
Sector								
PPP1_ELIG_PAYROLL	18	0.547	0.438	0.529	0.665	0.163	0.926	0.184
PPP2_ELIG_PAYROLL	18	0.251	0.179	0.266	0.319	0.057	0.415	0.097
Political Measures								
State								
BATTLEGROUND	50	0.018	0.006	0.013	0.020	0.002	0.128	0.021
REPUBLICAN	50	0.420	0	0	1	0	1	0.499
ELEC_IMPORTANT	50	0.433	0.333	0.333	0.667	0	1	0.263
District								
BATTLEGROUND	435	0.441	0	0	1	0	1	0.497
REPUBLICAN	435	0.292	0	0	1	0	1	0.455
ELEC_IMPORTANT	435	0.733	0	1	1	0	1	0.443
Sector								
BATTLEGROUND	18	0.333	0	0	1	0	1	0.485
REPUBLICAN	18	0.278	0	0	1	0	1	0.461
ELEC_IMPORTANT	18	0.611	0	1	1	0	1	0.502
Local Economic Conditions								
State								
ELIG_PAYROLL ($millions)	50	$12,937.76	$3,210.72	$7,982.23	$16,135.03	$1,289.71	$90,425.31	$15,923.70
ln(POPULATION)	50	15.206	14.399	15.332	15.846	13.269	17.492	1.025
UNEMPLOYMENT	50	0.044	0.032	0.04	0.055	0.013	0.08	0.017
GDP_GROWTH	50	0.02	0.016	0.021	0.024	−0.001	0.034	0.008
%_SMALL_SBA	50	0.106	0.041	0.075	0.177	0.015	0.305	0.081
ln(COVID_CASES)	50	7.4	6.292	7.341	8.5	5.05	11.549	1.467
DAILY_BETTING_RETURN	1,234	0.002	−0.017	0	0.011	−0.143	0.250	0.099
District								
ln(POPULATION)	428	13.515	13.492	13.513	13.539	13.179	13.664	0.049
UNEMPLOYMENT	428	0.038	0.031	0.036	0.042	0.020	0.083	0.009
%_SMALL_SBA	428	0.070	0.019	0.042	0.101	0	0.379	0.074
ln(COVID_CASES)	428	5.236	3.923	5.312	6.627	0	10.665	1.999
Survey Responses								
State								
%_APPLIED_TO_PPP	50	0.736	0.713	0.743	0.772	0.568	0.8	0.044
NEG_EFFECT	50	0.475	0.428	0.470	0.515	0.326	0.645	0.076
TEMP_CLOSURE	50	0.381	0.327	0.37	0.433	0.2	0.588	0.085
RETURN_LT_1_MONTH	50	0.031	0	0.035	0.051	0	0.094	0.027
RETURN_GT_6_MONTH	50	0.296	0.262	0.296	0.332	0.182	0.399	0.051
Sector								
%_APPLIED_TO_PPP	18	0.72	0.625	0.744	0.827	0.386	1	0.169
Real Effects Variables (per capita)								
TOTAL_BUS_APP	850	0.21	0.15	0.186	0.232	0.073	0.743	0.103
TOTAL_CORP_APP	850	0.024	0.012	0.016	0.024	0.005	0.138	0.022
HIGH_PROP_APP	850	0.071	0.051	0.063	0.078	0.028	0.242	0.034
CONT_UNEM_CLAIMS	800	0.029	0.006	0.015	0.047	0.002	0.137	0.028
EMPLOYMENT	2,744	25.975	8.530	19.647	42.042	0.033	102.495	20.692

FIGURE 1

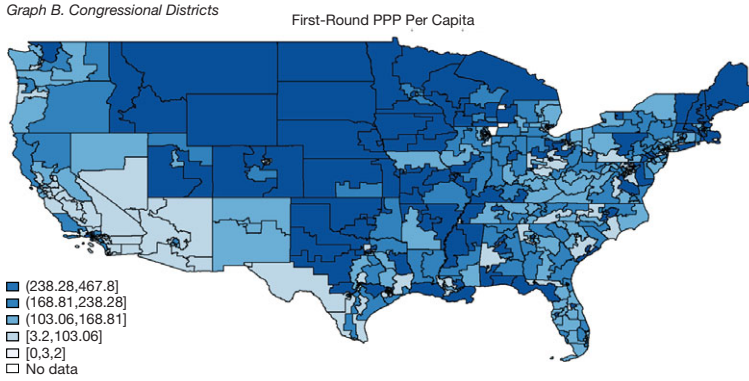
The Allocation of PPP Loans Across States, Congressional Districts, and Sectors

Figure 1 shows the allocation of first-round Paycheck Protection Program (PPP) loans across states, congressional districts, and sectors in the United States. Graph A reports aggregate loan amounts scaled by eligible payroll across states. Graph B reports the aggregate amounts of first-round loans per capita across congressional districts. Graph C reports aggregate loan amounts scaled by eligible payroll across sectors, defined based on 2-digit NAICS sectors. In the heat maps, darker shading indicates a greater amount of proportionate first-round PPP funding.

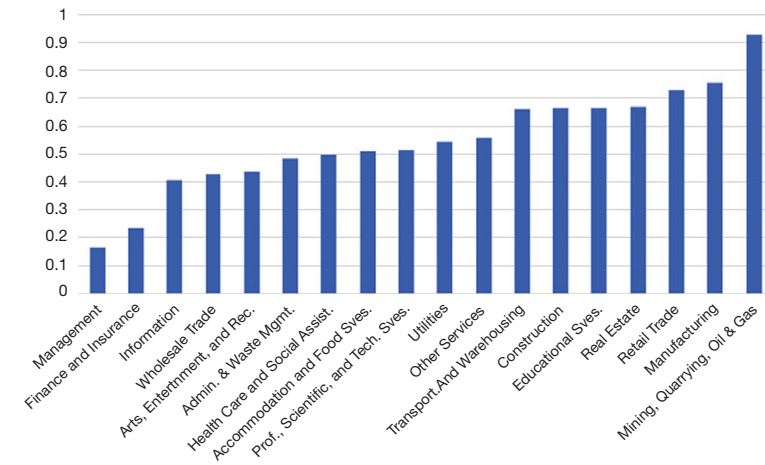
Graph A. States



Graph B. Congressional Districts



Graph C. First-Round PPP/Eligible Payroll



Republican Party, we define the indicator variable REPUBLICAN to equal 1 if the PVI is greater than R + 10. Table 1 shows that roughly 29% of the congressional districts are Republican districts, consistent with the distribution of registered voters in the United States. According to Gallup, 30% of registered voters were Republican as of Mar. 13, 2020 (see https://news.gallup.com/poll/15370/party-affiliation.aspx). Lastly, we identify Republican 2-digit NAICS sectors using the partisan classification of GLP (2014). The indicator variable REPUBLICAN equals 1 for sectors in the top tercile on Republican leanings, and 0 otherwise. We provide a list of Republican sectors in Appendix A2. The estimates in Table 1 suggest that roughly 28% of the 2-digit NAICS sectors are Republican sectors.

We also construct a composite index of electoral importance at the state, district, and sector levels by combining the previously described elements. At the state level, we define ELEC_IMPORTANT as the mean of REPUBLICAN and an indicator variable that equals 1 if the continuous variable BATTLEGROUND is above the sample median, and 0 otherwise. We define districts and sectors as ELEC_IMPORTANT if they are either Republican or battleground districts/sectors. Graph A of Figure 2 presents a heat map of the variation in the ELEC_IMPORTANT index across states. The variation in electoral importance across congressional districts is depicted in Graph B of Figure 2, which presents a heat map of the PVI across districts.

C. Supply and Demand of PPP Loans

To measure the supply of PPP loans, we collect data on SBA 7(a) lenders, which, as noted previously, were immediately eligible to disburse PPP loans. In particular, we hand-match comprehensive SBA 7(a) loan data as of Dec. 31, 2019, to bank branch locations from the FDIC Summary of Deposits database and compute the proportion of local (state or district) branches operated by SBA banks. We conjecture that access to PPP loans was easier in areas with a greater presence of SBA lenders, especially in the first round. Furthermore, both anecdotal and academic evidence suggest that bank size played a role in access to PPP loans (e.g., Granja, Makridis, Yannelis, and Zwick (2020), Li and Strahan (2021), and Liu and Volker (2020)). Specifically, small, community banks were better able to navigate the labor-intensive PPP application system and obtain funds for their clients. Hence, we proxy for the supply of PPP loans using the proportion of small SBA bank branches (< $1 billion in assets) in the area. Table 1 shows that the average share of small SBA banks is 10.6% across states and 7.0% across districts, with large variation across both states and districts (standard deviations = 8.1% and 7.4%, respectively).

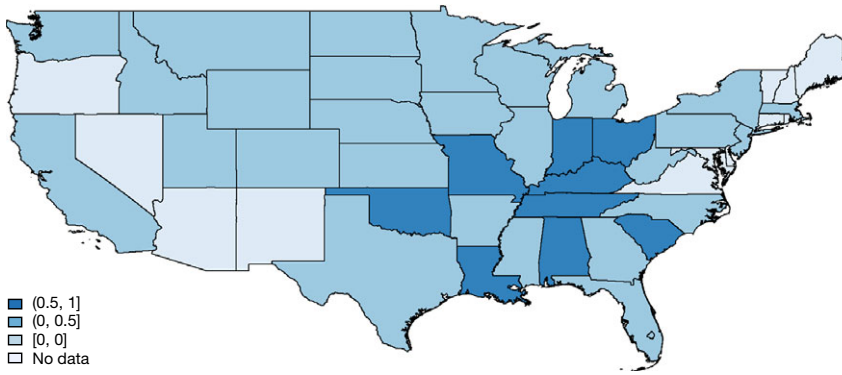
To measure the demand for PPP loans, we utilize survey data provided by the U.S. Census Bureau. These data come from the SBPS, which was initiated to track the effects of the coronavirus and subsequent government interventions on small businesses. The target population for the survey was all nonfarm, single-location businesses with fewer than 500 employees. Although the sample for the SBPS was not a random sample, weights were applied to ensure that each weekly sample represents the full population of businesses. The SBPS conducted weekly email surveys beginning on Apr. 26, 2020. We focus on the first survey, which

FIGURE 2

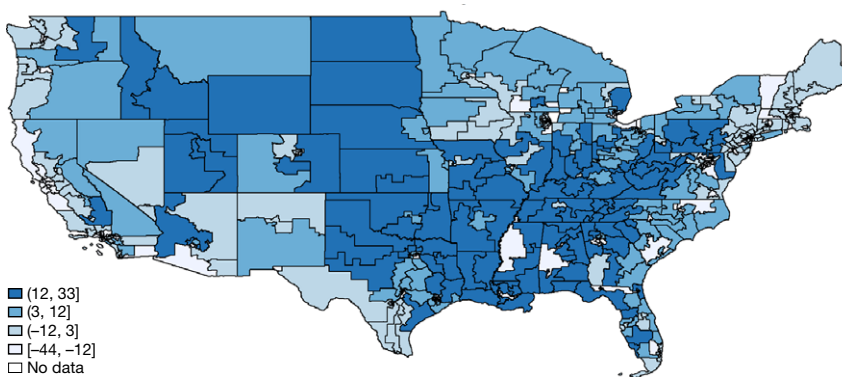
The Electoral Importance of States and Congressional Districts

Figure 2 shows the electoral importance of states, congressional districts, and sectors for the 2020 presidential elections in the United States. Graph A reports the ELEC_IMPORTANT index, defined based on political ad spending and the share of Republican voters, across states. Graph B reports the Partisan Voting Index across congressional districts. Darker regions correspond to greater Republican leaning. Appendix A2 provides a list of battleground and Republican sectors.

Graph A. Electorally Important Index



Graph B. Partisan Voting Index



catalogues responses as of Apr. 30. Our proxy for loan demand is the percentage of state or sector respondents who reported applying to the PPP since Mar. 13, 2020.[6]

Table 1 shows that an average of 73.6% of state survey respondents applied to the PPP, suggesting that a majority of small businesses in the United States applied for government aid. The interquartile range for PPP demand across the states is relatively small. The 25th percentile equals 71.3%, and the 75th percentile equals 77.2%. This lack of variation in the demand across states provides suggestive

[6]When analyzing the second round of the PPP, we use the most recent survey week (as of June 25, 2020) to proxy for demand.

evidence that the variation in our political measures across states does not simply proxy for state-level demand for PPP loans. Similarly, an average of 72% of industry respondents applied to the PPP, with an interquartile range across industries of 62.5%–82.7%.

D. Economic Conditions

To control for the economic conditions within a particular state or congressional district, we supplement our analyses with various local economic indicators. At the state level, we include GDP growth rates as of the fourth quarter of 2019, unemployment claims per capita as of the beginning of the first round of the PPP, and the natural logarithm of the population size.[7] Data on GDP come from the U.S. Bureau of Economic Analysis (BEA). Data on unemployment claims come from the U.S. Bureau of Labor Statistics (BLS). Population data come from the U.S. Census Bureau. All variables represent the latest available data before the beginning of the first round of the PPP.

At the district level, we include the weighted county-level unemployment rate as of 2019, state GDP growth rates as of the fourth quarter of 2019, and the natural logarithm of the population size, where weights are determined by the proportion of a district's population that resides in a particular county. Table 1 provides summary statistics for these measures of local economic conditions across states and congressional districts.

We also control for the local exposure to COVID-19 by including the natural logarithm of the number of COVID-19 cases as of the beginning of each round of the PPP. These data are provided by usafacts.org. Lastly, we analyze the real effects of the allocation of PPP loans on business applications and unemployment claims. Data on weekly business applications come from the U.S. Census Bureau. These data report applications by businesses for an employee identification number (EIN) and are divided into three buckets: total applications, corporate applications, and high-propensity business applications. Data on monthly sector employment by state come from the BLS. All variable definitions can be found in Appendix A1.

E. Voting Outcomes

To investigate the effect of the allocation of PPP loans on voting behavior, we collect data on daily share prices from the political prediction market PredictIt.org. PredictIt allows users to trade on various outcomes, ranging from Supreme Court decisions to election results, and thus provides a timely approximation of electoral prospects for each candidate. We collect daily share prices related to the likelihood of Trump winning the presidential election in each state and construct daily returns from Jan. 31, 2020 to Apr. 26, 2020. We restrict our analysis to states where PredictIt betting markets opened before the initiation of the first round of the PPP.

[7] In Appendix A4, we also consider the impact of a state's number of electoral votes on the allocation of PPP loans. Because the number of electoral votes and a state's population size are positively correlated (correlation = 0.82), we provide specifications that include or exclude population size. The estimates in Appendix A4 suggest that our measures of electoral importance remain statistically and economically significant even after controlling for the number of electoral votes.

IV. Results

We begin the empirical analyses by investigating the role of electoral importance in the allocation of PPP loans across states, congressional districts, and sectors. We then examine the variation in the demand for PPP loans and the differences between the first and second rounds of the PPP. We conclude this section with an investigation of the real effects of the allocation of PPP loans on business activity and employment using both survey evidence and observational data on local economic conditions. For ease of interpretation, we standardize all nonindicator independent variables to have a mean of 0 and standard deviation of 1.

A. Electoral Importance and the Allocation of PPP Loans

We first investigate the role of electoral importance in the allocation of PPP loans. Table 2 presents estimates from cross-sectional regressions explaining the allocation of PPP loans across states (columns 1 and 2), congressional districts (columns 3 and 4), and sectors (columns 5 and 6). These regressions focus on the allocation of PPP loans in the first round of the program, when credit was rationed and before the public outcry that led to more scrutiny and monitoring. Section IV provides evidence on the second round of the PPP.

Complete payroll data are available for states and sectors; hence, the dependent variables in columns 1, 2, 5, and 6 of Table 2 are the dollar volume of PPP loans scaled by aggregate eligible payroll.[8] Because complete payroll information is unavailable for congressional districts, we scale the dollar volume of PPP loans across districts by the size of the population (columns 3 and 4).

The main variables of interest in the regressions are BATTLEGROUND, REPUBLICAN, and ELEC_IMPORTANT, which measure the electoral importance of states, congressional districts, and sectors based on their electoral competitiveness (swing voters), their relative support for the incumbent administration (base voters), and the combination of the two, respectively. Depending on data availability at the state, district, and sector levels, the regressions control for PPP loan demand based on the SBPS (%_APPLIED_TO_PPP), local economic conditions (UNEMPLOYMENT, GDP_GROWTH), exposure to the COVID-19 crisis (ln(COVID_CASES)), the availability of PPP lenders (%_SMALL_SBA), and population size (ln(POPULATION)).

We begin with an analysis of the allocation of PPP loans across states in columns 1 and 2 of Table 2. Column 1 provides estimates for the individual measures BATTLEGROUND and REPUBLICAN, whereas column 2 focuses on the composite index ELEC_IMPORTANT. The estimates in columns 1 and 2 suggest that electoral importance played an important role in the allocation of PPP loans across states. Republican states and battleground states received a higher number of PPP loans scaled by their aggregate levels of eligible payroll. These effects are

[8]We exclude the Agriculture sector because SUSB payroll data do not include most agricultural firms.

TABLE 2

The Allocation of PPP Loans

Table 2 examines the effect of electoral importance on the allocation of first-round PPP loans across states (columns 1 and 2), congressional districts (columns 3 and 4), and sectors (columns 5 and 6). The dependent variable in columns 1, 2, 5, and 6 is the aggregate amount of PPP loans in a state or sector, respectively, scaled by eligible payroll. The dependent variable in columns 3 and 4 is the amount of PPP loans in a district scaled by its population size. BATTLEGROUND, REPUBLICAN, and ELEC_IMPORTANT are measured at the same level as the dependent variables. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Heteroscedasticity-robust *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Obs. Level	State		Cong. District		Sector	
	1	2	3	4	5	6
BATTLEGROUND	0.029***		34.091***		0.169**	
	(4.634)		(10.356)		(2.530)	
REPUBLICAN	0.096***		43.648***		0.160	
	(3.953)		(12.446)		(1.496)	
ELEC_IMPORTANT		0.050***		36.306***		0.165**
		(4.736)		(10.160)		(2.520)
%_APPLIED_TO_PPP	0.044***	0.046***	4.623	4.972	0.095**	0.094**
	(3.344)	(3.569)	(4.890)	(4.871)	(2.375)	(2.436)
ln(COVID_CASES)	−0.042**	−0.051***	0.668	−0.766		
	(−2.427)	(−3.167)	(4.843)	(4.492)		
ln(POPULATION)	−0.011	−0.015	−8.017	−7.673		
	(−0.878)	(−1.505)	(5.112)	(5.126)		
UNEMPLOYMENT	−0.023	−0.032**	−23.731***	−23.767***		
	(−1.464)	(−2.258)	(3.673)	(3.653)		
GDP_GROWTH	0.017**	0.018**	−0.983	−0.731		
	(2.215)	(2.226)	(3.709)	(3.698)		
%_SMALL_SBA	0.057***	0.056***	31.977***	32.338***		
	(5.897)	(5.529)	(4.119)	(4.170)		
No. of obs.	50	50	428	428	18	18
R^2	0.805	0.793	0.288	0.287	0.431	0.431

statistically significant at the 1% level and hold after controlling for loan demand, local economic conditions, and the proportion of small SBA bank branches.[9] The economic magnitude of the effects is nontrivial. Relative to Democratic states, Republican states receive 15.36% more loans per eligible payroll in the first round of the PPP (coefficient = 0.096 relative to the sample mean of 0.625), and a 1-standard-deviation increase in political ad spending leads to an increase of 4.64% in loans (standardized coefficient = 0.029 relative to the sample mean of 0.625). Overall, the estimates in column 2 show that a 1-standard-deviation increase in electoral importance corresponds to 8% more first-round PPP loans per eligible payroll.

We obtain similar results in columns 3 and 4 of Table 2, which study the allocation of PPP loans across districts. The estimates suggest that electorally important districts receive a higher dollar volume of PPP loans relative to their total population. In particular, the results indicate that in the first round of the program, Republican districts receive 24.76% more funding per capita than

[9]In Appendix A4, we consider alternative measures of the incidence of small SBA bank branches. The results do not change if we replace the continuous measure of the proportion of small SBA bank branches with decile indicators, the number of small SBA bank branches per capita, or the deposit share of small SBA bank branches.

Democratic districts (coefficient = 43.65 relative to the sample mean of 176.29), and battleground districts receive 19.34% more funding (coefficient = 34.09 relative to the sample mean of 176.29). Overall, based on column 4, electorally important districts receive 20.59% more funding than electorally unimportant districts in the first round of the PPP. These findings are highly statistically significant at the 1% level.

Finally, columns 5 and 6 of Table 2 provide the results for the allocation of PPP loans across sectors. Despite the small number of observations (18 sectors), we find that electoral importance plays a statistically significant role in the allocation of PPP funds in the first round of the program. The coefficient estimates show that battleground sectors receive 30.9% more proportional funding than Democratic sectors (coefficient = 0.169 relative to the sample mean of 0.547). The coefficient on REPUBLICAN sectors is positive and of similar magnitude to BATTLEGROUND sectors, but it is insignificant at conventional levels. The composite index of electoral importance (column 6) remains highly economically and statistically significant.

Taken together, the results in this section suggest that political favoritism in an election year operates through two distinct channels: swing voters (BATTLEGROUND) and base voters (REPUBLICAN). Given that voters focus on recent economic outcomes (e.g., Achen and Bartels (2004)), the results are consistent with the incumbent administration strategically tilting government funds toward areas and industries that could play an important role in the 2020 presidential election.

B. Channels of Political Influence

A major challenge in studies of political influence is to identify the channels through which it operates. Because the involved parties often do not leave an identifiable paper trail, researchers infer the effects of political influence based on observed outcomes. Our study takes a similar approach, which relies on observed outcomes, including the allocation of PPP loans and its effects. Nevertheless, in this section, we discuss possible channels through which political influence might operate in the context of the PPP and provide suggestive anecdotal evidence.

We argue that political influence can operate through two distinct channels in the allocation of PPP loans. The first channel, which we label the *appointment channel*, postulates that the incumbent Trump administration could exert influence over the Treasury Department and the SBA, the agencies charged with designing and implementing the PPP, by appointing key personnel to oversee them. Through the appointment channel, the administration could influence the design of the PPP and the prioritization of loan applications from electorally important states, districts, and sectors.

The second channel, which we label the *political connections channel*, operates through connections between PPP recipients and House representatives, senators, and members of the Trump administration. According to this channel, lawmakers and members of the administration could pressure or enable banks and the SBA to prioritize applications from electorally important businesses connected to them (e.g., those located in key states and major donors).

Next, we provide suggestive evidence that both channels could play a role in the allocation of PPP loans, starting with the *appointment channel.* Both Treasury secretary Steven Mnuchin and SBA administrator Jovita Carranza, who were charged with designing and implementing the PPP, were appointed by former President Trump and were members of his cabinet. Both also have long-standing ties to former President Trump and were involved in his 2016 presidential campaign. Carranza was a member of the Trump campaign's National Hispanic Advisory Council, whereas Mnuchin was the campaign's national finance chairman and top fundraiser. After the election, President Trump appointed Carranza as U.S. Treasurer, where she also worked closely with Secretary Mnuchin until becoming an SBA administrator in Jan. 2020.

The Trump administration also appointed several other people to key positions within each agency. Within the SBA, these include the deputy administrator, the chief counsel for advocacy, and the inspector general. Within the U.S. Department of the Treasury, these include the deputy secretary, the general counsel, and multiple assistant treasury secretaries (see "Trump Administration Appointee Tracker," *Washington Post*). They belong to a long list of political appointments by the Trump administration, which has been criticized for its unusually large number of appointees in major government agencies, including many that did not require Senate confirmation (Elliot (2017)). Lastly, we note that the *appointment channel* has been highlighted in connection to other COVID-19 aid programs. For example, the House Select Subcommittee on the Coronavirus Crisis recently alleged that Trump political appointees may have played a direct role in the obstruction of the investigation into the Emergency Injury Disaster Loan (EIDL) program (see https://oversight.house.gov/news/press-releases/chairs-clyburn-and-vel-zquez-seek-key-disaster-loan-program-documents-withheld).

We also provide anecdotal evidence on the *political connections channel.* King and Wu (2020), for example, report in *USA Today* that businesses with ties to lawmakers obtained PPP loans. And OpenSecrets.org documents potential quid-pro-quo elements in the relationship between politicians and PPP borrowers: PPP loan recipients donated $52 million in the 2020 elections (Evers-Hillstrom (2020)). Interestingly, the design of the program allows for such political influence: As O'Connell and Gregg reported in the *Washington Post* on June 26, 2020, the Trump administration exempted lawmakers and federal officials from long-standing rules on conflicts of interest in relation to the PPP (O'Connell and Greg (2020)).

Finally, there is also anecdotal evidence that lawmakers helped banks gain access to PPP loans. For example, Jarvis and Winn from *ABC News* report on Apr. 25, 2020 that as many as a third of community banks were unable to access the electronic PPP loan system when the program was launched. Some of these banks subsequently received help from lawmakers. For example, senator Joni Ernst, who is a member of the Senate Small Business and Entrepreneurship Committee, which oversees the SBA, helped West Bank get the SBA to unlock its password to gain access to the system (Jarvis and Wynn (2020)). This example shows how a connection to an important senator allowed local banks to more easily navigate the PPP loan-allocation process.

C. The Demand for PPP Loans

A possible concern with the analyses is that the political importance of states, districts, and sectors is correlated with the demand for PPP loans. Under this view, the role of electoral importance in the allocation of PPP loans is driven by the demand for loans rather than by political favoritism. We address this concern in several ways. First, the summary statistics in Table 1 show that there is little variation in the demand for loans across states and sectors. Second, the regressions in Table 2 explicitly control for the demand for loans. In this section, however, we also seek to provide direct evidence on the variation in loan applications across states and sectors (data on loan applications are unavailable for congressional districts).

In Table 3, we estimate predictive regressions explaining PPP loan applications in the first round of the program across states (columns 1 and 2) and sectors (columns 3 and 4). The main takeaway from Table 3 is that electoral importance is unrelated to the demand for PPP loans. Across all 4 columns of Table 3, the estimates suggest that electoral importance is unrelated to loan applications in the first round of the PPP. The coefficient estimates on BATTLEGROUND, REPUBLICAN, and ELEC_IMPORTANT are economically small, are statistically insignificant at conventional levels, and occasionally flip signs. Moreover, columns 1 and 2 show that the demand for PPP loans across states is unrelated to any of the control variables, including local economic conditions and the exposure to the

TABLE 3

The Demand for PPP Loans

Table 3 examines the effect of electoral importance on the demand for Paycheck Protection Program (PPP) loans across states (columns 1 and 2) and sectors (columns 3 and 4). The dependent variable is the percentage of Small Business Pulse Survey (SBPS) respondents in a state or sector who reported applying for a PPP loan by Apr. 30, 2020. BATTLEGROUND, REPUBLICAN, and ELEC_IMPORTANT are measured at the same level as the dependent variables. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Heteroscedasticity-robust *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Dependent Variable			
	State Demand		Sector Demand	
	1	2	3	4
BATTLEGROUND	0.003 (0.867)		−5.343 (−0.520)	
REPUBLICAN	0.008 (0.620)		0.377 (0.038)	
ELEC_IMPORTANT		0.004 (0.760)		−2.743 (−0.317)
ln(COVID_CASES)	0.002 (0.180)	0.001 (0.108)		
ln(POPULATION)	0.021* (1.732)	0.021* (1.904)		
UNEMPLOYMENT	0.007 (0.958)	0.007 (1.063)		
GDP_GROWTH	−0.004 (−0.463)	−0.004 (−0.487)		
%_SMALL_SBA	−0.004 (−0.656)	−0.004 (−0.681)		
No. of obs.	50	50	18	18
R^2	0.303	0.300	0.025	0.007

COVID-19 crisis. As expected, the only exception is the size of the population, which is positively related to the aggregate number of applications for PPP loans.

Collectively, these results suggest that the effect of electoral importance on the allocation of PPP loans in the first round of the program is not driven by variation in the demand for PPP loans across electorally important states or sectors.

D. The Second Round of the PPP

The analyses thus far have focused on the first round of the PPP. In this section, we investigate the role of electoral importance in the allocation of loans in the second round of the PPP through the end of June 2020, when demand slowed considerably. We conjecture that the effects of electoral importance on loan allocation would be magnified by loose monitoring and credit rationing. To test this conjecture, we exploit the differences between the two rounds of the PPP. We argue that the public outcry that followed the initial stages of the PPP led to an increase in scrutiny and public attention in its second round. This claim is supported by numerous articles and actions taken by policymakers (see Section II). Furthermore, the supply of PPP loans exceeded the demand for loans in the second round, suggesting that credit was not rationed. As such, we expect the effect of electoral politics on credit provision to weaken between the two rounds.

To test this prediction, Panel A of Table 4 repeats the analyses of the allocation of PPP loans (Table 2), replacing the dependent variables with the allocation of loans in the second round of the PPP through June 30, 2020. We also replace the measures of PPP loan demand with analogous measures using SBPS data as of June 25, 2020.

Consistent with our hypothesis, the results in Panel A of Table 4 suggest that electoral importance did not play a significant role in the allocation of loans in the second round of the PPP across states, congressional districts, and sectors. In particular, the coefficient estimates on the different measures of electoral importance flip signs across specifications and are statistically insignificant in the majority of cases (7 out of the 10 cases). When significant (3 out of 10 cases), they have a negative sign.

Combined with the results on the allocation of loans in the first round of the PPP, these results have two important implications. First, they suggest that omitted variables correlated with the design of the PPP, which likely remained constant through both rounds of the PPP, cannot explain the effects of electoral importance on the allocation of loans. Second, they suggest that lax monitoring and credit rationing serve as key mechanisms in political favoritism. The loosening of credit conditions and the increase in monitoring and public scrutiny likely reduced the motivation and scope, respectively, for political favoritism in the allocation of loans in the second round of the PPP.

E. Overall Allocation of PPP Loans

The results thus far suggest that electoral importance played a role in the first round of the PPP but not in the second round of the program. Hence, a plausible concern is that electoral importance led to preferential timing in the allocation of PPP loans but did not have a material effect on the overall allocation of PPP loans. In

TABLE 4

The Allocation of Second-Round and Total PPP Loans

Panel A of Table 4 examines the effect of electoral importance on the allocation of second-round Paycheck Protection Program (PPP) loans (Apr. 27, 2020–June 30, 2020), and Panel B examines its effect on overall PPP loans (Apr. 3, 2020–June 30, 2020) across states (columns 1 and 2), congressional districts (columns 3 and 4), and sectors (columns 5 and 6). The dependent variable in columns 1, 2, 5, and 6 is the aggregate amount of PPP loans in a state or sector, respectively, scaled by eligible payroll. The dependent variable in columns 3 and 4 is the amount of PPP loans in a district scaled by its population size. BATTLEGROUND, REPUBLICAN, and ELEC_IMPORTANT are measured at the same level as the dependent variables. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Heteroscedasticity-robust *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Obs. Level	State		Cong. District		Sector	
	1	2	3	4	5	6
Panel A. Second-Round Loans						
BATTLEGROUND	−0.022***		11.356		0.067	
	(−5.441)		(0.598)		(1.531)	
REPUBLICAN	−0.032		−15.980		−0.076*	
	(−1.473)		(−0.783)		(−1.956)	
ELEC_IMPORTANT		−0.021**		4.731	0.067	−0.000
		(−2.094)		(0.255)		(−0.001)
%_APPLIED_TO_PPP	−0.012*	−0.012*	2.155	1.640	0.061***	0.045*
	(−1.700)	(−1.786)	(1.063)	(0.806)	(3.904)	(1.823)
ln(COVID_CASES)	0.040**	0.040**	50.939***	54.559***		
	(2.450)	(2.259)	(5.158)	(5.829)		
ln(POPULATION)	0.007	0.008	9.668	8.086		
	(0.805)	(0.971)	(1.512)	(1.281)		
UNEMPLOYMENT	0.004	0.004	−20.362***	−20.537***		
	(0.221)	(0.248)	(−3.640)	(−3.579)		
GDP_GROWTH	0.002	0.001	3.159	2.343		
	(0.271)	(0.088)	(0.493)	(0.366)		
%_SMALL_SBA	−0.035***	−0.035***	−22.617***	−24.006***		
	(−4.930)	(−4.643)	(−4.345)	(−4.470)		
No. of obs.	50	50	428	428	18	18
R^2	0.666	0.643	0.222	0.217	0.534	0.215
Panel B. Total Loans						
BATTLEGROUND	0.007		45.832*		0.250**	
	(1.582)		(1.786)		(2.746)	
REPUBLICAN	0.060***		29.267		0.059	
	(3.243)		(1.033)		(0.524)	
ELEC_IMPORTANT		0.026***		41.817*		0.161*
		(2.952)		(1.680)		(1.905)
%_APPLIED_TO_PPP	0.011*	0.010	3.094	2.782	0.164***	0.143**
	(1.794)	(1.603)	(1.036)	(0.929)	(3.367)	(2.364)
ln(COVID_CASES)	0.009	0.004	−43.514***	−43.620***		
	(0.605)	(0.247)	(−5.505)	(−5.465)		
ln(POPULATION)	−0.011	−0.021	54.095***	56.289***		
	(−0.738)	(−1.308)	(4.517)	(5.061)		
UNEMPLOYMENT	−0.017*	−0.022**	3.344	2.385		
	(−1.814)	(−2.518)	(0.332)	(0.239)		
GDP_GROWTH	0.016**	0.015**	1.730	1.236		
	(2.447)	(2.151)	(0.195)	(0.139)		
%_SMALL_SBA	0.022***	0.021***	10.101	9.259		
	(3.257)	(3.213)	(1.373)	(1.253)		
No. of obs.	50	50	428	428	18	18
R^2	0.515	0.490	0.120	0.119	0.532	0.439

particular, the allocation of loans in the second round could have erased or "evened out" the influence of electoral importance from the first round.

To address this concern, we analyze the overall effect of political influence on the combined allocation of PPP loans in both rounds of the program through June 30, 2020. We report the results of these analyses in Panel B of Table 4. The estimates show that the effects of electoral importance on the overall allocation of PPP loans across both rounds continue to hold for states, congressional districts, and sectors. The results suggest that a 1-standard-deviation increase in the ELEC_IMPORTANT index results in a 3.1% increase in overall PPP funding for states and an increase of 9.9% and 20.2% for electorally important districts and sectors, respectively. Taken together with the baseline results, these results suggest that electoral importance is related to both the timing and overall allocation of PPP loans.

Nevertheless, we also emphasize that preferential timing in the allocation of first-round PPP loans is important in its own right. In particular, a recent article by Denes, Lagaras, and Tsoutsoura (2021) shows that such preferential timing in the allocation of first-round PPP loans improved the survival rates of small firms.

F. Real Economic Effects

The evidence thus far suggests that the electoral importance of states, congressional districts, and sectors played a role in the allocation of PPP loans. A natural question is whether electoral importance, through these allocations, had real economic consequences. If, for example, the administration implemented other programs to undo or balance the effects of the PPP, then we would not expect real effects to vary by electoral importance. In this section, we seek to provide evidence on the potential real effects of electoral importance and the PPP by utilizing survey evidence on small-business activity as well as observational economic data on business applications and employment.

1. Survey Evidence on Small-Business Activity

We begin the investigation of real economic effects with evidence from responses to the SBPS. To capture the impact of electoral importance on the allocation of PPP loans and consequently on real economic outcomes, we employ a 2SLS approach. The first-stage regression estimates the effect of electoral importance on the allocation of PPP loans. The second-stage regressions use the predicted allocation of PPP loans from the first stage to explain the variation in survey responses. The analyses focus on the first round of the PPP, where the evidence shows that electoral importance played a role in the allocation of loans. Furthermore, they focus on the variation in the allocation of PPP loans and survey responses across states because the survey does not provide responses across congressional districts.

The analyses focus on survey responses to the following questions:

1. Overall, how has this business been affected by the COVID-19 pandemic?
2. In the last week, did this business temporarily close any of its locations for at least 1 day?

3. In the last week, did this business have a change in the number of paid employees?
4. In your opinion, how much time do you think will pass before this business returns to its usual level of operations?

We construct the outcome variables as the percentage of survey responses to each of these questions in each state. For example, NEG_EFFECT is the percentage of survey respondents in a state who answered "Large negative effect" in response to question 1. TEMP_CLOSURE is the percentage of respondents answering "Yes" to question 2. Appendix A1 provides the detailed definition of each variable.

Table 5 reports these results. Column 1 provides estimates from the first-stage regression, which show that electoral importance played a role in the allocation of PPP loans across states in the first round of the program. This result is evident from the positive and statistically significant coefficient on the composite index of electoral importance (first-stage F-statistic of 22.43). Columns 2–6 report the

TABLE 5

Survey Evidence on Small-Business Activity

Table 5 provides estimates from 2-stage least squares regressions of the effect of electoral importance on small-business activity. The first-stage regression (column 1) predicts the allocation of first-round Paycheck Protection Program (PPP) loans across states using ELEC_IMPORTANT. The second-stage regressions (columns 2–6) explain small-business activity using the predicted values from the first-stage regressions. The dependent variables in the second-stage regressions are based on responses to the Apr. 26, 2020 Small Business Pulse Survey. NEG_EFFECT is the percentage of survey respondents who report a "Large negative effect" or "Moderate negative effect" of COVID-19 on their business. TEMP_CLOSURE is the percentage of survey respondents who report temporarily closing at least one business location in the last week. REDUCE_EMP is the percentage of survey respondents who report reducing employment in the last week. RETURN_LT_1_MONTH and RETURN_GT_6_MONTH are the percentage of survey respondents who predict a return to normal levels of operation in less than 1 month and more than 6 months, respectively. All non-dummy independent variables, except for predicted first-round PPP loans, are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Heteroscedasticity-robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Dependent Variable					
	1st Stage	2nd Stage				
	PPP1_ELIG_PAYROLL	NEG_EFFECT	TEMP_CLOSURE	REDUCE_EMP	RETURN_LT_1_MONTH	RETURN_GT_6_MONTH
	1	2	3	4	5	6
ELEC_IMPORTANT	0.050***					
	(4.736)					
PPP1_ELIG_PAYROLL		−0.405***	−0.380**	−0.283**	0.244**	−0.374***
		(−2.987)	(−2.337)	(−2.214)	(2.314)	(−2.807)
%_APPLIED_TO_PPP	0.046***	0.045	−0.019	−0.041	−0.366**	0.232
	(3.569)	(0.164)	(−0.069)	(−0.202)	(−2.171)	(1.076)
ln(COVID_CASES)	−0.032**	0.020*	0.018	0.002	0.012**	−0.011
	(−2.258)	(1.900)	(1.363)	(0.324)	(2.154)	(−1.088)
ln(POPULATION)	−0.051***	−0.012	−0.021	0.002	0.014*	0.003
	(−3.167)	(−0.966)	(−1.257)	(0.144)	(1.648)	(0.238)
UNEMPLOYMENT	−0.015	1.402**	2.197***	1.790***	0.245	1.027*
	(−1.505)	(2.509)	(3.688)	(3.534)	(0.771)	(1.951)
GDP_GROWTH	0.018**	−0.965	−1.018	−0.650	0.568	0.974
	(2.226)	(−1.227)	(−1.196)	(−1.122)	(1.191)	(0.965)
%_SMALL_SBA	0.056***	0.038	−0.053	−0.065	−0.089	0.260*
	(5.529)	(0.249)	(−0.306)	(−0.442)	(−0.850)	(1.707)
No. of obs.	50	50	50	50	50	50
R^2	0.793	0.612	0.582	0.612	0.098	0.241

second-stage estimates of the regressions of surveyed small-business activity on predicted PPP funding in the first round. The evidence is consistent across all the survey-based variables. Small businesses in electorally important states that received a higher allocation of PPP loans were less likely to report a negative effect on their business (column 2), less likely to temporarily close their business (column 3), less likely to reduce employment (column 4), more likely to expect a return to normal in less than 1 month (column 5), and less likely to expect a return to normal in more than 6 months (column 6). Qualitatively, these results suggest that the allocation of PPP funds to electorally important states attenuated the negative effects of the COVID-19 crisis on small-business activity.

The economic magnitudes of these effects are meaningful. A 10-percentage point increase in the predicted allocation of PPP loans decreases the percentage of survey respondents who report a negative effect of COVID-19 on their business by 8.5%, the percentage of respondents who temporarily closed their business by 10%, and the percentage of respondents reporting a decrease in employment by 11.2%. Further, a 10-percentage-point increase in predicted PPP allocation increases the percentage of respondents who expect a return to normal business operations in less than 1 month by 78.7% and decreases the percentage of respondents who expect a return to normal business operations in more than 6 months by 12.6%. Taken together, these results provide suggestive evidence that the allocation of PPP funds in the first round of the program to electorally important states had important real economic effects for small businesses.

2. Difference-in-Differences Evidence on Business Applications and Employment

The survey-based analysis in Table 5 provides evidence from a single cross section of states. In the next set of analyses, we provide difference-in-differences estimates from panel regressions that include state, sector, week, and month fixed effects, which alleviate concerns about unobservable economic indicators and time trends that might confound the analyses.

We begin by analyzing the effect of PPP funding on the number of weekly business applications per capita. If the allocation of PPP loans to electorally important states in the first round of the program matters for economic recovery, we would expect that electorally important states experience higher business applications following the onset of the PPP compared with less electorally important states. To test this prediction, we construct a state-week panel from Jan. 4, 2020 to Apr. 25, 2020, and estimate the following regression:

$$(1)\quad Y_{s,t} = \beta_1 \text{ELEC\_IMPORTANT}_{s,t} \times \text{ROUND\_1} + \beta_2 X_{s,t} \times \text{ROUND\_1} + \gamma_s + \alpha_t + e_{s,t},$$

where $Y_{s,t}$ is one of the 3 measures of business applications per capita for state s in week t; ROUND_1 is a dummy variable equal to 1 after the beginning of the first round of the PPP (Apr. 4, 2020), and 0 otherwise; $\text{ELEC\_IMPORTANT}_{s,t}$ is the composite index of electoral importance, and $X_{s,t}$ contains all the control variables used in our cross-sectional analyses. This specification allows us to control for permanent differences between treatment (electorally important) states and control states, along with aggregate time trends at the granular weekly level. Importantly, we allow all the explanatory variables, including states' electoral importance, loan

demand, economic conditions, and exposure to the COVID-19 crisis, to have a differential impact before and after the onset of the first round of the PPP. This approach ensures that the observed impact of electoral importance during the first round of the PPP is not due to a differential response of electorally important states along other observable dimensions.

We present these results in Panel A of Table 6. The key explanatory variable is the interaction term ELEC_IMPORTANT × ROUND_1, which captures the differences across electorally important and unimportant states following the initiation of the first round of the PPP. The estimates show that electorally important states experienced increased business applications compared with unimportant states following the onset of the PPP. These results are evident from the positive coefficient on the interaction term ELEC_IMPORTANT × ROUND_1. The results hold across the different definitions of business applications and are economically nontrivial. Following the onset of the first round of the PPP, a 1-standard-deviation increase in the ELEC_IMPORTANT index increases total business applications per capita by 2.86%, corporate applications by 8.33%, and high-propensity business applications by 2.82%. The estimates are also statistically significant at the 10% level or higher.

Panel B of Table 6 provides estimates from a similar difference-in-differences analysis of weekly continued unemployment claims and monthly employment rates by state and sector. Column 1 shows that continued unemployment claims per capita rose less in electorally important states following the onset of the first round of the PPP. This result is captured by the negative coefficient on the interaction term ELEC_IMPORTANT × ROUND_1 in column 1. Columns 2 and 3 show that state-by-sector declines in employment are attenuated by electoral importance following the onset of the first round of the PPP. These results are captured by the positive coefficients on the interaction terms ELEC_IMPORTANT × ROUND_1 in columns 2 and 3.

Furthermore, the magnitudes of the effects are meaningful. A 1-standard-deviation increase in the ELEC_IMPORTANT index attenuates the rise in continued unemployment claims per capita by 17.24% and the fall in log employment and employment per 1,000 population by 1.71% and 1.44%, respectively, following the onset of the first round of the PPP. The effects are also robustly statistically significant at the 5% level across all columns.

Collectively, the results suggest that the strategic allocation of emergency government funds in an election year helped mitigate the deleterious effects of the COVID-19 crisis on employment and helped to spur economic recovery by promoting new business applications. Given voters' tendency to focus on recent economic performance, these positive economic effects could have affected the results of the 2020 elections. We investigate this possibility in Section IV.

In Table 7, we address the remaining concern that the positive effects of states' electoral importance on business applications and employment are driven by contemporaneous factors that are unrelated to the allocation of PPP loans. For example, electorally important states may have responded better to the COVID-19 emergency. To address this concern, we exploit the granular nature of the weekly business applications and continued unemployment claims to conduct placebo tests around dates that coincide with the COVID-19 crisis and are unrelated to the onset of the PPP.

TABLE 6

Difference-in-Differences Evidence on Business Applications and Employment

Panel A of Table 6 examines the effect of electoral importance on weekly new business applications across states. TOTAL_BUS_APP is the number of businesses applying for an employee identification number (EIN) scaled by population. TOTAL_CORP_APP is the number of corporations applying for an EIN scaled by population. HIGH_PROP_APP is applications for an EIN that have a high likelihood of turning into businesses with a payroll. All the regressions include state and week fixed effects. Panel B examines the effect of electoral importance on weekly continued unemployment claims per capita (column 1), log monthly employment by state and sector (column 2), and monthly employment per 1,000 population by state and sector (column 3). All the regressions include state and week or month fixed effects. ELEC_IMPORTANT is defined at the state level. ROUND_1 is a dummy variable equal to 1 from Apr. 4, 2020 to Apr. 25, 2020. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Standard errors are clustered at the state level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Business Applications

	Dependent Variable		
	TOTAL_BUS_APP	TOTAL_CORP_APP	HIGH_PROP_APP
	1	2	3
ELEC_IMPORTANT × ROUND_1	0.006**	0.002**	0.002*
	(2.331)	(2.423)	(2.003)
%_APPLIED_TO_PPP × ROUND_1	0.002	0.001	0.000
	(0.289)	(0.924)	(0.012)
ln(COVID_CASES)	−0.003**	−0.000	−0.001
	(−2.566)	(−0.717)	(−0.786)
ln(POPULATION) × ROUND_1	−0.002	−0.004**	−0.002
	(−0.290)	(−2.079)	(−0.813)
GDP_GROWTH × ROUND_1	−0.003	0.001	−0.001
	(−0.694)	(0.934)	(−0.411)
%_SMALL_SBA × ROUND_1	0.005	0.002*	0.002
	(1.435)	(1.781)	(1.507)
No. of obs.	600	600	600
R^2	0.969	0.939	0.943
State FE	Yes	Yes	Yes
Week FE	Yes	Yes	Yes

Panel B. Employment

	Dependent Variable		
	CONT_UNEM_CLAIMS	ln(EMPLOYMENT)	EMP_1000_POP
	1	2	3
ELEC_IMPORTANT × ROUND_1	−0.005**	0.017**	0.373**
	(−2.295)	(0.007)	(0.175)
%_APPLIED_TO_PPP × ROUND_1	0.001	−0.009	−0.040
	(0.343)	(0.009)	(0.175)
ln(COVID_CASES)	0.000	−0.021**	−0.518***
	(0.863)	(0.008)	(0.170)
ln(POPULATION) × ROUND_1	0.001	0.002	0.008
	(0.519)	(0.011)	(0.254)
GDP_GROWTH × ROUND_1	−0.002	0.002	0.034
	(−0.890)	(0.008)	(0.174)
%_SMALL_SBA × ROUND_1	0.001	0.010	0.150
	(0.503)	(0.008)	(0.204)
No. of obs.	600	2,744	2,764
R^2	0.875	0.931	0.856
State FE	Yes	Yes	Yes
Sector FE	No	Yes	Yes
Week FE	Yes	No	No
Month FE	No	Yes	Yes

In particular, we examine the relative response of electorally important states versus electorally unimportant states around the declaration of a national public health emergency on Jan. 31, 2020. If electorally important and unimportant states vary in their exposure or response to the COVID-19 crisis, we should also observe

TABLE 7
Placebo Tests

Table 7 provides estimates from placebo difference-in-differences regressions that replace the allocation of first-round Paycheck Protection Program (PPP) loans (ROUND_1 in Table 6) with the declaration of a national public health state of emergency on Jan. 31, 2020. PUBLIC_HEALTH is an indicator variable that equals 1 in the 4 weeks following the declaration and 0 in the 4 weeks prior to the declaration. ELEC_IMPORTANT is defined at the state level. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All the regressions include state and week fixed effects. All variable definitions are given in Appendix A1. Standard errors are clustered at the state level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Dependent Variable			
	TOTAL_BUS_APP	TOTAL_CORP_APP	HIGH_PROP_APP	CONT_UNEM_CLAIMS
	1	2	3	4
ELEC_IMPORTANT × PUBLIC_HEALTH	−0.000	−0.000	−0.000	−0.000
	(−0.068)	(−0.844)	(−0.213)	(−0.130)
%_APPLIED_TO_PPP × PUBLIC_HEALTH	−0.005*	−0.001	−0.001	−0.000
	(−1.846)	(−1.209)	(−1.068)	(−0.841)
ln(COVID_CASES)	−0.001	0.000	0.000	0.000
	(−0.730)	(0.544)	(0.004)	(0.608)
ln(POPULATION) × PUBLIC_HEALTH	0.007	0.003**	0.004	−0.000
	(1.323)	(2.052)	(1.675)	(−0.175)
GDP_GROWTH × PUBLIC_HEALTH	−0.001	−0.000	−0.000	−0.000
	(−0.525)	(−0.451)	(−0.226)	(−0.635)
%_SMALL_SBA × PUBLIC_HEALTH	−0.005*	−0.001	−0.002	0.000
	(−1.990)	(−1.445)	(−1.611)	(0.692)
No. of obs.	450	450	450	450
R^2	0.949	0.926	0.923	0.990
State FE	Yes	Yes	Yes	Yes
Week FE	Yes	Yes	Yes	Yes

differences in business applications and unemployment claims across electorally important and unimportant states around this date. We focus our analysis on the 9 weeks surrounding the declaration of the public health emergency to avoid an overlap with the initiation of the PPP.

The results are reported in Table 7. The estimates show that around the declaration of a national public health emergency, business applications and unemployment claims in electorally important states were indistinguishable from those in electorally unimportant states. Together, these findings mitigate concerns that unobservable state characteristics correlated with the allocation of PPP loans to electorally important states are driving the difference-in-differences effect of the PPP on business applications and unemployment claims.

V. Did It Work?

We conclude our analyses by providing suggestive evidence on the relation between the allocation of PPP loans to electorally important states and voting outcomes. We initially set out to analyze polling outcomes around the first round of the PPP across electorally important and unimportant states. However, such state-by-state polling data were generally unavailable before Joe Biden won the Democratic nomination. We therefore cannot provide difference-in-differences polling estimates around the first round of the PPP. Instead, we obtain state-by-state data from the website PredictIt.org, which is a political predictions market that allows participants to trade shares for and against political outcomes. The advantage

of this data set is that it allows us to observe daily returns on shares betting that Donald Trump would win the election in each state around the first round of the PPP.

Using this data set, we test the hypothesis that the higher allocation of PPP loans to electorally important states in the first round of the program matters for voting outcomes. If this hypothesis is true, we would expect that shares in electorally important states would earn higher returns following the onset of the PPP compared with less electorally important states. To test this hypothesis, we provide difference-in-differences estimates from a panel regression that includes state and day fixed effects, in which the dependent variable is the daily return on shares predicting that Trump would win the election in a state (DAILY_BETTING_RETURN).

We present these results in Table 8. The key explanatory variable is the interaction term ELEC_IMPORTANT × ROUND_1, which captures the differences across electorally important and unimportant states following the onset of the first round of the program. In particular, ROUND_1 is a dummy variable equal to 1 after the beginning of the first round of the PPP (Apr. 3, 2020), and 0 otherwise, and ELEC_IMPORTANT is the composite index of electoral importance. As before, this specification allows us to control for permanent differences between treatment (electorally important) states and control states, along with aggregate time trends at the granular daily level. Importantly, we allow all the explanatory variables, including states' electoral importance, loan demand, economic conditions, and exposure to the COVID-19 crisis, to have a differential impact before and after the onset of the first round of the PPP. This approach ensures that the

TABLE 8

Predicted Voting Outcomes

Table 8 provides difference-in-differences regression estimates of the effect of ELEC_IMPORTANT on the daily returns on shares betting that Donald Trump would win the presidential election in the state. The sample period is from Jan. 31, 2020 to Apr. 26, 2020, and only includes states with open prediction markets preceding the beginning of the first round of the Paycheck Protection Program (PPP). ROUND_1 is a dummy variable equal to 1 from Apr. 3, 2020 to Apr. 26, 2020. ELEC_IMPORTANT is defined at the state level. All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All the regressions include state and day fixed effects (FE). All variable definitions are given in Appendix A1. Standard errors are clustered at the state level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	DAILY_BETTING_RETURN
ELEC_IMPORTANT × ROUND_1	0.027**
	(2.617)
%_APPLIED_TO_PPP × ROUND_1	−0.020**
	(−2.515)
ln(COVID_CASES)	0.008
	(1.134)
ln(POPULATION) × ROUND_1	0.007
	(0.765)
UNEMPLOYMENT × ROUND_1	0.008
	(1.161)
GDP_GROWTH × ROUND_1	0.038**
	(2.165)
%_SMALL_SBA × ROUND_1	0.028**
	(2.526)
No. of obs.	1,234
R^2	0.143
State FE	Yes
Day FE	Yes

observed impact of electoral importance during the first round of the PPP is not due to a differential response of electorally important states along other observable dimensions.

The estimates show that following the onset of the first round of the PPP, the returns on shares predicting that Trump would win the election were higher in electorally important states compared with unimportant states. These results are evident from the positive coefficient on the interaction term ELEC_IMPORTANT × ROUND_1. Following the onset of the first round of the PPP, a 1-standard-deviation increase in the ELEC_IMPORTANT index is associated with an increase of 2.7 percentage points in daily returns. This estimate is statically significant at the 5% level.

This finding suggests that the allocation of PPP loans to electorally important states might have been effective; it was associated with a greater increase in the likelihood of a Trump election victory in the state compared with unimportant states, as reflected by shares traded in political election markets on PredictIt.org. These effects, however, were not substantial enough, or did not last long enough, to tilt the scale toward a Trump victory in the 2020 presidential election.

VI. Concluding Remarks

This article investigates the impact of election-year politics on the allocation of emergency government funds through the flagship PPP, which disbursed forgivable loans to small businesses in the United States in response to the COVID-19 crisis, and its real economic consequences. We construct novel measures of electoral importance that aim to capture strategic capital allocation to swing and base voters. These measures use data from Facebook ad spending, independent political expenditures, the Cook Political Report, and campaign contributions across states, congressional districts, and sectors.

We provide three main results. First, businesses in electorally important states, districts, and sectors received more government funds following the onset of the COVID-19 crisis, controlling for funding demand and both health and economic conditions. Second, the tilt in government funding toward electorally important regions and sectors weakened the adverse effects of COVID-19 on employment, business applications, and small-business activity. These estimates are corroborated by both small-business survey data and aggregate economic data released by the BLS. Third, the allocation of PPP loans to electorally important states was associated with an increase in the likelihood of a Trump victory in those states compared with unimportant states, as reflected by share prices on the political prediction platform PredictIt.org. This increase, however, was not significant or long-lived enough to change the results of the Nov. 2020 presidential election.

Collectively, these estimates provide novel evidence on the allocative distortions and real effects of electoral politics during the COVID-19 crisis. These findings have important implications for the design and oversight of government investment programs, suggesting that regulators and policy makers should pay particular attention to the implementation of such programs during election years.

Appendix A1. Variable Definitions

BATTLEGROUND: At the state level, the share of total TRUMP_FACEBOOK and %_THIRD_PARTY_SPENDING (defined below). At the district level, an indicator variable that equals 1 if a congressional district has a PVI of between D + 10 and R + 10, and 0 otherwise. At the sector level, an indicator variable that equals 1 if a 2-digit NAICS sector is in the middle tercile of Republican leaning, and 0 otherwise. *Source:* Facebook, FEC, Campaign Tracker 2020, Cook Political Report, GLP (2014).

CONT_UNEM_CLAIMS: Number of weekly state continued unemployment claims per capita. *Source:* U.S. Department of Labor.

DAILY_BETTING_RETURN: Daily return of shares betting that Donald Trump would win a particular state in the general election. *Source:* PredictIt.org.

ELEC_IMPORTANT: At the state level, the average of REPUBLICAN and a dummy variable for above-median BATTLEGROUND. At the district level, an indicator variable that is the union of REPUBLICAN and BATTLEGROUND. At the sector level, an indicator variable that is the union of REPUBLICAN and BATTLEGROUND. *Source:* Cook Political Report, Facebook/Campaign Tracker 2020, FEC, GLP (2014).

ELECTORAL_VOTES: Number of electoral votes of each state.

EMPLOYMENT: Total employment by state-sector-month. Measured in logs or per 1,000 population. *Source:* BLS.

GDP_GROWTH: State GDP 2019 Q4 growth. *Source:* BEA.

HIGH_PROP_APP: Business applications that have a high propensity of turning into businesses with a payroll. High-propensity applications include applications i) from a corporate entity; ii) that indicate they are hiring employees, purchasing a business, or changing organizational type; iii) that provide a first wages-paid date (planned wages); or iv) that have an NAICS industry code in manufacturing (31–33), retail stores (44), health care (62), or restaurants/food service (72). *Source:* U.S. Census Bureau.

ln(COVID_CASES): Natural logarithm of COVID-19 cases as of Apr. 3, 2020 or Apr. 25, 2020. Measured at the state and congressional-district level. *Source:* USA Facts.

ln(POPULATION): Natural logarithm of population. *Source:* U.S. Census Bureau.

NEG_EFFECT: Percentage of survey respondents who reported a "Large negative effect" or "Moderate negative effect" of COVID-19 on their business based on the Apr. 26, 2020 survey. *Source:* SBPS.

%_APPLIED_TO_PPP: Percentage of survey respondents who applied for PPP loan (as of Apr. 30, 2020 for first-round PPP or as of Apr. 27, 2020 for second-round PPP). *Source:* SBPS.

%_SMALL_SBA: Proportion of branches of banks in a state or district under $1 billion in assets that participated in the SBA 7(a) program from 2015 to 2019. *Source:* SBA, Summary of Deposits.

%_THIRD_PARTY_SPENDING: State share of third-party political spending in opposition to and in support of Donald Trump (Jan. 1, 2019–Mar. 31, 2020). *Source:* FEC.

PPP1_ELIG_PAYROLL: Total dollar amount of PPP funds allocated to a given state or sector from Apr. 3, 2020 to Apr. 14, 2020, scaled by payrolls of firms with less

than 500 employees. Payrolls for all firms in NAICS sector 72 (Accommodation and Food Services) are also included. *Source:* SBA, SUSB.

PPP1_POP: Total dollar amount of PPP funds allocated to a given congressional district from Apr. 3, 2020 to Apr. 14, 2020, scaled by district population. *Source:* SBA, U.S. Census Bureau.

PPP2_ELIG_PAYROLL: Total dollar amount of PPP funds allocated to a given state or sector from Apr. 3, 2020 to Apr. 14, 2020, minus total dollar amount of PPP funds allocated from Apr. 3, 2020 to Apr. 14, 2020, scaled by payrolls of firms with less than 500 employees. Payrolls for all firms in NAICS sector 72 (Accommodation and Food Services) are also included. Source: SBA, SUSB.

PPP2_POP: Total dollar amount of PPP funds allocated to a given congressional district from Apr. 3, 2020 to June 30, 2020, minus total dollar amount of PPP funds allocated from Apr. 3, 2020 to Apr. 14, 2020, scaled by district population. *Source:* SBA, U.S. Census Bureau.

REDUCE_EMP: Percentage of survey respondents who reported reducing employment in the last week based on the Apr. 26, 2020 survey. *Source:* SBPS.

REPUBLICAN: At the state level, an indicator variable that equals 1 if the Cook Political Report classifies a state as "Likely Republican" or "Solidly Republican," and 0 otherwise. At the district level, an indicator variable that equals 1 if a congressional district has a PVI of greater than R + 10, and 0 otherwise. At the sector level, an indicator variable that equals 1 if a 2-digit NAICS sector is in the top tercile of Republican leaning. *Source:* Cook Political Report, GLP (2014).

RETURN_GT_6_MONTH: Percentage of survey respondents who predict a return to normal levels of operation in more than 6 months based on the Apr. 26, 2020 survey. *Source:* SBPS.

RETURN_LT_1_MONTH: Percentage of survey respondents who predict a return to normal levels of operation in less than 1 month based on the Apr. 26, 2020 survey. *Source:* SBPS.

ROUND_1: Indicator variable that equals 1 from Apr. 4, 2020 to Apr. 25, 2020, and 0 otherwise.

TEMP_CLOSURE: Percentage of survey respondents who reported temporarily closing at least one business location in the last week based on the Apr. 26, 2020 survey. *Source:* SBPS.

SMALL_SBA_DEC: Indicator variables for deciles based on %_SMALL_SBA. *Source:* SBA, Summary of Deposits.

SMALL_SBA_DEP: Deposit share of small SBA branches per capita. *Source:* SBA, Summary of Deposits.

SMALL_SBA_POP: Number of small SBA branches per capita. *Source:* SBA, Summary of Deposits, U.S. Census Bureau.

TOTAL_BUS_APP: Weekly Applications for an EIN. *Source:* U.S. Census Bureau.

TOTAL_CORP_APP: High-propensity business applications from a corporation or personal service corporation, based on the legal form of organization stated in IRS Form SS-4. *Source:* U.S. Census Bureau.

TRUMP_FACEBOOK: State share of Trump political ad spending on Facebook from Mar. 30, 2019 to Apr. 4, 2020. *Source:* Facebook, Campaign Tracker 2020.

UNEMPLOYMENT: Sum of state continued unemployment claims and initial unemployment claims as of Apr. 4, 2020 or Apr. 25, 2020, for states and population-weighted county unemployment rate from 2019 for districts. *Source:* BLS.

Appendix A2. List of Republican and Battleground Sectors

Appendix A2 shows the NAICS sectors designated as having Republican preference in the top tercile (REPUBLICAN) and middle tercile (BATTLEGROUND) according to historical congressional campaign contributions. The data are obtained from Gimpel, Lee, and Parrott (2014) and the Center for Responsive Politics.

NAICS Sector	NAICS Description
Republican Sectors	
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
23	Construction
31–33	Manufacturing
72	Accommodations and Food Service
52	Finance and Insurance
Battleground Sectors	
44–45	Retail Trade
48–49	Transportation and Warehousing
81	Other Services
22	Utilities
51	Information
53	Real Estate and Rental and Leasing

Appendix A3. Measures of Electoral Importance Variables

Battleground States, Districts, and Sectors

We define the variable BATTLEGROUND at the state level as the share of Trump Facebook ad spending (TRUMP_FACEBOOK) and third-party ad spending (%_THIRD_ PARTY_SPENDING) in support of and in opposition to Donald Trump in each state. We collect Facebook advertising data from the Facebook Transparency Project as compiled by the Campaign 2020 Tracker (https://2020campaigntracker.com/).[10] Digital advertising was particularly important for the Trump campaign, which devoted 70% of its advertising resources to digital advertising, of which the majority went to Facebook (http://mediaproject.wesleyan.edu/releases-022620/).

We collect data on third-party (independent) political expenditures from the FEC. The CFR defines an independent expenditure as "an expenditure by a person for a communication expressly advocating the election or defeat of a clearly identified candidate that is not made in cooperation, consultation, or concert with, or at the request or suggestion of, a candidate, a candidate's authorized committee, or their agents, or a political party committee or its agents." The FEC requires independent expenditures to be reported within 24–48 hours and records the name of the spender, the location (state) of the spending, and whether it is in support of or in opposition to a particular candidate.

[10]Campaign Tracker 2020 data can be found at https://2020campaigntracker.com/.

We identify battleground congressional districts using the PVI provided by the Cook Political Report. The PVI compares a district's average Democratic or Republican Party vote share in the past two presidential elections to the national average share for those elections. For example, a PVI of D + 5 implies that the share of votes for the Democratic presidential candidate in the state exceeded the national average share by 5 percentage points.

In 2016, 23 districts with Republican representatives voted for Hillary Clinton, with margins ranging from 0.6 to 19.7. On the other hand, 12 districts with Democratic representatives voted for Donald Trump, with margins ranging from 0.7 to 30.8. To accommodate the wide range of battleground districts, we define the indicator variable BATTLEGROUND to equal 1 if the PVI is between D + 10 and R + 10, and 0 otherwise. This definition aims to provide a sufficient range to capture the congressional districts most "up for grabs" in the 2020 presidential elections.

Lastly, we identify battleground 2-digit NAICS sectors using data from GLP (2014). GLP examine a decade of campaign contributions made by corporations' and trade associations' political action committees to congressional candidates and pinpoint which industries have a measurable preference for a particular political party. Importantly, their method identifies industries' political preferences after controlling for other factors that likely drive campaign contributions, including parties' majority control of Congress, committee memberships, and the competitiveness of congressional seats. GLP then aggregate industries to the 2-digit NAICS level and compute the percentage of the industries within each 2-digit NAICS sector that favor a particular party (see Table 2 in GLP). At the sector level, the indicator variable BATTLEGROUND equals 1 for sectors whose Republican leanings are in the middle tercile, and 0 otherwise. A list of battleground sectors can be found in Appendix A2.

Republican States, Districts, and Sectors

To measure the support for the Republican Party across states, we use the most recent version of the Cook Political Report preceding the passage of the CARES Act (Mar. 9, 2020). This report categorizes states according to their likely voting outcome in the 2020 presidential election. We define an indicator variable, REPUBLICAN, which equals 1 if a state is identified as "Likely Republican" or "Solidly Republican," and 0 otherwise.

To measure the support of congressional districts for the Republican Party, we use the latest edition of the PVI as of 2017.[11] At the district level, we define an indicator variable, REPUBLICAN, which equals 1 if the PVI is greater than R + 10, and 0 otherwise. We identify Republican 2-digit NAICS sectors using the partisan classification of GLP (2014).

At the sector level, REPUBLICAN equals 1 for sectors in the top tercile on Republican leanings. Importantly, GLP (2014) do not report data on the Construction sector, which is a major participant in the PPP. Therefore, we augment the GLP data with contributions data by sector from the Center for Responsive Politics and note that the Construction sector gave roughly 70% of its contributions to Republican candidates in the 2018 election cycle. We therefore classify the Construction sector as Republican and note that our results are not sensitive to this inclusion.

[11] See https://cookpolitical.com/introducing-2017-cook-political-report-partisan-voter-index for a detailed description of the PVI.

Appendix A4. Robustness: Electoral Votes and Alternative Measures of Banking Structure

Appendix A4 studies the effect of electoral importance on the allocation of first-round Paycheck Protection Program (PPP) loans across states. Columns 1 and 2 augment the baseline regression specification from Table 2 with the number of electoral votes for each state (ELECTORAL_VOTES). Because a state's number of electoral votes and its population size are highly correlated, column 1 omits ln(POPULATION) from the regression, whereas the specification in column 2 includes ln(POPULATION). Columns 3–5 use alternative measures of the presence of small-size Small Business Administration (SBA) bank branches in a state. Column 3 includes indicator variables for deciles based on %_SMALL_SBA, column 4 includes small SBA branches per capita (SMALL_SBA_POP), and column 5 includes the deposit share of small SBA bank branches (SMALL_ SBA_DEP). All non-dummy independent variables are standardized to have a mean of 0 and a standard deviation of 1. All variable definitions are given in Appendix A1. Heteroscedasticity-robust *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Obs. Level	State				
	1	2	3	4	5
ELEC_IMPORTANT	0.044***	0.051***	0.041***	0.048***	0.049***
	(4.293)	(4.813)	(3.324)	(5.358)	(4.590)
ELECTORAL_VOTES	−0.015	0.011			
	(−1.517)	(0.647)			
SMALL_SBA_DEC_2			−0.028		
			(−0.520)		
SMALL_SBA_DEC_3			−0.019		
			(−0.850)		
SMALL_SBA_DEC_4			0.034		
			(1.128)		
SMALL_SBA_DEC_5			0.070		
			(1.654)		
SMALL_SBA_DEC_6			0.045		
			(1.431)		
SMALL_SBA_DEC_7			0.078**		
			(2.554)		
SMALL_SBA_DEC_8			0.078		
			(1.498)		
SMALL_SBA_DEC_9			0.116***		
			(3.128)		
SMALL_SBA_DEC_10			0.181***		
			(5.973)		
SMALL_SBA_POP				0.063***	
				(9.025)	
SMALL_SBA_DEP					0.056***
					(4.682)
No. of obs.	50	50	50	50	50
Full controls	Yes	Yes	Yes	Yes	Yes
ln(POPULATION)	No	Yes	Yes	Yes	Yes
% SBA lenders	Yes	Yes	No	No	No
R^2	0.768	0.796	0.820	0.827	0.781

References

Achen, C. H., and L. M. Bartels. "Blind Retrospection: Electoral Responses to Drought, Flu, and Shark Attacks." Working Paper, Princeton University (2004).

Adelino, M., and I. S. Dinç. "Corporate Distress and Lobbying: Evidence from the Stimulus Act." *Journal of Financial Economics*, 114 (2014), 256–272.

Aghion, P.; L. Boustan; C. Hoxby; and J. Vandenbussche. "The Causal Impact of Education on Economic Growth: Evidence from U.S." *Brookings Papers on Economic Activity*, 1 (2009), 1–73.

Akey, P.; C. Dobridge; R. Heimer; and S. Lewellen. "Pushing Boundaries: Political Redistricting and Consumer Credit." Working Paper, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3031604 (2018).

Alesina, A.; J. Londregan; and H. Rosenthal. "A Model of the Political Economy of the United States." *American Political Science Review*, 87 (1993), 12–33.

Andrews, N., and A. Omeokwe. "House Passes Bill Loosening Rules on PPP Small-Business Loans." *Wall Street Journal* (May 28, 2020).

Atlas, C. M.; T. W. Gilligan; R. J. Hendershott; and M. A. Zupan. "Slicing the Federal Government Net Spending Pie: Who Wins, Who Loses, and Why." *American Economic Review*, 85 (1995), 624–629.

Bartels, L. M. "Expectations and Preferences in Presidential Nominating Campaigns." *American Political Science Review*, 79 (1985), 804–815.

Bernstein, M. "Identity Politics." *Annual Review of Sociology*, 31 (2005), 47–74.

Berry, C. R.; B. C. Burden; and W. G. Howell. "The President and the Distribution of Federal Spending." *American Political Science Review*, 104 (2010), 783–799.

Brogaard, J.; M. Denes; and R. Duchin. "Political Influence and the Renegotiation of Government Contracts." *Review of Financial Studies*, 34 (2021), 3095–3137.

Brown-Dean, K. L. *Identity Politics in the United States*. Hoboken, NJ: John Wiley & Sons (2019).

Brown, D. "Chase and Other Banks Shuffled Paycheck Protection Program Small Business Applications, Lawsuit Says." *USA Today* (Apr. 20, 2020).

Chodorow-Reich, G.; L. Feiveson; Z. Liscow; and W. G. Woolston. "Does State Fiscal Relief During Recessions Increase Employment? Evidence from the American Recovery and Reinvestment Act." *American Economic Journal: Economic Policy*, 4 (2012), 118–145.

Clemens, J., and S. Miran. "The Effects of State Budget Cuts on Employment and Income." Working Paper, Stanford University (2010).

Cohen, L.; J. Coval; and C. Malloy. "Do Powerful Politicians Cause Corporate Downsizing?" *Journal of Political Economy*, 119 (2011), 1015–1060.

Denes, M.; S. Lagaras; and M. Tsoutsoura. "First Come, First Served: The Timing of Government Support and Its Impact on Firms." Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3845046 (2021).

Dinç, I. S. "Politicians and Banks: Political Influences on Government-Owned Banks in Emerging Markets." *Journal of Financial Economics*, 77 (2005), 453–479.

Duchin, R.; X. Martin; R. Michaely; and H. I. Wang. "Concierge Treatment from Banks: Evidence from the Paycheck Protection Program." Working Paper, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3775276 (2021).

Duchin, R., and D. Sosyura. "The Politics of Government Investment." *Journal of Financial Economics*, 106 (2012), 24–48.

Elliot, J. "Meet the Hundreds of Officials Trump Has Quietly Installed Across the Government." ProPublica, available at https://www.propublica.org/article/meet-hundreds-of-officials-trump-has-quietly-installed-across-government (Mar. 8, 2017).

Evers-Hillstrom, K. "Political Donors Whose Businesses Got PPP Loans Injected $52 Million into 2020 Election." OpenSecrets, available at https://www.opensecrets.org/news/2020/07/ppp-loans-donors-52m/ (July 23, 2020).

Faccio, M.; R. W. Masulis; and J. J. McConnell. "Political Connections and Corporate Bailouts." *Journal of Finance*, 61 (2006), 2597–2635.

Fair, R. C. "The Effect of Economic Events on Votes for President." *Review of Economics and Statistics*, 60 (1978), 159–173.

Fishback, P., and V. Kachanovskaya. "The Multiplier for Federal Spending in the States during the Great Depression." *Journal of Economic History*, 75 (2015), 125–162.

Franck, T., and K. Rogers. "Small Business Rescue Loan Program Hits $349 Billion Limit and Is Now Out of Money." *CNBC* (Apr. 16, 2020).

Gimpel, J. G.; F. E. Lee; and M. Parrott. "Business Interests and the Party Coalitions: Industry Sector Contributions to U.S. Congressional Campaigns." *American Politics Research*, 42 (2014), 1034–1076.

Goldman, E.; J. Rocholl; and J. So. "Politically Connected Boards of Directors and the Allocation of Procurement Contracts." *Review of Finance*, 17 (2013), 1617–1648.

Granja, J.; C. Makridis; C. Yannelis; and E. Zwick. "Did the Paycheck Protection Program Hit the Target?" NBER Working Paper No. w27095 (2020).
Grossman, P. J. "A Political Theory of Intergovernmental Grants." *Public Choice*, 78 (1994), 295–303.
Hoover, G. A., and P. Pecorino. "The Political Determinants of Federal Expenditure at the State Level." *Public Choice*, 123 (2005), 95–113.
James, S. C., and B. L. Lawson. "The Political Economy of Voting Rights Enforcement in America's Gilded Age: Electoral College Competition, Partisan Commitment, and the Federal Election Law." *American Political Science Review*, 93 (1999), 115–131.
Jarvis, R., and L. Winn. "An Inside Look at the Paycheck Protection Program: 'It's a Race.'" ABC News, available at https://www.mycentraloregon.com/2020/04/25/an-inside-look-at-the-paycheck-protection-program-its-a-race (2020).
Jones, J. M. "Trump Third Year Sets New Standard for Party Polarization," *Gallup* (Jan. 21, 2020).
Kiel, L. J., and R. B. McKenzie. "The Impact of Tenure on the Flow of Federal Benefits to SMSA's." *Public Choice*, 41 (1983), 285–293.
Kiewiet, D. R. *Macroeconomics and Micropolitics: The Electoral Effects of Economic Issues*. Chicago, IL: University of Chicago Press (1983).
King, L., and N. Wu. "Auto Dealers, Restaurants with Ties to Lawmakers Were Among the Firms That Got PPP Loans: Treasury/SBA Data." *USA Today*, July 6, 2020.
Kramer, G. H. "Short-Term Fluctuations in U.S. Voting Behavior, 1896–1964." *American Political Science Review*, 65 (1971), 131–143.
Larcinese, V.; L. Rizzo; and C. Testa. "Allocating the U.S. Federal Budget to the States: The Impact of the President." *Journal of Politics*, 68 (2006), 447–456.
Levitt, S. D., and J. M. Poterba. "Congressional Distributive Politics and State Economic Performance." *Public Choice*, 99 (1999), 185–216.
Li, L., and P. Strahan. "Who Supplies PPP Loans (and Does It Matter)? Banks, Relationships and the COVID Crisis." *Journal of Financial and Quantitative Analysis*, 56 (2021), 2411–2438.
Liu, H., and D. Volker. "Where Have the Paycheck Protection Loans Gone So Far?" Liberty Street Economics 20200506, Federal Reserve Bank of New York (2020).
O'Connell, J., and A. Gregg. "SBA Exempted Lawmakers, Federal Officials from Ethics Rules in $660 Billion Loan Program." *Washington Post*, June 26, 2020.
Panagopoulos, C. "Vested Interests: Interest Group Resource Allocation in Presidential Campaigns." *Journal of Political Marketing*, 5 (2006), 59–78.
Peltzman, S. "Toward a More General Theory of Regulation." *Journal of Law and Economics*, 19 (1976), 211–240.
Ray, B. A. "Congressional Promotion of District Interests: Does Power on the Hill Really Make a Difference?" In *Political Benefits*, B. Rundquist, ed. Lexington, MA: Lexington Books (1980).
Ray, B. A. "Military Committee Membership in the House of Representatives and the Allocation of Defense Department Outlays." *Western Political Quarterly*, 34 (1981), 222–234.
Ritt, L. G. "Committee Position, Seniority, and Distribution of Government Expenditures." *Public Policy*, 24 (1976), 463–489.
Rudegeair, P.; H. Haddon; and R. Simon. "Ruth's Chris to Repay Loan Amid Outcry Over Rescue Program." *Wall Street Journal* (Apr. 23, 2020).
Sapienza, P. "The Effects of Government Ownership on Bank Lending." *Journal of Financial Economics*, 72 (2004), 357–384.
Schoenherr, D. "Political Connections and Allocative Distortions." *Journal of Finance*, 74 (2019), 543–586.
Shachar, R., and B. Nalebuff. "Follow the Leader: Theory and Evidence on Political Participation." *American Economic Review*, 89 (1999), 525–547.
Shaw, D. R. "The Methods Behind the Madness: Presidential Electoral College Strategies, 1988–1996." *Journal of Politics*, 61 (1999), 893–913.
Shaw, D. R. "The Race to 270: The Electoral College and the Campaign Strategies of 2000 and 2004." Chicago, IL: University of Chicago Press (2008).
Stigler, G. J. "The Theory of Economic Regulation." *Bell Journal of Economics and Management Science*, 2 (1971), 3–21.
Tahoun, A. "The Role of Stock Ownership by US Members of Congress on the Market for Political Favors." *Journal of Financial Economics*, 111 (2014), 86–110.
Tahoun, A., and L. Van Lent. "The Personal Wealth Interests of Politicians and Government Intervention in the Economy." *Review of Finance*, 23 (2019), 37–74.
Tufte, E. R. *Political Control of the Economy*. Princeton, NJ: Princeton University Press (1978).
Wilson, D. J. "Fiscal Spending Jobs Multipliers: Evidence from the 2009 American Recovery and Reinvestment Act." *American Economic Journal: Economic Policy*, 4 (2012), 251–282.