

DISCUSSION PAPER SERIES

DP16842

The Politics of the Paycheck Protection Program

Deniz Igan, Thomas Lambert and Prachi Mishra

POLITICAL ECONOMY

CEPR

The Politics of the Paycheck Protection Program

Deniz Igan, Thomas Lambert and Prachi Mishra

Discussion Paper DP16842
Published 27 December 2021
Submitted 16 December 2021

Centre for Economic Policy Research
33 Great Sutton Street, London EC1V 0DX, UK
Tel: +44 (0)20 7183 8801
www.cepr.org

This Discussion Paper is issued under the auspices of the Centre's research programmes:

- Political Economy

Any opinions expressed here are those of the author(s) and not those of the Centre for Economic Policy Research. Research disseminated by CEPR may include views on policy, but the Centre itself takes no institutional policy positions.

The Centre for Economic Policy Research was established in 1983 as an educational charity, to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions.

These Discussion Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

Copyright: Deniz Igan, Thomas Lambert and Prachi Mishra

The Politics of the Paycheck Protection Program

Abstract

This paper examines the incidence of special interests in the allocation of loans through the Paycheck Protection Program (PPP). We find that lobbying at the firm and industry levels helps obtain larger PPP loans during the pandemic. We also observe that PPP lending is more responsive to lobbying in ideologically less conservative areas as well as in industries less affected by the pandemic. Our findings are consistent with the notion that lobbying firms have experience in navigating administrative and policy complexity and can thus benefit more from aid provided under the PPP.

JEL Classification: D72, G21, G28, G32, G38, H12, H81

Keywords: COVID-19, Ideology, Lobbying, Paycheck Protection Program

Deniz Igan - deniz.igan@bis.org
BIS and CEPR

Thomas Lambert - t.lambert@rsm.nl
Rotterdam School of Management. Erasmus University

Prachi Mishra - pmishra@imf.org
IMF

Acknowledgements

We are grateful to Stijn Claessens and Nandini Gupta for useful comments and suggestions. Manzoor Gill and Awais Khuhro provided excellent research assistance. Lambert gratefully acknowledges the Dutch Research Council (NWO) for financial support (grant VI.Veni.191E.055). All errors remain our own. The views expressed here are those of the authors and not those of the BIS. They do not necessarily represent those of the IMF, its Management and Executive Board, or IMF policy.

The Politics of the Paycheck Protection Program

Deniz Igan, Thomas Lambert, and Prachi Mishra*

October 26, 2021

Abstract

This paper examines the incidence of special interests in the allocation of loans through the Paycheck Protection Program (PPP). We find that lobbying at the firm and industry levels helps obtain larger PPP loans during the pandemic. We also observe that PPP lending is more responsive to lobbying in ideologically less conservative areas as well as in industries less affected by the pandemic. Our findings are consistent with the notion that lobbying firms have experience in navigating administrative and policy complexity and can thus benefit more from aid provided under the PPP.

JEL classification codes: D72, G21, G28, G32, G38, H12, H81

Keywords: COVID-19, ideology, lobbying, Paycheck Protection Program

* Igan is with the Bank for International Settlements and the CEPR. Mishra is with the International Monetary Fund. Lambert is with Rotterdam School of Management, Erasmus University. Emails: deniz.igan@bis.org; pmishra@imf.org; t.lambert@rsm.nl. We are grateful to Stijn Claessens and Nandini Gupta for useful comments and suggestions. Manzoor Gill and Awais Khuhro provided excellent research assistance. Lambert gratefully acknowledges the Dutch Research Council (NWO) for financial support (grant VI.Veni.191E.055). All errors remain our own. The views expressed here are those of the authors and not those of the BIS. They do not necessarily represent those of the IMF, its Management and Executive Board, or IMF policy.

“The only industry that hasn’t been slowed down by the virus is the lobbying industry.”

– Rep. Ro Khanna, California’s 17th congressional district

1. Introduction

The COVID-19 outbreak triggered an unprecedented economic freeze that left millions of businesses in various industries in dire need of liquidity (Bartik et al. 2020a). The government aid response around the world was immediate and also unprecedented. In the US, as a centerpiece of the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020, the Paycheck Protection Program (PPP) aimed to provide financial assistance to businesses that were hit hardest by the freeze. The PPP provided a temporary source of liquidity for small businesses, initially authorizing \$670 billion in forgivable loans and guarantees. This is a large economic relief package by any standard. A question thus naturally arises: did the funds flow to businesses where the needs were greatest?

In this paper, we attempt to answer this question from the lens of special interest politics. We use a large sample of private and public firms to present the first evidence that firm- and industry-level lobbying is associated with larger PPP lending. Our results complement a few recent studies documenting the (mis)allocation of PPP lending across the US economy. Granja et al. (2020) show for a large sample of small private firms that funds flowed to areas that were less hard-hit by the economic consequences of COVID-19. Duchin and Hackney (2020) find that politically important areas saw higher levels of PPP lending. Li and Strahan (2020) show that prior bank relationship helps smaller firms to access PPP funds. Balyuk et al. (2020) and Cororaton and Rosen (2020) focus on public firms and report that PPP funds were primarily allocated to financially weaker firms, while some larger and healthier firms that had received funds eventually returned them after public backlash. None of these papers, however, examines whether firms use lobbying resources to obtain PPP funds, despite anecdotal evidence.¹

¹ In “Coronavirus Stimulus Package Spurs a Lobbying Gold Rush,” *The New York Times* (March 20, 2020), Kenneth P. Vogel, Catie Edmondson, and Jesse Drucker open their article as follows: “Some industries are in dire need of a bailout. Others see a rare chance to win special breaks at a moment when the fiscal spigots are open.” See also Brody Mullins and Ted Mann, “Lobbyists Pile On to Get Wins for Clients Into Coronavirus Stimulus Package,” *The Wall Street Journal* (March 21, 2020); Jeanna Smialek, Jim Tankersley, and Luke Broadwater, “Lobbyists, Law Firms, and Trade Groups Took Small-Business Loans,” *The New York Times* (July 6, 2020); Alex Gangitano, “Lobbying groups received millions in PPP loans,” *The Hill* (July 7, 2020).

To examine the relation between lobbying and PPP allocation, we combine loan-, firm-, industry-, and regional-level data. Specifically, we obtain data from the Small Business Administration (SBA) on the number and amount of PPP loans disbursed and manually match them with borrower characteristics, which include lobbying expenditures as well as balance sheet and income statement information. Since lobbying can also be organized at the industry level, we construct industry-level measures capturing the size distribution of lobbying firms (Bombardini, 2008). In addition, we collect data reflecting economic and political characteristics of industries and regions.

We derive three sets of results from our empirical analysis. We first present descriptive results on characteristics of firm lobbying in relation to PPP loans. We observe that lobbying firms are five to ten times larger than non-lobbying firms, consistent with evidence in Kerr et al. (2014) and Huneus and Kim (2019). Lobbying firms also receive larger PPP loans: the mean loan amount is about \$650,000 for non-lobbying firms compared to \$1,550,000 for lobbying firms.

Our second set of results goes one step further to understand whether firm lobbying helps obtain larger PPP loans. Our regression results show that PPP loans are approximately 60 percent larger on average for lobbying businesses relative to their non-lobbying counterparts. This effect is highly statistically significant and robust to a number of empirical perturbations. We corroborate this result with industry-level evidence: PPP loan size is on average larger for lobbying firms in industries with a greater lobbying presence. These results are consistent with the notion that lobbying firms may have experience in navigating administrative and policy complexity and, thereby, can take advantage of government aid programs (Drutman 2015).

Our third set of results explores heterogeneities of the documented relationship to better understand the channel through which firm lobbying affects PPP allocation. We find that, in areas with stronger conservative presence, PPP loans are less responsive to lobbying pressure. This finding points to an interesting interaction between political ideology and special interests: where the prevailing ideology is more inclined toward providing government support to businesses in need (i.e., less conservative presence), lobbying appears more effective as relatively lower lobbying expenditures can help secure a given amount of aid.² Interestingly, our findings also indicate that the relation between lobbying and PPP lending is weaker in areas with more electoral competition

² Less government support has been a defining feature of conservative ideology in the past decades (Wehner and Gerson 2014).

(“battleground” districts). In addition, we find that PPP lending is more responsive to lobbying in industries in which firms are less hit by the crisis. In particular, firms in industries with higher share of teleworkable jobs obtained larger PPP loans. Although the collage of evidence appears to be rather consistent with a view that firms lobby for influence (“private-interest” view put forward by Stigler 1971), it is hard to firmly establish that “public-interest” considerations do not drive the lobbying process under PPP as well.

Our paper is broadly related to several strands of the economics and finance literature. First, it is closely related to work on the political economy of government aid programs. Several studies examine whether electoral politics affect the spatial allocation of government funds: Fishback et al. (2003) focus on funds under the New Deal in the 1930s, Boone et al. (2014) under the American Recovery and Reinvestment Act of 2009, and Duchin and Hackney (2020) under the PPP of 2020. More relevant to the issue of firm-level politically targeted activities, Duchin and Sosyura (2012) and Blau et al. (2013) find that politically connected banks were more likely to be bailed out under the Troubled Asset Relief Program of 2008. Adelino and Dinc (2014) report that nonfinancial firms that intensified their lobbying efforts during the 2008 financial crisis were more likely to receive stimulus funds. Faccio et al. (2006) provide international evidence that politically connected firms are significantly more likely to be bailed out in distress. This paper complements this literature by evaluating the extent to which politically targeted activities affect an unprecedented government program aimed at providing liquidity and support to small firms.

Second, this paper adds to the empirical literature on the effect lobbying on policies (Facchini et al. 2011; Bombardini and Trebbi 2012; Igan and Mishra 2014; Kang 2015; Ludema et al. 2018; Ban and You 2019), or on economic outcomes (de Figueiredo and Silverman 2006; Igan et al. 2011; Mian et al. 2013; Borisov et al. 2016; Igan et al. 2017). Along these lines, we provide evidence of lobbying on PPP aid and uncover significant heterogeneities across industries and regions. Kerr et al. (2014) and Huneus and Kim (2019) document important stylized facts about lobbying behavior of firms, in particular that lobbying is rare and positively related to size, and that lobbying is a persistent process as it involves large sunk costs in setting up political presence. In line with these studies, our findings indicate that larger firms lobby and that they are more likely to continue to do so to benefit from government aid.

Third, this paper is connected to a rapidly growing literature on the determinants of PPP allocation (see papers cited at the outset) and its impacts on the US economy (Autor et al. 2020; Bartlett and Morse 2020; Bartik et al. 2020a, 2020b; Chetty et al. 2020; Chodorow-Reich et al. 2020; Elenev et al. 2020; Granja et al. 2020; Humphries et al. 2020; Meier and Smith 2020). We join this emerging literature by presenting empirical evidence of the effect of special interest politics on the allocation of PPP funds across firms.

2. Data and Empirical Methodology

2.1. Data description

PPP lending. The CARES Act, signed into law on March 27, 2020, established the Small Business Administration's (SBA) PPP to assist small firms—generally defined as those with fewer than 500 employees—in retaining their employees. While firms applied for PPP loans through private banks, these low-interest loans were guaranteed by the SBA. In addition, if most of the loan proceeds were used to cover payroll expenses, PPP loans would be forgiven by the SBA.

The CARES Act initially allocated \$349 billion for PPP loans; the first round commenced on April 3, 2020 but was depleted in two weeks. An additional appropriation of \$320 billion was made on April 24 after demand from small firms exhausted the initial allocation. The second round was due to expire on June 30 with funds remaining but got an extension through August. The PPP closed finally on August 8, 2020 after extending \$525 billion of loans (Hanson et al. 2020).³

We obtain loan-level data released by the SBA on July 23, 2020, which provides information on business and loan characteristics, that is, business name, location, legal status, industry classification, loan \$-amount and the date when the loan was approved. We use the simple average of the reported range for the loan amount (\$150,000–350,000; \$350,000–1 million, \$1–2 million, \$2–5 million, and \$5–10 million) as the dependent variable. We cannot use loans under \$150,000, as the name of the business is suppressed and cannot be matched with lobbying data.

³ The PPP was reopened for applications on January 11, 2021. Our analysis does not incorporate the loans drawn in this second phase because of the timing of the application process and associated data release. On March 30, 2021, President Biden signed an extension moving the deadline to apply for a PPP loan from March 31 to May 31, 2021 and allowing authorization of loans through June 30, 2021 to give the SBA additional time to process applications.

Lobbying. Lobbying activities account for the bulk of politically targeted expenditures (approximately 90 percent according to, e.g., Facchini et al. 2011). We obtain data on lobbying from quarterly reports filed by individual companies and organizations to the Senate’s Office of Public Records (SOPR) and compiled by LobbyView.⁴ We use name of the firm and the total dollar amount it spent on lobbying since 2016, and construct two types of firm-level variables: the lobbying status of the firm and the amount of their lobbying expenditures in a given period.⁵ We also use two industry-level variables capturing, respectively, the size of an industry lobbying force (the industry share of total lobbying expenditures) and the size distribution of lobbying firms in an industry (Herfindahl index of the industry).

Firm, regional and industry characteristics. We obtain balance sheet and income statement information from Compustat and Orbis. Firm characteristics are measured for the year 2018 in Orbis and for the year 2019 in Compustat (the latest year available), and include size (total assets), turnover (sales), performance (return on assets), solvency (interest coverage ratio), employment (number of employees), liquidity (working capital).

We also use district and state-level data on political conditions and industry-level data on vulnerability to pandemic-induced lockdowns and social distancing. First, we focus on six regional variables capturing the political environment at either the state or district level. The first variable captures the political support for Republicans as defined by the ratio of campaign contributions to Republican candidates to total district-wide campaign contributions recorded in 2019 and the first half of 2020. Campaign contributions are sourced from the Center for Responsive Politics (www.opensecrets.org). The second variable captures political control and is a dummy variable identifying whether the state legislature is controlled by Republicans, based on the number of seats held by the two parties in the state house and senate as reported by the National Conference of State Legislatures (www.ncsl.org). The third variable captures the leaning of the electorate in the race between Democrat and Republican candidates in the 2020 election as of April and is the

⁴ LobbyView is a non-profit consortium of researchers supported by MIT, National Science Foundation and Russel Sage Foundation. Data on lobbying expenditures, directly obtained from the SOPR or as compiled by think-tanks have been previously employed in a significant body of papers cited in our literature review.

⁵ We use a relatively long period to capture lobbying. This is justified by the observation that lobbying is persistent (Kerr et al. 2014). In any case, we obtain similar results when limiting our attention to lobbying that took place in the first quarter of 2020.

Partisan Voting Index (PVI) provided by the April 2020 edition of the Cook Political Report (www.cookpolitical.com). The PVI measures how each congressional district is positioned in the electoral spectrum based on its record in the previous elections. The values range from 1 to 8 with 1 corresponding to solid Democrat, 2 to likely Democrat, 3 to lean Democrat, 4 to toss-up Democrat, 5 to toss-up Republican, 6 to lean Republic, 7 to likely Republican, and 8 to solid Republican.⁶ We also construct a “battleground” dummy variable that takes the value of 1 when the PVI value for a district is 4 or 5 (toss-up cases). Finally, the last two variables in our set of regional characteristics capture *political ideology* of the citizens and local government, sourced from Richard Fording’s website (<https://rcfording.com>).⁷ Higher (lower) values of these political ideology variables indicate more liberal (conservative) values and positions in a state.

We also gather industry-level variables capturing the resilience of an industry to a pandemic. We specifically rely on measures of teleworkability, which are based on detailed survey information on occupations as classified by Dingel and Neiman (2020). Their indices capture the share of jobs of a given industry that can be done at home and is aggregated at the two-digit industry level using either the employment share or the wage share. Industries with a higher share of teleworkable jobs are likely to suffer less from a pandemic and, in particular, from social-distancing measures.

We provide details on the data download, cleaning, matching (combining fuzzy string matching algorithms and manual matching), and merging procedures used to generate our final data set in the Online Appendix.

2.2. Empirical model

To test whether firm-level lobbying affects PPP loans, we exploit the variation across firms. We run ordinary least squares (OLS) regressions of the type

$$Loan_{f,i,c} = \alpha + \beta Lobby_f + \gamma X_f + s_i + v_c + \varepsilon_{f,i,c}. \quad (1)$$

⁶ The Cook Political Report provides information separately for house, senate, gubernatorial, and presidential elections. In the results reported, we use the ratings for house races but the correlation among the categories is high and the findings are robust to using the other alternatives.

⁷ These ideology measures are constructed using the methodology originally developed by Berry et al. (1998) and was last updated in 2018. The results are robust to using alternative ideology scores from the Shor-McCarty database, last updated in 2020: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/AP54NE>.

We index firms by f , industry by i and city by c . $Loan_{f,c,i}$ is the natural logarithm of loan amount allocated to firm f headquartered in city c and operating in industry i . $Lobby_f$ is either a dummy variable measuring the lobbying status of firm f since 2016 (or in the first quarter of 2020), or a variable defined as the natural logarithm of the amount that firm f has spent on lobbying since 2016 (or in the first quarter of 2020). X_f is a vector of firm-level control variables, including a dummy variable set to 1 if firm f is a publicly listed company. s_i and v_c denote industry and city fixed effects, respectively. Standard errors are heteroskedasticity robust.

The parameter of interest is β , which captures average differences in PPP allocation between recipients that lobby and those that do not lobby; or between those that spend higher amounts in lobbying. β should not be interpreted as establishing a causal link between lobbying and PPP lending, and may indeed reflect firm characteristics determining both the decision to lobby and the allocation of PPP funds. We therefore also exploit cross-sectional heterogeneity to isolate channels via which lobbying can impact PPP lending.

We first explore whether lobbying (as a proxy for special interests) is effective in securing a larger PPP loan depending on the local political environment (as captured by political support, ideology, control, and competition). In theory, the interaction could be in either direction. On the one hand, in areas where the ideological divide is not strong and the race is competitive, incumbent politicians may be more perceptive to firm lobbying efforts. Indeed, politicians in battleground areas may seek to raise funds more aggressively and garner support and, in the process, be more inclined to channel public resources to these areas. But if politicians feel “safe” on account of the ideological leaning of the electorate, due to weak electoral competition, or on account of the existing balance of control in the state legislature, they would be less likely to be swayed by lobbying efforts. Similarly, if the prevailing ideology is in favor of less government intervention and/or the conservatives are already in control, Republican politicians in particular may find it easier to follow their ideology and make less concessions. On the other hand, in areas where ideological positions are more moderate and the race is more open, there may be more emphasis put on transparency and accountability by the electorate or more public scrutiny on government actions. Then, politicians may be less susceptible to firm lobbying efforts.

We thus analyze the extent to which areas that are politically more conservative (as opposed to liberal) are sensitive to lobbying by special interests. To do so, we specify a version of equation (1) including an interaction term of interest as follows:

$$Loan_{f,i,c,a} = \alpha + \beta_1 Lobby_f + \beta_2 Lobby_f * Politics_a + \gamma X_f + s_i + v_c + \varepsilon_{f,i,c} \quad (2)$$

in which the index a denotes the geographical area (i.e., a congressional district or a state) where the firm is located.⁸ $Politics_a$ denotes a measure of the political environment at the congressional district or state levels. These political environment measures are defined above and comprise four dimensions: political support, control, competition, and ideology.

In addition, we look at the differential effect of lobbying on PPP loans in industries that differ in their resilience to the pandemic shock. A frictionless PPP allocation would imply that businesses in need of liquidity should receive a PPP loan of adequate size, regardless of their lobbying effort. In cases where the adequate PPP loan size could not be easily assessed ex ante (because of, e.g., lack of hard information or greater uncertainty about the prospects of the firm or industry), lobbying may be an important signal and a crucial tool in navigating the government aid program. In other words, the difficulty of distinguishing between firms that need aid and those that do not may generate an opportunity for firms to use their lobbying status to make a case for a (larger) PPP loan. In theory, firm lobbying could help achieve allocative efficiency by directing loans to (lobbying) firms in hardest-hit industries. However, it is also possible that the pursuit of special interests ends up diverting loans to the industries that should a priori suffer less from a pandemic. As an open empirical question, we thus run OLS regressions of the type of equation (2), except that we interact $Lobby_f$ with industry-level variables capturing the resilience of an industry to a pandemic. As discussed above, we specifically rely on proxy variables of teleworkability.

⁸ The level of political environment variables in an area is guided by availability of data as well as institutional characteristics. While we know the location of the firms at the city level, many political environment variables are either not available at that level or less relevant in the context of political influence exerted at the federal level. We provide more details on how cities are mapped to congressional districts and states in the Appendix.

3. Empirical Results

3.1. A first look at the data

Table 1 provides descriptive statistics for our data set. Panel A shows summary statistics for the firm-level variables split according to whether the PPP recipient lobbied or not for both Compustat and Orbis samples. We can see that the total number of PPP recipients in our dataset is close to 700 thousand, out of which about 32,500 (i.e., less than 1 percent) lobbied in the past. Lobbying firms in the Compustat sample comprises about 500 companies, while in the Orbis sample it represents about 2,100 companies.⁹ Lobbying PPP recipients tend to be larger—whether measured by assets, number of employees, or total sales. For instance, the average assets of lobbying PPP recipients in the Compustat sample is five times larger than that of non-lobbying counterparts. The difference can be as much as ten folds, based on a comparison of total assets in the Orbis matched sample. This is in line with the literature that has established that few firms lobby, and that lobbying is strongly related to firm size (Kerr et al. 2014; Huneus and Kim 2019). However, we observe that lobbying PPP recipients have somewhat weaker performance and solvency metrics than non-lobbying PPP recipients. As an initial assessment, we also observe that lobbying PPP recipients are allocated higher amounts of PPP loans—roughly 2.5 times compared to non-lobbying PPP recipients on average.

Panel B presents additional summary statistics for our variables on industry and regional characteristics used in our analysis. We now turn to analyze specifically the association between lobbying activity and PPP loan amount in a regression framework.

3.2. The link between lobbying and PPP lending

Table 2, Panel A, reports the baseline results. The dependent variable is the log of amount of PPP loans. In Column (1), we examine the effect of lobbying status after controlling for the listing status of the firm, and the industry and city fixed effects. In Column (2), we look at lobbying expenditures (in log) instead of lobbying status. In Columns (3) and (4), we repeat the previous specifications, with the lobbying variables only capturing the activity in the first quarter of 2020. The estimated coefficients on both lobbying variables—lobbying status and lobbying

⁹ The small number of matches is not a surprise given that many PPP recipients are not public or private firms but non-profits and community associations.

expenditures—are positive and statistically significant at the 1 percent level across specifications, indicating that lobbying PPP recipients receive higher loans on average. Both the lobbying status of the firm and the amount they spent are statistically important determinants of PPP loans.

The magnitude of the difference in loan size between lobbying recipients and other businesses is also not trivial, especially after stripping away industry and city effects. The estimated coefficient of 0.634 in Columns (1) implies that the average amount of PPP loan is approximately 60 percent higher for lobbying recipients as compared to other businesses. The estimated coefficient of 0.059 in Column (2) indicates that, conditional on lobbying, a 1 percent higher lobbying expenditures is associated with about 6 percent larger PPP loans. The economic magnitudes derived from Columns (3) and (4) appear similar.¹⁰

As shown in prior work, in the presence of large fixed costs of deploying lobbying efforts, it might be efficient for (small) firms to coordinate and organize their lobbying at the industry level (Bombardini 2008). This consideration is especially important in our context of small business lending. Therefore, in Table 2, Panel B, we examine whether firm lobbying is amplified depending on the size and the structure of industry lobbying. To do so, we interact our firm-level lobbying variables with industry-level lobbying variables. Columns (1) and (3) focus on the industry share of total lobbying expenditures, while Columns (2) and (4) use the Herfindahl index for industry lobbying (higher Herfindahl index indicates more concentration of lobbying expenditures by few firms). Across the columns, we find that firm lobbying continues to directly affect the size of PPP loans. Although the estimated coefficients on the interaction terms fail to be statistically significant at conventional levels in the two first columns, we get two interesting results from Panel B. First, we see that the effect of lobbying by firms is reinforced when they operate in industries accounting for a higher share of lobbying expenditures. Second, we observe that lobbying is less effective for firms in industries in which the lobbying effort is concentrated among few large players. These results may suggest that lobbying by individual firms could be complementary to the intensity of efforts and competition at the industry level.

¹⁰ These baseline results are not altered to the inclusion of firm characteristics from Compustat and Orbis, proxying for size, turnover, performance, solvency, employment, and liquidity. However, sample sizes reduce dramatically in these specifications, which may not be surprising given that PPP was targeted toward relatively smaller firms and are thus less likely to be covered in Compustat and Orbis. The reduced sample size does not allow enough degrees of freedom to introduce industry and city fixed effects. These results are available upon request from the authors.

Overall, the results in this section suggest that lobbying plays a meaningful role in determining the size of PPP loans. Although we find a strong association between firm lobbying and PPP lending, our cross-sectional regressions do not allow us to claim causality. In the next section, we turn to explore the channel through which lobbying can help obtain larger PPP loans.

3.3. Exploring the channel

To better understand the relation between firm lobbying and PPP lending, we examine variation across regions and industries.

We first look at the differential effect of firm lobbying across regions that differ in terms of their political environment. Table 3 presents the results from estimating equation (2). Panel A focuses on lobbying status. Panel B mirrors Panel A using lobbying expenditures instead of lobbying status. Since the results reported in Panel B are very similar to the ones of Panel A, below we only discuss results from Panel A.

As can be first seen, the direct effect of lobbying is still positive and statistically significant at the 1 percent level in all specifications (Column (1) reports the baseline result without an interaction term). In Column (2), the estimated coefficient on the interaction term between the firm-level lobbying variable and the political support variable (i.e., campaign contributions to Republicans at the district level) is negative and statistically significant at the 1 percent level. This suggests that the effectiveness of firm lobbying is relatively weaker in areas where Republicans have higher political support in the form of campaign contributions. In Column (3), we find consistent results with Column (2): the effect of firm lobbying attenuates in states where Republicans control the state legislature. Indeed, the estimated coefficient on the interaction term with the political control variable (i.e., Republican-controlled state) is negative and statistically significant at the 1 percent level. Similarly, in Column (4), we observe that estimated coefficient on the interaction term with the PVI is negative and statistically significant at the 1 percent level, meaning that the effect of firm lobbying is weaker in districts where the electorate is more inclined to vote Republican.

In Column (5), we analyze the differential effect of firm lobbying on PPP loans in congressional districts varying in terms of political competition. Recall that the measure we use is a dummy variable identifying whether a district is a toss-up between Republicans and Democrats (based on the PVI). We find that the effect of lobbying is weakened where electoral competition is tougher,

suggesting that politicians are less perceptive to lobbying efforts when their election prospect is more uncertain. In particular, the interaction term between firm lobbying and battleground dummy variable is negative and statistically significant at the 1 percent level.

We also study the interaction with political ideology of citizens in Column (6) and of state government in Column (7). The interaction terms enter positively and highly significantly in both regressions, suggesting that the effect of firm lobbying is stronger in areas where liberal (as opposed to conservative) ideology is more widely represented.

To give an idea of the economic magnitude of the interaction effect, we take the partial derivative with respect to lobbying using estimates from Column (6). At the mean citizen ideology score of 52 (see Table 1), the partial derivative of PPP with respect to likelihood of lobbying is 0.361. This implies that lobbying is associated with 36 percent larger PPP loans. If we examine the citizen ideology score at one standard deviation above the mean (more liberal), the partial derivative of PPP loan with respect to the lobbying is 0.473, meaning that lobbying leads to a 47 percent increase in PPP loan size. Similarly, if we examine the partial derivative at one standard deviation below the mean (more conservative), the partial derivative is 0.249, implying that lobbying leads to a 25 percent increase in PPP loan size.

Next, we test the extent to which industries thrive during the pandemic influences the effect of lobbying by firms on PPP loan size. Table 4 shows the results from estimating a version of equation (2) including an interaction term between the firm-level lobbying variables and the industry-level variables on teleworkability (our proxy for the industry resilience in a pandemic crisis). Columns (1) and (4) present as before the baseline result without interaction terms. Columns (2) and (3) report the results on the interactions with lobbying status, while Columns (5) and (6) show the interactions with lobbying expenditures. The estimated coefficients on the interaction terms are positive and statistically significant at conventional levels in all the specifications, indicating that lobbying by firms in an industry more resilient to the pandemic is associated with larger PPP loans. Economically, while the lobbying status is associated with 1.7 percent higher PPP loan in an industry with average teleworkability, it is associated with 2.8 and 0.6 percent higher PPP loans in an industry with one standard deviation above and below the mean teleworkability, respectively.

Finally, we dig one step further into the channels by asking if lobbying increased differentially in areas where liberal ideology is more widely represented, and for firms in industries more resilient

to the crisis. We do not find evidence for this: While there was a generalized rise in lobbying following the start of the pandemic, there appears to be no differential effects by political environment or by industry characteristics.¹¹ Therefore, ultimately what we capture in our estimates is higher marginal effects of lobbying (or greater bang for the buck), which does not appear to be concomitant with a differential impact on lobbying; alternatively, these effects, if any, could be difficult to identify as they get trumped by the overall increase.

All in all, relying on different measures of the political environment (political support, control, competition and ideology), we uncover that firm lobbying has a weaker impact on PPP loan size in areas where Republicans have a stronger hold, and in areas with tougher electoral competition. We also find that firm lobbying is more effective in industries less adversely affected by the social-distancing consequences of the pandemic. The set results reported in Tables 3 and 4 exploiting cross-sectional heterogeneities at the regional and industry levels point in direction that firms lobby for influence, consistent with the “private-interest” view a la Stigler (1971).

4. Conclusion

Initially authorized to extend \$670 billion in business loans, the PPP is as of today a \$953-billion program unprecedented in the US history. Much criticism has been directed at legislators and administrators for the allocation of funds under the program. This paper is a first attempt to systemically examine whether special interests affected the allocation of PPP aid.

We find that businesses that lobbied obtained 60 percent larger PPP loans, controlling for firm characteristics as well as industry and city fixed effects. Besides firm-level lobbying, we also show that lobbying organized at the industry level is positively associated with PPP loan size. Exploring the channel through which lobbying has an impact on the aid provided under PPP, we find that PPP loans are relatively lower in areas with greater conservative presence and in industries that are less affected by the pandemic.

Our findings may indicate the importance of navigating administrative and policy complexity in the allocation of PPP loans, consistent with private-interest motives behind lobbying activities. In

¹¹ The results are available upon request from the authors.

particular, the regional differences suggest that lobbying firms received more funds if they were located in less-harder-hit industries, and in more liberal areas—the latter arguably indicating they had a more sympathetic audience to listen to their troubles and take action to provide relief. We cannot, however, establish a causal link or conclusively rule out public-interest motives of lobbying. Further research in this direction is needed.

References

- Adelino, M., and I. S. Dinc, (2014). Corporate Distress and Lobbying: Evidence from the Stimulus Act, *Journal of Financial Economics* 114 (2), 256–272.
- Autor, D., D. Cho, L. D. Crane, M. Goldar, B. Lutz, J. Montes, W. B. Peterman, D. Ratner, D. Villar, and A. Yildirmaz (2020). An Evaluation of the Paycheck Protection Program Using Administrative Payroll Microdata. Working Paper.
- Ban, P., and You, H. (2019). Presence and Influence in Lobbying: Evidence from Dodd-Frank, *Business and Politics* 21 (2), 267–295.
- Bartik, A. W., M. Bertrand, Z. Cullen, E. L. Glaeser, M. Luca, and C. Stanton (2020a). How are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey. Working Paper.
- Bartik, A. W., Z. B. Cullen, E. L. Glaeser, M. Luca, C. T. Stanton, and A. Sunderam (2020b). The Targeting and Impact of Paycheck Protection Program Loans to Small Businesses. Working Paper.
- Bartlett, R. P., and A. Morse (2020). Small Business Survival Capabilities and Policy Effectiveness: Evidence from Oakland. Working Paper.
- Balyuk, T., N. R. Prabhala, and M. Puri (2020). Indirect Costs of Government Aid and Intermediary Supply Effects: Lessons From the Paycheck Protection Program. Working Paper.
- Berry, W.D., E.J. Ringquist, R.C. Fording, and R.L. Hanson (1998). Measuring Citizen and Government Ideology in the American States, 1960-93, *American Journal of Political Science* 42 (1), 327–348.
- Blau, B.M., T.J. Brough, and D.W. Thomas (2013). Corporate Lobbying, Political Connections, and the Bailout of Banks, *Journal of Banking and Finance* 37 (8), 3007–3017.
- Bombardini, M. (2008). Firm Heterogeneity and Lobby Participation, *Journal of International Economics* 75 (2), 329–348.
- Bombardini M., and F. Trebbi (2012). Competition and Political Organization: Together or Alone in Lobbying for Trade Policy? *Journal of International Economics* 87 (1), 18–26.
- Boone, C., A. Dube, and E. Kaplan, (2014). The Political Economy of Discretionary Spending: Evidence from the American Recovery and Reinvestment Act, *Brookings Papers on Economic Activity* (Spring) 375–428.
- Borisov, A., E. Goldman, and N. Gupta (2016). The Corporate Value of (Corrupt) Lobbying, *Review of Financial Studies* 29 (4), 1039–1071.

- Chetty, R., J. N. Friedman, N. Hendren, M. Stepner, and the Opportunity Insights Team (2020). The Economic Impacts of COVID-19: Evidence from a New Public Database Built from Private Sector Data. Working Paper.
- Chodorow-Reich, G., Darmouni, O., Luck, S. and Plosser, M.C. (2020). Bank Liquidity Provision across the Firm Size Distribution. NBER Working Paper No. 27945.
- Cororaton, A., and S. Rosen (2020). Public Firm Borrowers of the US Paycheck Protection Program. Working Paper.
- de Figueiredo, J. M. and B. S. Silverman (2006). Academic Earmarks and the Returns to Lobbying, *Journal of Law and Economics* 49 (2), 597–625.
- Dingel, J.I. and B. Neiman (2020). How Many Jobs Can Be Done at Home? *Journal of Public Economics* 189, 104235.
- Drutman, L. (2015). *The Business of America is Lobbying. How Corporations Became Politicized and Politics Became More Corporate* (Oxford University Press, Oxford).
- Duchin, R., and J. Hackney (2020). Buying the Vote? The Economics of Electoral Politics and Small Business Loans. Working Paper.
- Duchin, R., and D. Sosyura (2012). The Politics of Government Investment, *Journal of Financial Economics* 106 (1), 24–48.
- Elenev, V., T. Landvoigt, and S. Van Nieuwerburgh (2020). Can the Covid Bailouts Save the Economy? Working Paper.
- Facchini, G., A. M. Mayda, and P. Mishra (2011). Do Interest Groups Affect US Immigration Policy? *Journal of International Economics* 85 (1), 114–128.
- Faccio, M., R. W. Masulis, and J. J. McConnell (2006). Political Connections and Corporate Bailouts, *Journal of Finance* 61 (6), 2597–2635.
- Fishback, P.V., Kantor, S. and Wallis, J.J. (2003). Can the New Deal’s Three Rs be Rehabilitated? A Program-by-Program, County-by-County Analysis, *Explorations in Economic History* 40 (3), 278–307.
- Granja, J., C. Makridis, C. Yannelis, and E. Zwick (2020). Did the Paycheck Protection Program Hit the Target? Working Paper.
- Hanson, S., J. Stein, A. Sunderam, E. Zwick (2020). Business Credit Programs in the Pandemic Era. Working Paper.
- Humphries, J. E., C. Neilson, and G. Ulyssea (2020). The Evolving Impacts of Covid-19 on Small Businesses since the CARES Act. Working Paper.
- Huneus F., and I. S. Kim (2019). The Effects of Firms’ Lobbying on Resource Misallocation. Working Paper.
- Igan, D., T. Lambert, W. Wagner, and Q. E. Zhang (2017). Winning Connections? Special Interests and the Sale of Failed Banks. CEPR Discussion Paper No. 12440.

- Igan D., and P. Mishra (2014). Wall Street, Capitol Hill, and K Street: Political Influence and Financial Regulation, *Journal of Law and Economics* 57 (4), 1063–1084.
- Igan, D., P. Mishra, and T. Tressel (2011). A Fistful of Dollars: Lobbying and the Financial Crisis, *NBER Macroeconomics Annual* 26, 195–230.
- Kang, K. (2015). Policy Influence and Private Returns from Lobbying in the Energy Sector, *Review of Economic Studies* 83(1), 269–305.
- Kerr, W., W. Lincoln, and P. Mishra (2014). The Dynamics of Firm Lobbying, *American Economic Journal: Economic Policy* 6 (4), 343–379.
- Li, L. and Strahan, P. E. (2020). Who Supplies PPP Loans (And Does it Matter)? Banks, Relationships and the COVID Crisis. NBER Working Paper No. 28286.
- Ludema, R. D., A. M. Mayda, and P. Mishra, (2018). Information and Legislative Bargaining: The Political Economy of US Tariff Suspensions, *Review of Economics and Statistics* 100 (2), 303–318.
- Meier, J.-M., and J. Smith (2020). The COVID-19 Bailouts. Working Paper.
- Mian, A., A. Sufi, and F. Trebbi (2013). The Political Economy of the Subprime Mortgage Credit Expansion, *Quarterly Journal of Political Science* 8 (4), 373–408.
- Shor, B. and N. McCarty (2011). The Ideological Mapping of American Legislatures, *American Political Science Review* 105 (3), 530–551.
- Stigler, G. J. (1971). The theory of economic regulation, *Bell Journal of Economics and Management Science* 2 (1), 3–21.
- Wehner, P., and M. Gerson (2014). A Conservative Vision of Government, *National Affairs* 18 (Winter), 78–94.

Table 1. Summary statistics

Panel A: PPP lending, lobbying, and firm characteristics

	Compustat				Orbis			
	Obs.	Mean	Median	Std. Dev.	Obs.	Mean	Median	Std. Dev.
<i>PPP recipients that lobby</i>								
Loan amount (\$, thousands)	32,527	1,552.03	675.00	1,771.39	32,527	1,552.03	675.00	1,771.39
Total assets (\$, millions)	340	1,292.92	218.31	3,783.60	1,324	48.52	4.61	109.92
Total employees (number)	340	5,381.25	162.50	19,662.69	1,163	3,045.79	550.00	4,363.06
Total sales (\$, millions)	340	919.13	31.43	3,239.26	1,324	42.42	1.66	84.79
Return on assets (percent)	340	-25.05	-9.80	36.59	1,189	-6.00	0.64	19.65
Interest coverage ratio (percent)	340	9.90	0.10	78.40	864	3.18	1.81	13.00
Working capital (percent)	323	2.19	1.50	2.33	1,324	2.19	1.33	2.24
<i>PPP recipients that do not lobby</i>								
Loan amount (\$, thousands)	655,973	647.72	250.00	881.72	655,973	647.72	250.00	881.72
Total assets (\$, millions)	182	276.00	25.65	1,624.17	837	4.68	0.21	19.94
Total employees (number)	182	369.31	50.50	1,740.26	536	1,018.56	131.85	3,462.25
Total sales (\$, millions)	182	144.89	12.50	721.98	831	2.67	0.14	10.36
Return on assets (percent)	179	-22.84	-6.25	37.41	756	-3.00	1.89	21.94
Interest coverage ratio (percent)	182	5.07	0.00	35.14	617	8.33	2.26	41.77
Working capital (percent)	164	2.41	1.28	5.25	836	2.81	1.70	6.42

Panel B: Regional and industry characteristics

	Obs.	Mean	Median	Std. Dev.
<i>Regional characteristics</i>				
Campaign contributions to Republicans at district level	398	43.76	36.79	36.90
State legislature is majority Republican	57	0.39	0.00	0.49
Partisan Voter Index (PVI) at district level	425	4.28	3.00	3.22
Electoral competition at district level	425	0.05	0.00	0.22
Citizen ideology score at state level	50	52.33	51.38	16.17
Government ideology score at state level	50	39.71	33.13	17.04
<i>Industry characteristics</i>				
Teleworkability (share of teleworkable jobs)	24	0.36	0.28	0.24
Teleworkability (share of teleworkable jobs, wage weighted)	24	0.43	0.37	0.24
Share of total lobbying	26	3.85	1.52	5.06
Herfindahl index based on lobbying	26	0.09	0.05	0.11

Notes: This table presents summary statistics for the variables used in the analysis. Panel A reports the firm-level variables split between the Compustat and Orbis samples. Panel B reports the regional and industry-level variables. We refer to the text for a full description of the variables and their corresponding sources.

Table 2. The link between firm-level lobbying and PPP lending

<i>Panel A: Baseline results</i>				
	Amount of PPP loan (log)			
	(1)	(2)	(3)	(4)
Lobbying status (since 2016)	0.6340*** (0.006)			
Lobbying expenditures (since 2016, log)		0.0593*** (0.001)		
Lobbying status (in 2020Q1)			0.6307*** (0.029)	
Lobbying expenditures (in 2020Q1, log)				0.0674*** (0.003)
Industry fixed effects	Y	Y	Y	Y
City fixed effects	Y	Y	Y	Y
Listing status	Y	Y	Y	Y
Observations	676,883	676,883	646,739	646,739
R-squared	0.137	0.131	0.095	0.095
<i>Panel B: Exploring the interaction with industry-level lobbying</i>				
	Amount of PPP loan (log)			
	(1)	(2)	(3)	(4)
Lobbying status (since 2016)	0.6326*** (0.010)	0.6363*** (0.008)		
Lobbying expenditures (since 2016, log)			0.0560*** (0.001)	0.0606*** (0.001)
<i>Interaction of Lobbying status (since 2016) with:</i>				
Share of total lobbying	0.0003 (0.002)			
Herfindahl index based on lobbying		-0.0578 (0.137)		
<i>Interaction of Lobbying expenditures (since 2016, log) with:</i>				
Share of total lobbying			0.0006*** (0.000)	
Herfindahl index based on lobbying				-0.0322** (0.015)
Industry fixed effects	Y	Y	Y	Y
City fixed effects	Y	Y	Y	Y
Listing status	Y	Y	Y	Y
Observations	676,911	676,911	676,911	676,911
R-squared	0.137	0.137	0.132	0.132

Notes: This table presents OLS estimates of the effect of lobbying on log of amount of PPP loan. Panel A is based on equation (1). Panel B is based on equation (2). All models include a constant, whose coefficient is not reported. We refer to the text for a full description of the variables and their corresponding sources. Robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1-percent, 5-percent, and 10-percent levels, respectively.

Table 3. Exploring the channels - The political environment

<i>Panel A: Lobbying status</i>							
	Amount of PPP loan (log)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Lobbying status (since 2016)	0.6340*** (0.006)	0.7497*** (0.010)	0.6613*** (0.008)	0.7701*** (0.010)	0.6800*** (0.007)	0.2615*** (0.027)	0.4174*** (0.017)
<i>Interaction of Lobbying status (since 2016) with:</i>							
Campaign contributions to Republicans at district level		-0.0026*** (0.000)					
State legislature is majority Republican			-0.0887*** (0.013)				
Partisan Voter Index (PVI) at district level				-0.0306*** (0.002)			
Electoral competition at district level					-0.2874*** (0.030)		
Citizen ideology score at state level						0.0069*** (0.000)	
Government ideology score at state level							0.0052*** (0.000)
Industry fixed effects	Y	Y	Y	Y	Y	Y	Y
City fixed effects	Y	Y	Y	Y	Y	Y	Y
Listing status	Y	Y	Y	Y	Y	Y	Y
Observations	676,883	612,690	676,883	653,320	653,320	668,548	668,548
R-squared	0.137	0.138	0.137	0.138	0.138	0.140	0.141
<i>Panel B: Lobbying expenditures</i>							
	Amount of PPP loan (log)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Lobbying expenditures (since 2016, log)	0.0593*** (0.001)	0.0695*** (0.001)	0.0616*** (0.001)	0.0733*** (0.001)	0.0639*** (0.001)	0.0232*** (0.003)	0.0375*** (0.002)
<i>Interaction of Lobbying expenditures (since 2016, log) with:</i>							
Campaign contributions to Republicans at district level		-0.0003*** (0.000)					
State legislature is majority Republican			-0.0081*** (0.001)				
Partisan Voter Index (PVI) at district level				-0.0032*** (0.000)			
Electoral competition at district level					-0.0307*** (0.003)		
Citizen ideology score at state level						0.0007*** (0.000)	
Government ideology score at state level							0.0005*** (0.000)
Industry fixed effects	Y	Y	Y	Y	Y	Y	Y
City fixed effects	Y	Y	Y	Y	Y	Y	Y
Listing status	Y	Y	Y	Y	Y	Y	Y
Observations	676,883	612,690	676,883	653,320	653,320	668,548	668,548
R-squared	0.137	0.138	0.137	0.132	0.132	0.142	0.145

Notes: This table presents OLS estimates of the differential effect of lobbying on log of amount of PPP loan across regions that differ in terms of their political environment (i.e., political support, control, competition, and ideology). Both panels are based on equation (2). All models include a constant, the coefficient of which is not reported. We refer to the text for a full description of the variables and their corresponding sources. Robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1-percent, 5-percent, and 10-percent levels, respectively.

Table 4. Exploring the channels - Resilience to the pandemic

	Amount of PPP loan (log)					
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying status (since 2016)	0.6340*** (0.006)	0.6132*** (0.013)	0.6020*** (0.015)			
Lobbying expenditures (since 2016, log)				0.0593*** (0.001)	0.0572*** (0.001)	0.0550*** (0.002)
<i>Interaction of Lobbying status (since 2016) with:</i>						
Teleworkability (share of teleworkable jobs)		0.0468* (0.025)				
Teleworkability (share of teleworkable jobs, wage weighted)			0.0620** (0.026)			
<i>Interaction of Lobbying expenditures (since 2016, log) with:</i>						
Teleworkability (share of teleworkable jobs)					0.0052* (0.003)	
Teleworkability (share of teleworkable jobs, wage weighted)						0.0087*** (0.003)
Industry fixed effects	Y	Y	Y	Y	Y	Y
City fixed effects	Y	Y	Y	Y	Y	Y
Listing status	Y	Y	Y	Y	Y	Y
Observations	676,911	674,271	674,271	676,911	674,271	674,271
R-squared	0.137	0.136	0.136	0.131	0.130	0.130

Notes: This table presents OLS estimates of the differential effect of lobbying on log of amount of PPP loan across industries that differ in terms of their resilience to the pandemic (i.e., share of teleworkable jobs). These are based on equation (2). All models include a constant, whose coefficient is not reported. We refer to the text for a full description of the variables and their corresponding sources. Robust standard errors are in parentheses. ***, **, and * indicate statistical significance at 1-percent, 5-percent, and 10-percent levels, respectively.

Online Appendix

The Politics of the Paycheck Protection Program

Deniz Igan, Thomas Lambert, and Prachi Mishra

This online appendix provides detailed descriptions of the data download, cleaning, and matching and merging procedures used to generate the data set used in the study.

PPP lending. Data come from the SBA, as released on their website at the end of July 2020. Observations correspond to individual loans that are equal to or more than \$150,000. The identifier for the businesses that received loans are the name, location (city, congressional district, and state), legal status (e.g., sole proprietorship, corporation), and industry classification (six-digit NAICS). Given a range for the loan amount rather than the exact amount is reported (\$150,000–350,000; \$350,000–1 million, \$1–2 million, \$2–5 million, and \$5–10 million), we construct our dependent variable as the simple average of each range. We discard the loans under \$150,000 since the name of the business is suppressed for these loans. We clean the data set further by eliminating the cases with missing or invalid business and location names and dropping duplicates in terms of borrower name, borrower location, loan range, and lender name. We also manually check and correct a range of misspellings and missing values in city and state names as well as congressional district codes.

Lobbying. Data come from LobbyView, with files downloaded in September 2020. The client-level file is merged with the report-level file to create a panel data set summarizing information on the lobbying entities (name of business and the main industry it is active in) and the amount of their lobbying expenditures. We double check the entries to ensure that there are no duplicates, including due to typos in client names for which a unique firm identifier is not available.

Merging PPP and lobbying. We run a fuzzy-match algorithm (*relink* in Stata) between the clean list of PPP recipients and that of lobbying firms. To run the algorithm, we strip the business name and lobbying firm names of common words (e.g., “of”) and ensure that all names are expressed in upper cases. We then go over manually over the potential matches to ensure that they indeed refer to the same company. This exercise also involves using the location and industry information provided in the PPP data set so that we can ensure that we are not falsely matching businesses that have similar names but are distinct entities incorporated and operating in separate locations and whose core line of business is actually in different industries.

Compustat and Orbis. We follow several steps in pulling the firm balance sheet and income statement information from these data sets. First, we pull the information for the matched PPP recipients and lobbying firms using the unique identifiers (*gvkey* and *bvdid*) provided by

LobbyView. Second, for the firms that appear in the PPP data set but not in the lobbying data set (that is, non-lobbying PPP recipients), we again follow a manual matching process, similar to the one we use to find matches between PPP and lobbying data. Finally, we also pull the data for the firms that appear in the lobbying data set but not in the PPP data set (that is, lobbying non-PPP recipients). Note that this is not the full universe of companies. In other words, we do not start with Compustat/Orbis firms to find matches in PPP and LobbyView but the other way around.

Merging location characteristics. We gather information on campaign contributions at the congressional district and state level, political positioning based on previous elections at the district level, ideology and control of the legislature at the state level. The merging of this information with the firm-level PPP-lobbying-Compustat/Orbis data set is rather straightforward for the state-level variables since the PPP data set identifies the state where the loan recipient is located. For the district-level variables, we mostly rely on the congressional district information provided in the PPP data set as well as the more granular location information in the form of cities and zip codes. Specifically, we cross-check the reported district-city-zip code information against the mapping provided by the Census Bureau.

Merging industry teleworkability index. Although the PPP and lobbying data sets provide NAICS codes at the six-digit level, the teleworkability index we use is at the two-digit level, so we do the merge at the two-digit level.