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POLITICS AND THE DISTRIBUTION OF FEDERAL FUNDS: EVIDENCE FROM FEDERAL LEGISLATION IN RESPONSE TO COVID-19

Jeffrey Clemens Stan Veuger

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ABSTRACT

COVID-19 relief legislation offers a unique setting to study how political representation shapes the distribution of federal assistance to state and local governments. We provide evidence of a substantial small-state bias: an additional Senator or Representative per million residents predicts an additional \$670 dollars in aid per capita across the four relief packages. Alignment with the Democratic party predicts increases in states' allocations through legislation designed after the January 2021 political transition. This benefit of partisan alignment operates through the American Rescue Plan Act's sheer size, as well as the formulas through which it distributed transportation and general relief funds.

Jeffrey Clemens
Department of Economics
University of California, San Diego
9500 Gilman Drive #0508
La Jolla, CA 92093
and NBER
jeffclemens@ucsd.edu

Stan Veuger American Enterprise Institute 1789 Massachusetts Avenue Washington, DC 20036 stan.veuger@aei.org

I. Introduction

The COVID-19 pandemic and the economic downturn it triggered have led to a wave of federal legislation containing fiscal assistance for state and local governments. In total, federal aid to state and local governments spanned four legislative vehicles and summed to almost \$1 trillion, which is unprecedented when compared with previous crises or recessions. This aid has been distributed through a variety of channels and mechanisms, including general aid to states, general aid to local governments, and aid appropriated for specific functions of state and local government. Further, direct aid has been shaped by formulas that are designed at the discretion of the US Congress. We analyze the resulting distributions to gain insight into the channels through which political representation influences the distribution of federal funds.

We find evidence of pervasive small-state bias across each of the legislative vehicles. Adding across the four main pieces of legislation, we estimate that having an additional Senator or Representative per million residents predicts an additional \$670 dollars in combined state and local aid per capita. While this analysis relies on cross-sectional variations in representation across states, the evidence is quite strongly suggestive of a causal role for small states' disproportionate representation. The small-state bias we estimate is orthogonal to variations in the pandemic's impact on tax revenues, the labor market, and overall economic output. It is also orthogonal to the baseline size of the state and local public sector. By way of comparison with estimates in the literature, an advantage of \$670 per capita is 12.5 times the magnitude of the annual benefit of a district representative's alignment with the party of the President in "normal times," as estimated by Berry, Burden and Howell (2010).

Next, we examine the relevance of partisan control by analyzing differences in the distribution of funds associated with the March 2021 American Rescue Plan Act (ARPA) relative to legislation enacted by the previous congress. We show that arrival of the Democratic trifecta predicts a non-trivial increase in aid allocated to states whose delegations lean Democratic rather than Republican. A fully Democratic delegation predicts a \$300 per capita increase in federal funds under unified Democratic control of the federal government relative to the previous year's divided government.

A first contribution of our analysis is thus to add to the extensive body of work on the consequences of partisan control at the local and state levels (Alt and Lowry, 1994; Poterba, 1994; Ansolabehere et al., 2002; Reed, 2006; Ferreira and Gyourko, 2009; Bertocchi et al, 2020; Dynes and Holbein, 2020). Papers in this literature have investigated some of the factors we consider here. Most notably, there is prior evidence on the role of disproportionate representation (Hauk and Wacziarg, 2007; Knight, 2008) and on the alignment of a district or state's delegation with the President (Berry, Burden, and Howell, 2010) or with the majority party (Albouy, 2013). There has also been significant work on presidential efforts to maximize his number of votes in the electoral college (Wright, 1974) and on efforts to use federal spending to aid the survival of weak incumbents (Bickers and Stein, 1996). The findings from our

² The 2009 American Recovery and Reinvestment Act (ARRA), for example, included some \$225 billion for three years of fiscal relief for state and local governments between general relief and funds for specific programs and projects (Inman, 2010).

³ This is not necessarily a given. As Wright (1974) notes in the context of the allocation of resources by the Works Progress Administration: "In 1939 WPA appropriations were cut back, and Congressional pressure forced the agency to state its allocative criteria much more explicitly (though it never quite revealed a precise formula)."

analyses of the roles of both small-state bias and alignment with unified partisan control are consistent with these earlier analyses.

Through additional pieces of analysis, we provide several novel advances to the literature on the mechanisms through which shifts in political power translate into shifts in the allocation of funds. A unique aspect of our setting is that we are able to analyze four major pieces of legislation that serve the same general purpose, namely to shore up the fiscal capacity of state and local governments as they responded to the COVID-19 pandemic. This allows our analysis to focus on mechanisms other than variation in legislative priorities, which have been found to be important elsewhere. For example, Albouy (2013) finds that Republicans have a preference for defense and transportation contracts while Democrats have a preference for education dollars. Levitt and Snyder (1995) find large differences in fund disbursements at the end of a period of Democratic control, and highlight that these differences can be driven by tweaking formulas, by altering legislative priorities, or by a combination of both mechanisms.

We dig into the mechanisms through which funds can be shifted in the context of legislation targeted at the same overall priority. We show that choice of allocative formulas plays a major role. Relative to the CARES Act's population-driven formula for allocating general fiscal relief, the ARPA's unemployment driven formula skews dollars towards states with either large pandemic-driven increases in unemployment or with high baseline rates of structural unemployment. These states lean disproportionately Democratic. In addition, while we find that the Democratic party's trifecta predicts a substantial shift in transportation funds towards states with heavily Democratic delegations, we find no such shift in education funds, where aid formulas tend to be linked to pupil counts.

We also find the sheer magnitude of the ARPA's fiscal assistance package to be an important lever. Gauging the required size of the ARPA's fiscal assistance package requires drawing on analyses of the pandemic's effects on state and local government finances. The available analyses implied a need for an additional \$100 to \$200 billion at most (see e.g. Auerbach et al., 2020; Clemens, Ippolito, and Veuger, 2020; Whitaker, 2020b). Indeed, forecasts for states' summer 2021 budgeting processes revealed substantial surpluses, including a remarkable \$75.7 billion surplus forecast for California (Yamamura, 2021). While the Democratic bias in the share of funds allocated in the ARPA is modest, the choice to allocate \$500 billion rather than \$100 to \$200 billion accounts for much of the Democratic states' \$300 per capita advantage relative to Republican states.

Third, we contribute to the literature on state and local government budgets over the course of the pandemic. An initial wave of papers in this literature sought to forecast the magnitudes of the revenue shortfalls faced by various levels of government within the United States (Auerbach et al., 2020; Clemens and Veuger, 2020a, 2020b; Chernick et al., 2020; Gordon, Dadayan, and Rueben, 2020; Whitaker, 2020a; 2020b). Additional analyses have considered the pandemic's implications for spending needs (Gordon and Reber, 2020; Clemens, Ippolito, and Veuger, forthcoming). Analyses have also explored the effects of initial state and local aid allocations on government employment (Green and Loualiche, 2020). We offer the first analysis to focus on determinants of federal allocations to state and local governments across all four major pieces of COVID-response legislation, which were of unprecedented scope.

The paper proceeds as follows. Section 2 presents the data. Section 3 presents our empirical framework and analysis of small-state bias. Section 4 does the same for the consequences of unified Democratic control after the 2020 elections. Section 5 concludes.

II. Data

Our analysis is centered on four major pieces of legislation during the COVID-19 pandemic, each of which directed federal relief to state and local governments. These are the CARES Act, the Families First Coronavirus Response Act (FFCRA), the Response and Relief Act (RRA), and the American Rescue Plan Act (ARPA). Readers interested in detailed legislative histories can find a summary of key dates in Appendix Figure A1. For our purposes, the most crucial detail is that the CARES Act, the FFCRA, and the RRA were passed by the 116th Congress and signed by President Trump, while the ARPA was passed by the 117th Congress and signed by President Biden. Taken together, these packages constituted a massive relief effort that provided as much as \$6 trillion in income support to households, a mix of loans, grants, and tax relief to firms and non-profits, additional funding for (public) health efforts, and intragovernmental grants to subnational governments. This final category includes around \$900 billion in funds for state, local, territorial, and tribal governments, as well as the District of Columbia. We focus on the first two types of subnational governments here, namely those with full congressional representation.

We use data from the Committee for a Responsible Federal Budget (2021) to summarize the funds each bill appropriated to state and local governments. We complete these data with information from several sources. We obtain information on the distribution of transit funds for the RRA and ARPA from the US Federal Transit Administration (2021a, 2021b). Data on the allocation of ARPA assistance to non-public schools come from the US Office of Elementary and Secondary Education (2021). We obtain estimates of ARPA section 9817 matching increases from Chidambaram and Musumeci (2021). We approximate the allocation of ARPA section 9819 federal matching funds for uncompensated care using FY2021 estimates of federal disproportionate share hospital allotments by state from the Medicaid and Chip Payment Access Commission (2021). We then present these data as funds directed to state governments, funds directed to state and local educational agencies, and funds directed to other local governments. The

⁴ Specifically, we use the FY2021 disproportionate share hospital federal allotment estimates, calculated without FFCRA adjustments, as presented in Table 5A (Medicaid and Chip Payment Access Commission, 2021). Section 9813 of the ARPA allocates \$1.2B for crisis mental health matching funds that the Committee for a Responsible Federal Budget (2021) classifies as state and local aid. We were unable to find estimates of how these funds will be allocated.

⁵ The CARES Act contains funds allocated under the Coronavirus State and Local Relief Fund that go to both state and local governments, funds allocated under the Elementary and Secondary Relief Fund that go to local governments, funds allocated under the Governor's Emergency Education Relief Fund and Innovation Grants that go to states, election funds allocated to states, and transit funds allocated under sections 5307 and 5311 formulas that go to localities. FFCRA contains Medicaid matching funds that go to states. RRA contains funds allocated under the Elementary and Secondary Relief Fund that go to local governments, funds allocated under the Governor's Emergency Education Relief Fund that go to states, transit funds allocated under sections 5307, 5310, and 5311 formulas to localities, and section 133 formula transportation funds to states. ARPA contains funds allocated under the Coronavirus State and Local Relief Fund that go to both state and local governments, Elementary and Secondary Relief Fund that go to local governments, funds allocated under the Governor's Emergency Education Relief Fund that go to states, transit funds allocated to localities using section 5307, 5310, and 5311 formulas as

funds can also be divided across three functional categories, namely transportation funds, education funds, and general fiscal assistance (defined here to include all other fiscal assistance).

Figure 1 provides an initial look at the distribution of funds across the four pieces of legislation. Dollar values are expressed on a per capita basis and are divided into general relief funds, transportation funds, and education funds. Panel A provides an initial look at bias in favor of small states, which benefit from over-representation in the US Congress. The small state bias emerges primarily through general relief funds, which were distributed through formulas featuring floor functions. Panel B provides an initial sense of partisan advantage. In particular, it is apparent that transportation dollars skew towards Democratic leaning states, that education dollars exhibit very little partisan skew, and that general relief dollars exhibited a strong partisan skew under the ARPA, but not in the earlier pieces of legislation. The maps in Figure A2 reinforce both of these initial impressions. They reveal that small states and mid- to large-sized Democratic-leaning states appear repeatedly in the top quintiles of the bills' aid distributions, while mid- to large-sized Republican-leaning states appear repeatedly in the bottom quintiles.

Our analysis focuses on two types of dependent variables. The first type expresses each bill's funding on a per capita basis. The second type focuses on how each states' share of each bill's funding compares with its share of the national population. We construct this "proportional share" of funds for each state in each bill as follows:

Proportional Share Of
$$Bill_{ib} = \frac{Funds_{ib}}{Pop_i} / \sum_{i} Funds_{ib}$$
 (1)

In equation (1), $Funds_{ib}$ is the amount of money allocated to state i in bill b, and Pop_i is the 2020 population in state i. When $Proportional\ Share\ Of\ Bill_{ib}$ is greater than (less than) 1, a state has received a disproportionately large (small) share of the funds in bill b.

Our main independent variables relate to the distribution of power at the federal level. We use data from Lewis (2021) to construct the share of US House and US Senate seats held by each political party in the 116th Congress and the 117th Congress. We then average the Democratic Party's share of House and Senate seats in each state to construct the Democrats' congressional share.⁶ Values for the 116th Congress map to the CARES Act, FFCRA, and RRA, and values for the 117th Congress map to ARPA. We use a second political variable that interacts the Democratic party share with a dummy that takes a value of 1 in the 117th Congress, signifying the switch to unified Democratic Party control of the House, Senate, and Presidency. Our third political variable measures "small-state bias" using the total number of US Senate seats and US House seats per 1,000,000 state residents. Smaller states have more representatives per 1,000,000 people, which reflects their disproportionate share of seats in the Senate and, to a lesser degree, in the House.

well as capital investment grants, and Medicaid matching increases for uncompensated care (section 9819) and community based services (section 9817) that go to states.

⁶ We count independent members of congress as Democrats if they caucus with the Democrats. We also count the two Arizona Senate seats as 50 percent Democratic in the 116th Congress, Georgia's two Senate seats as 100 percent Democratic in the 117th Congress, and CA-25 and NJ-2 as Republican seats in the 116th Congress.

A second set of independent variables describes the economic shocks and fiscal projections that contributed to estimates of states' fiscal needs as driven by the pandemic. To proxy for state-specific revenue shocks, we add Whitaker's (2020b) estimates of the realized decline in state and local government revenues in fiscal year 2020 to the projected revenue loss in fiscal year 2021. For the latter, we use estimates from Whitaker's "slow" recovery scenario. Note that Whitaker's combined estimate of state and local government revenue losses, spanning the 2020 and 2021 fiscal years, is \$312 billion, which is far less than the \$900 billion ultimately allocated by the federal government. To measure the unemployment shock from the pandemic, we purposefully adopt the ARPA's formula for distributing general relief, which is a function of the average number of unemployed persons per capita during the fourth quarter of 2020 (US Bureau of Labor Statistics, 2021). Finally, we proxy at a broad level for declines in economic activity using the percent change in total personal income between the fourth quarter of 2019 and the fourth quarter of 2020.

Our final pair of independent variables describe the outlays of state and local governments. We use the 2018 Survey of State and Local Government Finances (US Census Bureau, 2019a) to sum together direct expenditures of state and local governments. We also use the total acres of federal land by state, as reported in Vincent et al. (2020), to proxy for federal spending associated with lands under direct control of the federal government. We report both variables on a per capita basis.

Table 1 presents summary statistics on the full set of variables that are utilized in our analysis. Note, as can be seen in Figure 1, that not all forms of relief appeared in all four pieces of legislation. Consequently, some of the fiscal variables we analyze are associated with 150 observations, while others are associated with 200 observations. Additional details on the definitions of key variables can be found in Appendix Table A1.

III. Small-State Bias

In this section we commence our empirical analysis by separately analyzing each of the CARES Act, the FFCRA, the RRA, and the ARPA. Table 2 presents descriptive evidence on the predictors of the distribution of federal funds, across states, for each of these four legislative vehicles. Specifically, it presents estimates of the following equation:

$$Bill\ Funds_i^b = \alpha + \beta (Dem.\ Deleg.\ Share)_i + \gamma (Representation\ Per\ Cap.)_i + S_i \delta + \varepsilon_i.$$
 (2)

In equation (2), $Bill\ Funds_i^b$ is the total per capita funding to state and local governments in state i from bill $b.\ Dem.\ Deleg.\ Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state $i.\ Representation\ Per\ Cap_i$ is the total number of US representatives and US senators divided by the population of state $i.\ This\ variable\ varies\ primarily\ with the US\ Congress's relative over-representation of small states, which is particularly strong in the senate. <math>S_i$ is a vector of additional state-level covariates. These include the predicted per capita tax shortfall for state and local governments as estimated by Whitaker (2020), the average number of unemployed persons per capita during the fourth quarter of 2020, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the per capita total direct expenditures of state and local governments, and the acres of federal lands per capita. ε_i is an error term. Standard errors are robust to heteroskedasticity. For our primary estimates, observations are

weighted by state population. Appendix table A2 reveals that we obtain quite similar results when we weight each observation equally.

Columns 1 and 2 of Table 2 report results for the CARES Act, Columns 3 and 4 report results for the FFCRA, Columns 5 and 6 report results for the RRA, and Columns 7 and 8 report results for the ARPA. The most striking finding in Table 2 is the evidence that over-represented states have benefited disproportionately from federal dollars. Over-represented states have received more federal dollars per resident than have under-represented states in all four of the COVID-19 fiscal relief packages, though the estimates are not statistically distinguishable from zero for the RRA. Further, contrasting the sparse specifications with the specifications that include additional covariates, the estimates are quite similar. That is, the correlation between over-representation and federal dollars is not driven by spurious correlation patterns involving states' revenue shocks, economic shocks, the size of their public sector, or acreage of federal land. Put differently, the small state advantage is more or less orthogonal to a fairly extensive set of proxies for dimensions of state and local government funding needs. In total, an additional representative per million residents predicts an additional \$670 to \$780 per state resident across the four pieces of legislation. This is the advantage, for example, of Montana's roughly 1 million residents, who enjoy representation from 2 Senators and 1 representative, relative to Arkansas's roughly 3 million residents, who enjoy only 2 representatives per million on account of their 2 Senators and 4 representatives. Note that \$670 per capita is quite large in comparison with related effects as estimated in the literature on distributive politics. For example, it is 12.5 times the magnitude of the annual benefit of a district's alignment with the party of the President, as estimated by Berry, Burden and Howell (2010). A back-of-the-envelope calculation suggests that, relative to the status quo, equal representation would have shifted some \$30 billion away from small states across the four legislative vehicles.8

Appendix Tables A2, A3, A4, and A5 provide evidence on the robustness of this initial finding. Table A2 reveals that the small-state bias is not particularly sensitive to whether or not we weight each observation according to a state's population. For Table A3, we stack the observations associated with the four pieces of legislation and demonstrate that our results are insensitive to adding each of the covariates from our more heavily controlled specifications one at a time. Tables A4 and A5 reveal that the estimates in Tables 2 and A3 are not driven by the skewness of the representation variable, as a logged (and thus substantially less skewed) version of this variable has essentially the same degree of predictive power.

The sparse specifications in Table 2 reveal that federal fiscal assistance has tended to be positively correlated with the Democratic Party's share of each state's congressional delegation. Further, this correlation was particularly strong in the ARPA, as Column 7 shows. This set of correlations, however, is

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⁷ Berry Burden and Howell (2010) write: "To put this advantage in perspective, note that districts receive on average \$575 million each year in high-variation program spending. The estimated 4% reward for the president's co-partisans, therefore, amounts to about \$23 million annually per district, or roughly \$40 per capita." Inflation adjusting Berry, Burden, and Howell's estimates, which are expressed in 2006 dollars, yields an estimate of \$53 per capita, which is just less than 1/12th of our \$670 estimate.

⁸ To arrive at this number, we first calculate the absolute deviation of each state's averaged number of members of Congress per million residents from the weighted mean across states. We multiply this number by the coefficient in Column 7 of Appendix Table A3 to arrive at the impact per resident per bill. We then aggregate across bills and states to estimate a grand total of \$29.9 billion.

sensitive to whether we include the more extensive set of covariates in the regression. Among these other covariates, the strongest and most consistent correlate of federal dollars is the unemployment variable, which has particularly strong predictive power for dollars allocated through the ARPA. These correlations are consistent with a targeting of states which had high unemployment rates, which may have been amplified by the newly increased power of those states' representatives. It is to the role of the shift in federal power that we turn in the following section.

IV. Partisanship

Our analysis of the relationship between partisan political representation and the distribution of fiscal assistance across states takes advantage of the sharp change in partisan control that occurred following the November 2020 election and subsequent Senate runoff elections in Georgia. In these elections, the Democratic Party secured control of the Senate and the White House, in addition to the House of Representatives. This change enables us to estimate standard panel specifications that control for all time-invariant factors that may differ across states. The estimates presented in Table 3 and 4 are of equations of the following form:

$$Outcome_{ib}^c = \gamma(Dem. Deleg. Share * Unified)_{ib} + \beta(Dem. Deleg. Share)_{ib} + \lambda_b + \lambda_i + \varepsilon_{ib}. \tag{3}$$

In equation (3), $Outcome_{ib}^{c}$ represents fiscal outcomes in funding category c in state i and bill b. We analyze two outcomes of interest, namely federal dollars per capita and the "Proportional Share of Bill" variable described by equation (1).

Table 3 sorts funds according to the type of state or local government that received the funds. The categories of funds in Table 3 are the total amount across state and local governments (Columns 1 and 5), funds for state governments (Columns 2 and 6), funds for counties and municipalities⁹ (Columns 3 and 7), and funds for educational agencies (Columns 4 and 8). The dependent variables in Columns 1 through 4 are expressed in dollars per state resident. The dependent variables in Columns 5 through 8 are expressed as the ratio of the state's share of funds in category *c* relative to its share of the country's total population. Table 4 follows a similar structure, but with funds allocated according to their functional categories: general relief funds (Columns 1 and 4), transit funds (Columns 2 and 5), and education funds (Columns 3 and 6).

The results in Table 3 and 4 provide evidence on a nuanced set of channels through which political representation can shape the distribution of federal funds. First, the estimate in Column 1 of Table 3 indicates that the ARPA, which was designed under uniform Democratic control of the federal government, directed more funds towards states with heavily Democratic delegations compared to the CARES Act, the FFRCA, and the RRA. Relative to states with entirely Republican delegations, residents of states with entirely Democratic delegations are predicted to receive, on average, over \$300 per capita more through the ARP Act than they would have had control over Congress and the executive branch not been unified in Democratic hands.¹⁰

⁹ This category also includes other local governments that are not recipients of funds from state educational agencies, such as utility districts.

¹⁰ Appendix Table A6 shows that we estimate a moderately smaller differential of just under \$200 when we weight observations equally rather than weighting according to state population.

Through what mechanisms did the ARPA shape the distribution of federal funds relative to earlier pandemic relief legislation? The additional funds could be driven by the ARP's sheer magnitude, by the formulas through which those funds were distributed, or by its allocation across functional categories and levels of government. We provide evidence on these mechanisms through several pieces of analysis.

In Columns 2 through 4 of Table 3, we divide federal fiscal assistance into funds directed to state governments, funds directed to local governments within each state, and funds directed to educational agencies for distribution to school districts, charter schools, and other recipients. We find that the state and non-educational local components of federal aid drive the overall ARP Act advantage conferred on states with more heavily Democratic delegations. Funding for educational agencies, in contrast, do not differ significantly between states with different rates of Democratic representation.

In Columns 5 through 8 of Table 3 we present estimates of equation (3) for which we have replaced the outcome variable of dollars per capita with a variable that captures the proportionality of each state's allocation. Specifically, we use the variable described in equation (1), which describes the extent to which states received a share of each bill's fiscal relief that was either greater or less than its share of the population. The variable is constructed such that a value of 1 implies that a state's share of a bill's funds was exactly equal to its share of the national population, while a value of 2 would imply a share twice its population share.

Column 5 of Table 3 reveals that, on a proportional basis, the distribution of ARPA funds was only modestly more tilted towards states with Democratic party delegations than were previous bills. In the aggregate, this indicates that the significant increases in relief funds associated with unified party control were driven primarily by the magnitude of ARPA relief relative to relief in the earlier bills. Although the aggregate masks substantial shifts in the distribution of funds *within* key functional categories, Democratic states did not receive dramatically larger shares of ARPA funds than they received from the earlier bills.

Because Democratic states are modestly advantaged by the totality of state and local aid, a larger bill will mean more dollars for Democratic states than for Republican states. Interpreting the magnitude of ARPA relief requires drawing on estimates of state and local government needs. By the time the ARPA had been drafted, essentially all analysts had arrived at the conclusion that only modest additional fiscal relief was needed (see e.g. Clemens, Ippolito, and Veuger, 2020). Estimates of remaining need would have implied a relief package similar in magnitude to the state and local relief found in the CARES, RRA, and FFCRA, and the ARPA's \$500 billion in aid exceeded even the largest estimates of remaining need. These analyses have been borne out by subsequent forecasts for states' budgets in the coming year, with California's initial forecasts projecting an astonishing \$75.7 billion surplus (Yamamura, 2021). The ARPA's magnitude should, in this sense, be interpreted as a political choice, and one that previous analyses in the literature on distributive politics would have struggled to detect. Analyses in the literature do not typically have directly applicable measures, comparable across time and place, of the amount of need associated with specific legislative priorities.

Columns 6 through 8 of Table 3 reveal that the ARPA's overall distribution masks substantial shifts in the distribution of funds for educational agencies versus other state and local government entities. The ARPA's state government relief and, to a lesser extent, the funds distributed to counties and municipalities, were substantially more skewed towards Democratic states than were funds from the

earlier bills. In contrast, the ARPA's relief for educational agencies was slightly more skewed towards Republican states than were funds from earlier bills.

Table 4 presents results in which we divide federal relief funds according to their functional purpose rather than according to the government entity that received them. Results in Columns 1 and 4 describe the distribution of general relief funds, while Columns 2 and 5 describe transportation funds and Columns 3 and 6 describe education funds. Columns 1 through 3 analyze spending expressed in dollars per state resident while Columns 4 through 6 are expressed in terms of each state's share of funds relative to its share of the country's population.

Columns 1 and 2 reveal that the shift in the distribution of dollars was driven primarily by general relief funds. Columns 4 and 5 convey, in contrast, that the proportional distribution of transit dollars was much more heavily skewed towards Democratic states under the ARPA than were general relief funds. These results are tied together by the fact that general relief funds account for a much larger share of overall fiscal assistance than do transportation funds, as shown earlier in Figure 1. In contrast with general relief and transportation dollars, we find no evidence of a shift in the partisan skew of education dollars. Indeed, as shown earlier in Figure 1, education dollars were distributed evenly across the states in each of the legislative vehicles in which they appeared.

What legislative mechanisms drive these shifts in the distribution of funds? An inspection of the legislation reveals that the differential skew of fiscal relief is driven in large part by formula design. With respect to general relief funds, the ARPA's unemployment-driven formula steered dollars to states with high levels of unemployment, which reflect a mix of pre-pandemic and pandemic-driven factors. Among the nation's most populous states, for example, Democratic-leaning New York and California have had unemployment rates well above the national average, while Republican leaning Texas has been quite close to the national average and Florida has been well beneath it. The allocation of transportation funds is more complicated, as it reflects a combination of formula-driven and discretionary allocations. The Section 5307 Urbanized Area Apportionment formula, for example, was used to allocate a large share of CARES Act, RRA, and ARPA transportation dollars. This formula is driven to a significant degree by estimates of bus mileage and skews quite strongly towards states with Democratic party delegations. The lack of a partisan skew in education dollars similarly reflects the underlying allocation formulas. These formulas, principally those of Title I, Part A of the Elementary and Secondary Education Act, place a heavy weight on headcounts of eligible children, who are typically children from low-income households.

V. Discussion

An important question in both the political economy and political science literatures is how changes in the distribution of federal funds are achieved. That is, what are the legislative mechanisms through which changes in the distribution of funds emerge? As past research has pointed out, key mechanisms can include agenda-setting power, standard legislative logrolling, and a governing party's ability to advance agendas with policy priorities that target their constituents' needs and pocketbooks. Our

¹¹ Appendix Table A7 shows similar results when we weight observations equally rather than weighting according to state population.

context is of interest in part because it provides an opportunity to assess distributive politics in the context of multiple, salient pieces of legislation with substantial funds dedicated to the same broad end, namely stabilization and support for state and local governments.

Our analysis reveals an important role not just for the distribution of funds in specific legislative vehicles, but also for their size. While the ARPA was only modestly biased toward heavily Democratic states, its large size relative to the 2020 packages induced larger absolute transfers to those states than did the previous packages (Tables 3 and 4). This is reminiscent of the mechanism through which the U.S. fiscal system can be at the same time both more progressive and less redistributive than the systems of other OECD countries: simply by being smaller (Slavov and Viard, 2016). Analyses of how the budgetary pie is distributed will typically fail to detect this particular mechanism, namely the size of the expenditure devoted to specific legislated ends.

Our other main result is more in line with previous work in this area: representation, and in particular the overrepresentation of small states, matters quite meaningfully for the distribution of federal funds across states and localities. We find this small-state bias to be of substantial economic significance: having an additional Senator or Representative per million residents predicts an additional \$670 dollars in aid per capita across the four relief packages combined. This is equivalent to 2% of U.S. income per capita (U.S. Census Bureau, 2019b). Across all four bills, we estimate that the small-state bias altered the allocation of around \$30 billion in relief funds, which is equivalent to the funding allocated to Pfizer, Moderna, the GAVI Vaccine Alliance, Regeron, Johnson & Johnson, AstraZeneca, GlaxoSmithKline, Eli Lily and Company, Merck, and Novavax for the development, manufacturing, and distribution of COVID-19 vaccines and therapeutics.

The impacts of representation on the distribution of funds can be viewed as deviations from the core purpose of fiscal relief, which is to stabilize state and local budgets in the face of macroeconomic shocks. In the U.S. context as constituted, automatic stabilizers for the budgets of state and local governments flow primarily through the Medicaid program and states' Unemployment Insurance programs. Such mechanisms have the benefit of reducing the need for ad hoc, and potentially politicized, policy making when negative shock hit. At the same time, the design of automatic stabilizers involves choices that are less straightforward than their proponents sometimes imply, and that must also be designed through the political process. Whether automatic or ad hoc stabilizers better target the jurisdictions with greatest needs depends on the mix of economic and political factors that shape their design, as well as the nature of the negative shocks we ultimately face.¹²

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¹² For a discussion of Medicaid in this context, see Clemens, Ippolito, and Veuger (forthcoming). For a discussion of different metrics to which automatic stabilizers could be tied and how they performed during the COVID-19 pandemic, see Clemens and Veuger (2020b).

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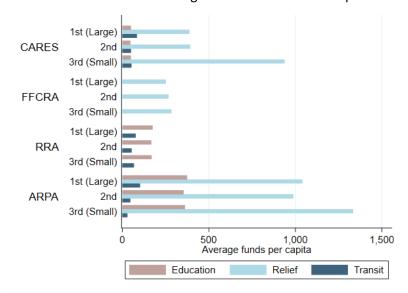
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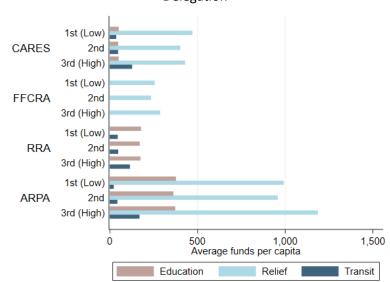
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Figure 1: Distribution of COVID Relief Funds per Capita by Bill

Panel A: States Divided into Terciles According To Senate and House Representation Per Capita



Panel B: States Divided into Terciles According the Democratic Party's Share of the Congressional Delegation



Note: This figure shows funds per capita across the four COVID-19 bills for states by type. Total education, relief, and transit funds are shown for the CARES Act, Families First Coronavirus Response Act, Response and Relief Act, and American Rescue Plan Act on a per capita basis. Panel A groups states into terciles by the number of senators and representatives per million people, with the 1st tercile containing the largest states and the 3rd tercile containing the smallest states. Panel B groups states into terciles by the share of their congressional delegation that are Democrats, with the 1st tercile containing less Democratic states and the 3rd tercile containing more Democratic states. This figure uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), US Census Bureau (2020), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), and US Office of Elementary and Secondary Education (2021).

Table 1: Summary Statistics

	N	μ	σ	Min	Max
Total Funds per Capita	200	636	541	72	2,903
State Funds per Capita	200	321	249	29	2,160
Local Funds per Capita	150	420	334	56	1,354
Relief Funds per Capita	150	576	374	72	2,369
Transit Funds per Capita	150	76	66	4	361
Education Funds per Capita	150	197	141	28	573
Proportional Share of Total Funds	200	1	0.28	0.28	4.1
Proportional Share of State Funds	200	1	0.36	0.28	6.2
Proportional Share of Local Funds	150	1	0.34	0.28	2.2
Proportional Share of Relief Funds	150	1	0.31	0.28	5.1
Proportional Share of Transit Funds	150	1	0.84	0.04	4.3
Proportional Share of Education Funds	150	1	0.20	0.54	1.6
Senators and Reps per 1,000,000	200	1.6	0.42	1.3	5.2
Dem Congressional Share	200	0.53	0.35	0	1
Unified Control	200	0.25	0.43	0	1
Tax Shortfall per Capita	200	945	247	633	2,613
Average Q4 2020 Unemployment per Capita	200	0.03	0.01	0.02	0.05
Change in Personal Income Q42019 to Q42020	200	0.03	0.01	-0.01	0.06
Total State and Local Spending per Capita	200	11,533	2,908	7,734	22,722
Acres of Federal Lands per Capita	200	1.9	15	0.003	305

Note: This table presents summary statistics for the independent and dependent variables used in the main text for the panel sample that includes all four COVID-19 bills. This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020).

Table 2: Estimates of Relationship between Total State and Local Funds per Capita and Congressional Control by COVID Bill

_	CAI	RES	FF	CRA	F	RRA		ARPA
_	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Senators and Reps per 1,000,000	370.9***	380.4***	51.88***	51.58**	7.379	14.41	236.9***	333.8***
	(40.24)	(40.39)	(17.72)	(19.57)	(15.19)	(12.09)	(60.11)	(41.66)
Dem Congressional Share	96.56**	-64.9	68.39*	-21.94	64.66	-75.33***	393.9***	-93.49
	(44.77)	(56.07)	(35.98)	(34.14)	(38.99)	(21.57)	(108.8)	(59.01)
Tax Shortfall per Capita		0.0191		-0.143***		-0.0414		-0.173
		(0.114)		(0.0462)		(0.0268)		(0.105)
Average Q4 2020 Unemployment		5,439**		99.38		2,686**		22,537***
per Capita		(2,627)		(1,364)		(1,236)		(3,246)
Change in Personal Income		1,102		-1,792***		-1,570**		-2,947*
Q42019 to Q42020		(1,113)		(466.3)		(662.9)		(1,692)
Total State and Local Spending		0.0164		0.0244***		0.0201***		0.0527***
per Capita		(0.0111)		(0.00408)		(0.00456)		(0.0116)
Acres of Federal Lands per Capita		0.939*		-0.0263		-0.260		-1.163*
		(0.530)		(0.296))		(0.221)		(0.639)
Observations	50	50	50	50	50	50	50	50

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020) to estimate equations of the following form for the CARES Act, Families First Act, Recovery and Relief Act, and American Rescue Plan Act separately:

 $BillFunds_i^b = \alpha + \gamma (Representatives \ Per \ Million.)_i + \beta (Dem. \ Deleg. \ Share)_i + S_i \delta + \varepsilon_i$

Where $BillFunds_i^b$ is the total funding to state and local government in state i and bill b. $Representatives\ Per\ Million._i$ is the total number of US representatives and US senators divided by the population estimate for 2020 for state i in millions of people. $Dem.\ Deleg.\ Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i. Columns 2, 4, 6, and 8 include S_i , which is a vector of state-level controls. These include the predicted tax shortfall for state and local governments divided by the state population, the average number of unemployed persons each month in the fourth quarter of 2020 per capita, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the total direct expenditures from state and local governments per capita, and the acres of federal lands per capita for state i. ε_i is an error term. Observations are weighted by state population and standard errors are clustered by state. Columns 1 and 2 report results for the CARES Act, Columns 3 and 4 report results for the Families First Coronavirus Response Act, Columns 5 and 6 report results for the Recovery and Relief Act, and Columns 7 and 8 report results for the American Rescue Plan Act. Average total funds per person are \$546, \$257, \$243, \$1,499 for the CARES Act, Families First Act, Recovery and Relief Act, and American Rescue Plan Act, respectively.

**** p<0.01, *** p<0.05, * p<0.1

Table 3: Panel Estimates of the Relationship between COVID Funds and Political Control by Level of Government

		Fun	ds per Capita		Proportional Share of Funds					
	Total	State	Counties and Municipalities	Educational Agencies	Total	State	Counties and Municipalities	Educational Agencies		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
Unified x Dem	338.2***	189.4***	209.4***	-23.00	0.0521	0.395***	0.369*	-0.0304**		
Congressional Share	(91.20)	(45.09)	(68.88)	(33.26)	(0.0631)	(0.114)	(0.198)	(0.0126)		
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ		
State Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ		
Observations	200	200	150	150	200	200	150	150		

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), US Census Bureau (2020), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), and US Office of Elementary and Secondary Education (2021) to estimate equations of the following form:

$$Outcome_{ib}^c = \alpha + \beta(Dem. Deleg. Share * Unified)_{ib} + \gamma(Dem. Deleg. Share)_{ib} + \lambda_b + \lambda_i + \varepsilon_{ib}$$

Where $Outcome_{ib}^c$ is funding in category c in state i and bill b. Funds per capita for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies are the dependent variables in Columns 1 to 4, respectively. In Columns 5 to 8, $Outcome_{ib}^c$ is $Proportional\ Share\ Of\ Bill_{ib}$, which is the ratio of state i's share of funding in category c to state i's share of the US population in bill b. Columns 5, 6, 7, and 8 show this proportional share of funds for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies, respectively. $Dem.\ Deleg.\ Share_{ib}$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i when bill b was passed. $Unified_b$ is a dummy that takes a value of 1 when the Democratic Party assumes unified control of the US House, Senate, and Presidency in 2021. We interact this dummy variable with $Dem.\ Deleg.\ Share_{ib}$. λ_b and λ_i represent state and bill fixed effects, respectively. ε_{ib} is an error term. Observations are weighted by state population and standard errors are clustered by state. Average funds per capita across all four bills are \$615, \$399, \$287 for total, state, and local funds, respectively. All proportional shares average to 1. **** p<0.01, *** p<0.05, * p<0.1

Table 4: Panel Estimates of the Relationship between COVID Funds and Political Control by Type of Funds

	F	unds per Cap	ita	Propo	rtional Share	of Funds
	Relief	Transit	Education	Relief	Transit	Education
	(1)	(2)	(3)	(4)	(5)	(6)
Unified x Dem Congressional Share	248.1***	77.86***	-22.76	0.155**	0.750***	-0.00239
	(50.55)	(20.03)	(32.75)	(0.0767)	(0.195)	(0.0139)
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ
State Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ
Observations	150	150	150	150	150	150

This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), US Census Bureau (2020), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), and US Office of Elementary and Secondary Education (2021) to estimate equations of the following form:

$$Outcome_{ib}^c = \alpha + \beta(Dem. Deleg. Share * Unified)_{ib} + \gamma(Dem. Deleg. Share)_{ib} + \lambda_b + \lambda_i + \varepsilon_{ib}$$

Where $Outcome_{ib}^c$ is funding in category c in state i and bill b. Funds per capita for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies are the dependent variables in Columns 1 to 3, respectively. In Columns 4 to 6, $Outcome_{ib}^c$ is $Proportional\ Share\ Of\ Bill_{ib}^c$, which is the ratio of state i's share of funding in category c to state i's share of the US population in bill b. Columns 4, 5, and 6 show this proportional share of funds for relief, funds to transit, and funds to education, respectively. $Dem.\ Deleg.\ Share_{ib}$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i when bill b was passed. $Unified_b$ is a dummy that takes a value of 1 when the Democratic Party assumes unified control of the US House, Senate, and Presidency in 2021. We interact this dummy variable with $Dem.\ Deleg.\ Share_{ib}$. λ_b and λ_i represent state and bill fixed effects, respectively. ε_{ib} is an error term. Observations are weighted by state population and standard errors are clustered by state. Average funds per capita across all four bills are \$576, \$76, and \$197 for relief, transit, and education funds, respectively. All proportional shares average to 1.

**** p<0.01, *** p<0.05, * p<0.1

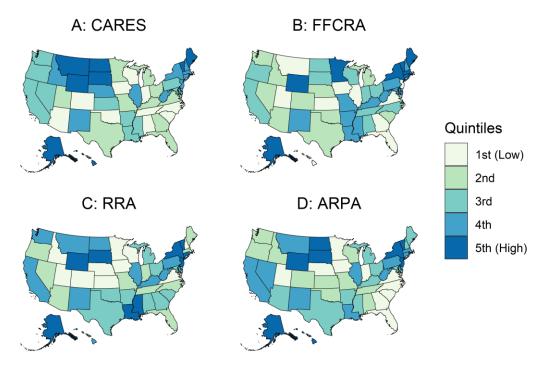
Appendix

Figure A1: Legislative Timeline for COVID Relief Bills with State and Local Government Relief Funds

Bill	Action	Date	Vote
Response and Relief Act	Passed by the House (as the Consolidated Appropriations Act, 2021)	January 10, 2019	Voice
CARES Act	Passed by the House (as the Middle Class Health Benefits Tax Repeal Act of 2019)	July 17, 2019	419-6
Response and Relief Act	Passed by the Senate	January 15, 2020	UC
Families First Coronavirus Response Act	Passed by the House	March 14, 2020	363-40-1
Families First Coronavirus Response Act	Passed by the Senate	March 18, 2020	90-8
Families First Coronavirus Response Act	Signed by the President	March 18, 2020	
CARES Act	Passed by the Senate	March 25, 2020	96-0
CARES Act	Signed by the President	March 27, 2020	
Election Day	US Congressional and Presidential Elections Held	November 3, 2020	
Response and Relief Act	Resolved differences in the House	December 21, 2020	359-53
Response and Relief Act	Resolved differences in the Senate	December 21, 2020	92-6
Response and Relief Act	Signed by the President	December 27, 2020	
Start of the New Congress	Start of the 117 th Congress	January 3, 2021	
Inauguration Day	President Joseph Biden Inaugurated as the 45 th President	January 20, 2021	
American Rescue Plan Act	Passed by the House	February 27, 2021	219-212
American Rescue Plan Act	Passed by the Senate	March 6, 2021	50-49
American Rescue Plan Act	Signed by the President	March 11, 2021	

Note: This figure shows the legislative histories of the four COVID-19 bills that include funds for state and local governments: the CARES Act (HR 748), Families First Coronavirus Response Act (HR 6210), Recovery and Relief Act (HR 133), and American Rescue Plan Act (HR 1319). Voice and UC refer to voice votes and unanimous consent, respectively. The legislative action histories, dates, and vote counts are from Congress.gov.





Note: This figure shows the quintiles of total state and local government funds per capita for the 50 US states by bill. The quintiles are shown for the CARES Act, Families First Act, Recovery and Relief Act, and American Rescue Plan Act in panels A, B, C, and D respectively. The total state and local government funds are from Committee for a Responsible Federal Budget (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), US Federal Transit Administration (2021a, 2021b) and population estimates for 2020 come from US Census (2020).

Table A1: Variable Descriptions

	Table A1: Variable Descrip	
Variable	Description	Source
Bill Funds per Capita	Funds appropriated to each state by Congress in COVID-19 relief bills divided by the 2020 state population.	Committee for a Responsible Federal Budget (2021); US Federal Transit Administration (2021a, 2021b); US Census Bureau (2020); Chidambaram and Musumeci (2021); Medicaid and Chip Payment Access Commission (2021); US Office of Elementary and Secondary Education (2021)
Proportional Share of Bill Funds	The share of funds allocated in each bill for each state divided by the state's share of the national population.	Committee for a Responsible Federal Budget (2021); US Federal Transit Administration (2021a, 2021b); US Census Bureau (2020); Chidambaram and Musumeci (2021); Medicaid and Chip Payment Access Commission (2021); US Office of Elementary and Secondary Education (2021)
Dem Congressional Share	The average of the share of House seats for Democrats and the share of Senate seats for Democrats in each state.	Lewis (2021)
Senators and Reps per 1,000,000	Number of House plus the number of Senate seats per 1,000,000 people in each state.	US Census Bureau (2020), Lewis (2021)
Unified	A dummy that takes a value of 1 when the Democrats gained unified control of the government in the 117th Congress.	Lewis (2021)
Tax Shortfall per Capita	Estimated tax shortfall for state and local governments divided by the population in each state.	Whitaker (2020)
Average Q4 2020 Unemployment per Capita	Average number of unemployed persons in each state between November 2020 and December 2020 divided by the population.	US Bureau of Labor Statistics (2021); US Census Bureau (2020)
Change in Personal Income Q42019 to Q42020	The percent change in real personal income between Q4 2019 and Q4 2020 in each state. Personal income is deflated by the personal consumption expenditures chained price index (PECEPI).	US Bureau of Economic Analysis (2021)
Total State and Local Spending per Capita	The total direct expenditures of state and local governments in each state divided by the population in that state.	US Census Bureau (2019)
Acres of Federal Lands per Capita	The total acreage of federal lands in each state divided by the population of that state.	Vincent et al. (2020)

Table A2: Estimates of Relationship between Total State and Local Funds per Capita and Congressional Control by COVID Bill,
Unweighted

			Cilweigiit					
	CA	RES	FF	CRA	R	RA	Al	RPA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Senators and Reps per 1,000,000	492.2***	466.7***	67.51***	45.96**	31.53***	18.70*	362.8***	376.8***
	(22.55)	(29.90)	(19.00)	(18.86)	(10.95)	(11.14)	(38.18)	(42.60)
Dem Congressional Share	28.54	-8.282	73.30**	77.86	10.07	-50.30**	254.3***	-83.16
	(51.08)	(61.25)	(36.38)	(47.59)	(24.89)	(23.81)	(82.42)	(75.03)
Tax Shortfall per Capita		0.0513		-0.104**		-0.0369*		-0.0902
		(0.0731)		(0.0473)		(0.0213)		(0.0899)
Average Q4 2020 Unemployment		2,939		-2,916		2,376**		20,094***
per Capita		(3,042)		(2,108)		(1,147)		(4,495)
Change in Personal Income		3,077*		-2,108**		-507.7		-760.6
Q42019 to Q42020		(1,562)		(826.9)		(584.7)		(2,010)
Total State and Local Spending		0.0211*		0.0124*		0.0176***		0.0537***
per Capita		(0.0118)		(0.00731)		(0.00580)		(0.0142)
Acres of Federal Lands per Capita		0.473		0.430		0.000637		-1.433***
		(0.394)		(0.318)		(0.202)		(0.474)
Observations	50	50	50	50	50	50	50	50

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020) to estimate equations of the following form for the CARES Act, Families First Act, Recovery and Relief Act, and American Rescue Plan Act separately:

 $BillFunds_i^b = \alpha + \gamma (Representatives\ Per\ Million)_i + \beta (Dem.\ Deleg.\ Share)_i + S_i\delta + \varepsilon_i$

Where $BillFunds_i^b$ is the total funding to state and local government in state i and bill b. $Representatives Per Million._i$ is the total number of US representatives and US senators divided by the population estimate for 2020 for state I in millions of people. $Dem.Deleg.Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i. S_i is a vector of state-level controls. These include the predicted tax shortfall for state and local governments from Whitaker (2020b) divided by the state population, the average number of unemployed persons each month in the fourth quarter of 2020 per capita, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the total direct expenditures from state and local governments per capita, and the acres of federal lands per capita for state i. ε_i is an error term. Standard errors are clustered by state. Columns 1 and 2 report results for the CARES Act, Columns 3 and 4 report results for the Families First Coronavirus Response Act, Columns 5 and 6 report results for the Recovery and Relief Act, and Columns 7 and 8 report results for the American Rescue Plan Act. *** p<0.01, ** p<0.05, * p<0.1

Table A3: Estimates of the Relationship between Total State and Local Funds per Capita and Congressional Control across COVID Bills

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senators and Reps per 1,000,000	165.0***	140.1***	216.8***	152.1***	151.4***	148.0***	196.8***
	(28.55)	(31.67)	(24.39)	(25.92)	(22.71)	(28.29)	(21.41)
Dem Congressional Share	155.7***	62.63	21.65	138.5***	-15.22	158.7***	-77.07***
	(50.19)	(40.69)	(30.06)	(39.30)	(41.98)	(49.89)	(25.34)
Tax Shortfall per Capita		0.231**					-0.0838
		(0.0954)					(0.0589)
Average Q4 2020 Unemployment			10,894***				7,934***
per Capita			(2,106)				(1,219)
Change in Personal Income				-3,635**			-1,252
Q42019 to Q42020				(1,715)			(757.6)
Total State and Local Spending					0.0308***		0.0293***
per Capita					(0.00610)		(0.00627)
Acres of Federal Lands per Capita						1.324***	-0.192
						(0.291)	(0.344)
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ
Observations	200	200	200	200	200	200	200

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020) to estimate equations of the following form:

 $BillFunds_i^b = \alpha + \gamma (Representatives\ Per\ Million.)_i + \beta (Dem.\ Deleg.\ Share)_i + S_i\delta + \varepsilon_i$

Where $BillFunds_i^b$ is the total funding to state and local government in state i and bill b per capita. $Representatives\ Per\ Million._i$ is the total number of US representatives and US senators divided by the population estimate for 2020 for state i in millions of people. $Dem.\ Deleg.\ Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i. S_i is a vector of state-level controls, which includes the predicted tax shortfall for state and local governments divided by the state population, the average number of unemployed persons each month in the fourth quarter of 2020 per capita, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the total direct expenditures from state and local governments per capita, and the acres of federal lands per capita for state i. ε_i is an error term. Observations are weighted by state population and standard errors are clustered by state. *** p<0.01, ** p<0.05, * p<0.1

Table A4: Alternative Estimates of Relationship between Total State and Local Funds per Capita and Congressional Control by COVID Bill

	•			•	•			•
	CA	RES	FI	FCRA		RRA	Al	RPA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log Senators and Reps per 1,000,000	708.9***	725.9***	103.3**	106.8**	3.615	29.40	431.3***	673.6***
	(123.6)	(127.1)	(41.33)	(42.53)	(34.45)	(27.78)	(153.8)	(102.8)
Dem Congressional Share	89.92*	-81.38	67.49*	-25.84	64.46	-76.33***	389.4***	-107.5
	(52.32)	(70.88)	(36.08)	(33.77)	(39.02)	(21.44)	(110.3)	(65.73)
Tax Shortfall per Capita		0.0505		-0.141***		-0.0407		-0.159
		(0.158)		(0.0490)		(0.0277)		(0.139)
Average Q4 2020 Unemployment		5,365		229.4		2,715**		23,017***
per Capita		(3,233)		(1,385)		(1,275)		(3,518)
Change in Personal Income		1,174		-1,755***		-1,561**		-2,779
Q42019 to Q42020		(1,269)		(466.7)		(660.3)		(1,693)
Total State and Local Spending		0.0164		0.0246***		0.0201***		0.0529***
		(0.0134)		(0.00413)		(0.00455)		(0.0129)
Acres of Federal Lands per Capita		1.735***		0.0536		-0.237		-0.545
		(0.635)		(0.294)		(0.221)		(0.665)
Observations	50	50	50	50	50	50	50	50

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020) to estimate equations of the following form for the CARES Act, Families First Act, Recovery and Relief Act, and American Rescue Plan Act separately:

 $BillFunds_i^b = \alpha + \gamma * ln(Representatives Per Million.)_i + \beta(Dem. Deleg. Share)_i + S_i\delta + \varepsilon_i$

Where $BillFunds_i^b$ is the total funding to state and local government in state i and bill b. $Representatives Per Million._i$ is the total number of US representatives and US senators divided by the population estimate for 2020 for state i in millions of people. $Dem.Deleg.Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i. S_i is a vector of state-level controls. These include the predicted tax shortfall for state and local governments from Whitaker (2020b) divided by the state population, the average number of unemployed persons each month in the fourth quarter of 2020 per capita, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the total direct expenditures from state and local governments per capita, and the acres of federal lands per capita for state i. ε_i is an error term. Observations are weighted by state population and standard errors are clustered by state. Columns 1 and 2 report results for the CARES Act, Columns 3 and 4 report results for the Families First Act, Columns 5 and 6 report results for the Recovery and Relief Act, and Columns 7 and 8 report results for the American Rescue Plan Act. *** p<0.01, ** p<0.05, * p<0.1

Table A5: Alternative Estimates of the Relationship between Total State and Local Funds per Capita and Congressional Control across COVID Bills

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log Senators and Reps per 1,000,000	307.3***	259.8***	443.6***	277.7***	291.1***	264.7***	389.3***
	(76.44)	(79.86)	(67.93)	(68.98)	(66.62)	(73.54)	(58.11)
Dem Congressional Share	152.7***	52.19	11.80	135.3***	-25.30	157.2***	-87.04***
	(51.46)	(42.83)	(35.30)	(41.34)	(43.27)	(50.68)	(30.46)
Tax Shortfall per Capita		0.251***					-0.0720
		(0.0917)					(0.0786)
Average Q4 2020 Unemployment			11,407***				8,115***
per Capita			(2,405)				(1,434)
Change in Personal Income				-3,715**			-1,173
Q42019 to Q42020				(1,717)			(775.3)
Total State and Local Spending					0.0321***		0.0295***
per Capita					(0.00565)		(0.00710)
Acres of Federal Lands per Capita						1.769***	0.181
						(0.287)	(0.365)
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ
Observations	200	200	200	200	200	200	200

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), Whitaker (2020), US Bureau of Labor Statistics (2021), US Census Bureau (2019a; 2020), US Bureau of Economic Analysis (2021), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), US Office of Elementary and Secondary Education (2021), and Vincent et. al (2020) to estimate equations of the following form:

 $BillFunds_i^b = \alpha + \gamma * ln(Representatives Per Million.)_i + \beta(Dem. Deleg. Share)_i + S_i\delta + \varepsilon_i$

Where $BillFunds_i^b$ is the total funding to state and local government in state i and bill b per capita. $Representatives\ Per\ Million._i$ is the total number of US representatives and US senators divided by the population estimate for 2020 for state i in millions of people. $Dem.\ Deleg.\ Share_i$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i. S_i is a vector of state-level controls, which includes the predicted tax shortfall for state and local governments divided by the state population, the average number of unemployed persons each month in the fourth quarter of 2020 per capita, the percentage change in personal income between the fourth quarter of 2019 and the fourth quarter of 2020, the total direct expenditures from state and local governments per capita, and the acres of federal lands per capita for state i. ε_i is an error term. Observations are weighted by state population and standard errors are clustered by state. *** p<0.01, ** p<0.05, * p<0.1

Table A6: Panel Estimates of the Relationship between COVID Funds and Political Control by Level of Government, Unweighted

		Fui	nds per Capita		Proportional Share of Funds				
	Total (1)	State (2)	Counties and Municipalities (3)	Educational Agencies (4)	Total (5)	State (6)	Counties and Municipalities (7)	Educational Agencies (8)	
Unified x Dem	193.1*	128.4	134.6***	-40.14	0.0590	0.413**	0.243	-0.0158	
Congressional Share	(112.9)	(82.28)	(44.68)	(29.49)	(0.118)	(0.168)	(0.182)	(0.0102)	
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	
State Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	
Observations	200	200	150	150	200	200	150	150	

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), US Census Bureau (2020), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), and US Office of Elementary and Secondary Education (2021) to estimate equations of the following form:

$$Outcome_{ib}^c = \alpha + \beta(Dem. Deleg. Share * Unified)_{ib} + \gamma(Dem. Deleg. Share)_{ib} + \lambda_b + \lambda_i + \varepsilon_{ib}$$

Where $Outcome_{ib}^c$ is funding in category c in state i and bill b. Funds per capita for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies are the dependent variables in Columns 1 to 4, respectively. In Columns 5 to 8, $Outcome_{ib}^c$ is $Proportional\ Share\ Of\ Bill_{ib}$, which is the ratio of state i's share of funding in category c to state i's share of the US population in bill b. Columns 5, 6, 7, and 8 show this proportional share of funds for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies, respectively. $Dem.\ Deleg.\ Share_{ib}$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i when bill b was passed. $Unified_b$ is a dummy that takes a value of 1 when the Democratic Party assumes unified control of the US House, Senate, and Presidency in 2021. We interact this dummy variable with $Dem.\ Deleg.\ Share_{ib}$. λ_b and λ_i represent state and bill fixed effects, respectively. ε_{ib} is an error term. Standard errors are clustered by state. *** p<0.01, ** p<0.05, * p<0.1

Table A7: Panel Estimates of the Relationship between COVID Funds and Political Control by Type of Funds, Unweighted

					, ,,			
	Fu	ınds per Cap	oita	Propor	Proportional Share of Funds			
	Relief	Transit	Education	Relief	Transit	Education		
	(1)	(2)	(3)	(4)	(5)	(6)		
Unified x Dem Congressional Share	248.1***	77.86***	-22.76	0.155**	0.750***	-0.00239		
	(50.55)	(20.03)	(32.75)	(0.0767)	(0.195)	(0.0139)		
Bill Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ		
State Fixed Effects	Υ	Υ	Υ	Υ	Υ	Υ		
Observations	150	150	150	150	150	150		

Note: This table uses data from the Committee for a Responsible Federal Budget (2021), US Federal Transit Administration (2021a, 2021b), Lewis (2021), US Census Bureau (2020), Chidambaram and Musumeci (2021), Medicaid and Chip Payment Access Commission (2021), and US Office of Elementary and Secondary Education (2021) to estimate equations of the following form:

$$Outcome_{ib}^c = \alpha + \beta(Dem. Deleg. Share * Unified)_{ib} + \gamma(Dem. Deleg. Share)_{ib} + \lambda_b + \lambda_i + \varepsilon_{ib}$$

Where $Outcome_{ib}^c$ is funding in category c in state i and bill b. Funds per capita for total funds, funds to state governments, funds to counties and municipalities, and funds to educational agencies are the dependent variables in Columns 1 to 3, respectively. In Columns 4 to 6, $Outcome_{ib}^c$ is $Proportional\ Share\ Of\ Bill_{ib}^c$, which is the ratio of state i's share of funding in category c to state i's share of the US population in bill b. Columns 4, 5, and 6 show this proportional share of funds for relief, funds to transit, and funds to education, respectively. $Dem.\ Deleg.\ Share_{ib}$ is the averaged share of state US representatives and US senators that are members of the Democratic Party in state i when bill b was passed. $Unified_b$ is a dummy that takes a value of 1 when the Democratic Party assumes unified control of the US House, Senate, and Presidency in 2021. We interact this dummy variable with $Dem.\ Deleg.\ Share_{ib}$. λ_b and λ_i represent state and bill fixed effects, respectively. ε_{ib} is an error term. Standard errors are clustered by state. *** p<0.01, ** p<0.05, * p<0.1