Online Appendix to

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Table of Contents

1 Variables

1.1 Variable Description and Data Sources

Table A1: Variable Names, Description, and Data Sources

Variable / Name in Equations	Description / Name in Tables	Data Source (Time Period)
Y	Log of All Spending	FAADS outlays: Bickers and Stein (fiscal years 1983 to 1997); Berry (fiscal years 1998 to 2002); U.S. Census Bureau (fiscal years 2003 to 2010). Proportion of county population in each House District: Missouri Census Data Center (102^{nd} to 111^{th} Congress or fiscal years 1992 to 2010; FAADS data prior to FY1992 were already allocated to House districts)
	Log of High-variance Spending	
α	Fixed Effect for geographically constant House districts within a census	Jacobson
In House Majority	Member of House Majority (1=yes)	Jacobson; Carroll et al.
House Majority Republican	House is Republican (1=yes)	
In President's Party	Member of President's Party (1=yes)	Jacobson; Carroll et al.
President Republican	President is Republican (1=yes)	
District Republican Tendency	District Republican Tendency (-1 to 1)	Jacobson
State Margin in Presidential Race	Winning presidential candidate's margin in state (0 to 1)	David and Claggett (elections from 1984 to 1996); Leip (elections from 2000 to 2008)
Components of House Leadership Position	Committee chair (1=yes)	Nelson (97^{th} to 102^{nd} Congress); Stewart and Woon (103^{rd} to 112^{th} Congress)
	Ranking minority member on committee (1=yes)	
	Member of Appropriations Committee (1=yes)	
	Member of Ways & Means Committee (1=yes)	
	Member of party leadership (1=yes)	Nelson (97^{th} to 102^{nd} Congress); Heitshusen (97^{th} to 102^{nd} Congress); Stewart and Woon (103^{rd} to 112^{th} Congress)

	Member is Republican (1=yes)	Jacobson; Carroll et al.
	Member's last election was close (1=vote margin < 5%)	Jacobson
	Member is in first term (1=yes)	Jacobson; Carroll et al.

1.2 Coding Rules

The following is the coding rules for calculating each of the variables used in the regression analyses and listed in Table A1.

Log of All Spending: This is the log of all outlays—except for loans and contingent expenditures (see below)—reported in the Federal Assistance Award Data System (FAADS) as being transferred to a recipient in the House district during the fiscal year, which runs from October 1st through September 31st of the fiscal year. Outlays are adjusted to 2010 dollars before taking logs.

Outlays in FAADS are reported by program, geographic location (either the county or Congressional district as it existed in fiscal year *t*), and quarter of the fiscal year in which the funds are transferred from the federal government to the initial, nonfederal government recipient. Most outlays are reported by congressional district, but several large programs are reported by county. These are primarily transfers to individual citizens such as programs within the Social Security Administration and Department of Health and Human Services. For these transactions, we follow previous work (Bickers and Stein 1991, 1995; Berry et al. 2010) by allocating spending to the district weighted by the proportion of the county population living in that district. We also follow previous work (Bickers and Stein 1991, 1995; Berry et al. 2010) by dropping transactions that are direct loans, guaranteed/insured loans, insurance, and other reimbursable, contingent, intangible, or indirect financial assistance. This leaves block grants, formula grants, project grants, cooperative agreements, and direct payments for either specified or unrestricted use. We then aggregate the outlays by fiscal year and district.

Log of High-variance Spending: This is calculated exactly the same as the *Log of All Spending* except that only transfers from "High-Variance" programs are included in the calculation.

Each program is determined to be high-variance based on its "coefficient of variation," which we calculate in two steps: first, we divide the standard deviation of its outlays across all districts in a given year by the mean of its outlays across all districts in that same year; second, we calculate the mean, across all years, of the figure derived in step one. Following previous work, we then identified a natural break at the lower end of a histogram of the coefficients of variation. A break occurred at 1; thus programs above that break are considered high-variance. For reasons explained in the paper, we exclude districts that cross boundaries with state capitals when calculating the coefficient of variation.

Previous work uses slightly different methods for calculating the coefficient of variation and does not exclude state capital districts. Levitt and Snyder first calculate the mean amount spent from each program in each district across all years in their data. They then divide the standard deviation of that figure across all districts by its mean across all districts. They report a natural break in the coefficient of variation at 2/3 and use that as the cut off to identify high variation programs.

Berry et al. change the calculation slightly from Levitt and Snyder to account for the fact that their data cover a much larger time span. Their coefficient of variation "is equal to the standard deviation of [a program's] outlays across districts and years divided by the mean of its outlays across districts and years" (2010b, 49). Berry et al. find a natural break at 3/4 and use that as the cut off.

We adjusted the calculation of the coefficient of variation slightly to account for the possibility that programs with low variation across districts each year but high variation across years could end up being labeled as high-variation even though the variation across years might not be due to political manipulation. Like previous work, we use nominal dollars in calculating the coefficient of variation.

Geographic Fixed Effects: A series of indicator variables, one for each geographically constant House district within a census—i.e., districts that are redistricted between the normal census redistricting receive a new fixed effect, and all districts, including those in one seat states, receive new fixed effects with the census redistricting. We include new fixed effects for districts at each census to account for the fact that even one-member states may experience over time demographic and political changes that would independently affect their level of federal support. In order to link outlays to Representatives, only observations in which the district's boundaries in fiscal year *t*, the year in which spending occurred, are the same as the boundaries in calendar year *t-1*, the year in which the district's representative participated in appropriating the spending for fiscal year *t*, can be included in the analysis.

Member of House Majority: 1 if district's representative caucused with the House majority party in year *t-1*. 0 otherwise.

House is Republican: 1 if House majority party is Republican is in year *t-1*. 0 if House majority party is Democratic is in year *t-1*.

Member of President's Party: 1 if the House party with which the district's representative caucused was the same as the President's party in year *t-1*. 0 otherwise.

President is Republican: 1 if the President is a Republican in year *t-1*. 0 if the President is a Democrat in year *t-1*.

District Republican Tendency: Averaging across all presidential elections within a geographic district fixed effect, the proportion of the district's two-party vote share for the Republican presidential candidate above the average proportion of all 435 districts' two-party vote share for the Republican presidential candidate in that same presidential election.

Formally, let Z_{it} for district i in election year t be calculated as *Republican Proportion of Two-Party Vote*$_{it}$ – Average(*Republican Proportion of Two-Party Vote*$_t$). *DistrictRepublicanTendency*$_i$ is the average of Z_{it} for all years for which a district is held geographically constant between censuses. That is, we calculate a separate measure of partisanship for districts that are redrawn between Censuses as well as a separate measure in each decade for districts that persist across multiple Censuses.

The calculation for a geographically constant House district, *i*, within a decennial census redistricting period that experiences *k* presidential elections is

$$\begin{matrix} District \\ Republican \\ Tendency \end{matrix}_i = \frac{1}{k}\sum_{e=1}^{k}(Z_{it}),$$

where

$$Z_{it} = v_{it} - \left(\frac{1}{435}\sum_{j=1}^{435} v_{jt}\right),$$

and *v* is the proportion of a district's two-party vote share for the Republican presidential candidate in presidential election year, *t*, and *j* indexes all districts in the U.S.

Since outlays in year *t* are appropriated by officials elected in year *t*-2, there is a two year lag between the fiscal years of the outlays assigned to a geographic district fixed effect and the election years used to

calculate *District Republican Tendency*. Thus, for districts that do not experience any redistricting between censuses, the outlays from 1984 to 1992 (1994 to 2002) [2004 to 2010] are linked to the presidential elections in 1984 and 1988 (1992, 1996, and 2000) [2004 and 2008] for purposes of calculating *District Republican Tendency*.

Our results are robust to excluding districts that are redrawn between censuses. We have also tested the sensitivity of our results to alternative measures of district partisanship. One is simply the measure of *District Republican Tendency* in the most recent election, so the measure changes over time within fixed districts. The second is a standardized measure of *District Republican Tendency*, in which we divide Z_{it} by its standard deviation before averaging across elections. Results using these alternative measures are available upon request.

Winning presidential candidate's margin in state: The winning presidential candidate's two-party vote share margin from the state in which the district resides calculated as a proportion. More formally, state margin in presidential race, *M*, for a district in state, *i*, is

$$M_i = |v_i^D - v_i^R|,$$

Where v^D is the proportion of state i's two-party vote share for the Democratic presidential candidate, and v^R is the proportion of state i's two-party vote share for the Republican presidential candidate.

Since outlays in year *t* are appropriated by officials elected in year *t-2*, the results from the most recent presidential election in either year *t-2* or year *t-4* are used to calculate this variable.

Committee chair: 1 if district's representative was the chair of a committee in year *t-1*. 0 otherwise.

Ranking minority member on committee: 1 if district's representative was the ranking minority member of a committee in year *t-1*. 0 otherwise.

Member of Appropriations Committee: 1 if district's representative was a member of the Appropriations committee in year *t-1*. 0 otherwise.

Member of Ways & Means Committee: 1 if district's representative was a member of the Ways and Means committee in year *t-1*. 0 otherwise.

Member of party leadership: 1 if district's representative was a member of the House party leadership, meaning either the Speaker of the House, Majority Leader, Majority Whip, Minority Leader, or Minority Whip in year *t-1*. 0 otherwise.

Member is Republican: 1 if district's representative caucused with the House Republican party in year *t-1*. 0 if district's representative caucused with the House Democratic party in year *t-1*.

Member's last election was close: 1 if district's representative won her last general election by a margin less than 5% points. 0 otherwise.

Member is in first term: 1 if district's representative was in her first term in the House in year *t-1*. 0 otherwise.

1.3 Excluded Observations

Observations that meet the following criteria are excluded from our analysis[1]:

1. Districts that were redistricted in year *t-1*;
2. Districts containing state capitals; and
3. Districts with more than one representative in year *t-1*.

The reasons for excluding these observations are explained below.

1. Districts that were redistricted in year *t-1*

As in prior work (Berry et al. 2010), we drop any observation where a district was redrawn in the previous year because we link spending in year *t* to the representative from that district in year *t-1* and because FAADS data are reported by House district as they exist for members of Congress in year *t*. In order to link outlays to Representatives, only observations in which the district's boundaries in fiscal year *t*, the year in which the transfer occurred, are the same as the boundaries in calendar year *t-1*, the year in which the district's representative participated in approving the budget for fiscal year t, can be included in the analysis.

Since all districts—save those in states with single districts—are redistricted following the decennial census, all observations in years ending with a "3" (i.e., 1983, 1993, and 2003) are dropped from the regression analysis. Although most district boundary changes occur in the census redistricting, we also account for redistricting that occurs between the census redistricting. Jacobson's election returns dataset (2011) includes a variable that indicates whether or not a district's boundaries were redrawn since the previous general election.

2. Districts containing state capitals

In calculating program variances, as well as in the regression analysis, we exclude districts that contain a state capital or include part of a county that contains a state capital. The reason is that many programs' funds ultimately delivered to individual districts are instead reported, for accounting reasons, as going to the state capitals and therefore the county that contains the state capital. Because we are unable to correctly assign those funds to the districts to which they are ultimately allocated, we are unable to ascertain the effects of political factors on their allocation.

When we assign county spending for certain programs to individual districts based on population, including districts in capital counties likely leads to inaccurate estimates because the county total includes pass through spending directed to the state capital. (This problem is also troublesome when calculating program variances, because state capitals, unlike average House districts, represent vastly different state population sizes, generating artificial variance across district spending.) Additionally, state capitals are

[1] Berry et al. (2010) also exclude observations from the last three quarters of fiscal year 2002 because spending in the last three quarters of that year was erroneously reported by the new district boundaries created after the 2000 Census even though the districts of the representatives who allocated the spending for fiscal year 2002 still had the pre-2000 census redistricting boundaries. In our version of the 2002 FAADS data, we do not find evidence of this same error, so we include all four quarters of 2002 in our analysis. Furthermore, the results from our analysis do not change if we exclude either the last three quarters of 2002, the first quarter of 2002, or all of 2002.

often very different politically from other parts of their states, which may bias estimates of the correlation between political factors and spending levels. Previous studies (Berry et al. 2010; Levitt and Snyder 1995) retain state capitals although Levitt and Snyder (1995) control for them in their regressions. We note, however, that including state capitals in the analysis does not result in any significant changes to our substantive findings. These results are presented in section 3.5.

3. Districts with more than one representative in year *t-1*

We exclude observations in which the same seat is held by multiple members in year *t-1* because of the difficulty of identifying who would be responsible for the allocation of resources to that district in year *t*. We used both the DW-NOMINATE (Carroll et al. 2012) and committee assignment (Nelson 1993; Stewart and Woon 2011) datasets to determine which seats had multiple occupants.

1.4 Summary Statistics

Table A2: Summary Statistics of Variables used in Table 2

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Log of High-variance Spending	8,062	19.216	0.732	15.417	22.451
Log of All Spending	8,062	21.623	0.353	20.332	23.052
Member of President's Party (1=yes)	8,062	0.473	0.499	0.000	1.000
Pres. is Repub. X District Republican Tendency (-1 to 1)	8,062	-0.004	0.108	-0.515	0.293
Member of Pres. Party X last election close	8,062	0.034	0.181	0.000	1.000
Winning presidential candidate's margin in state (0-1)	8,062	0.125	0.086	0.000	0.559
Member of House Majority (1=yes)	8,062	0.560	0.496	0.000	1.000
House is Rep. X District Republican Tendency	8,062	-0.003	0.093	-0.413	0.293
Member of majority X last election close	8,062	0.030	0.170	0.000	1.000
Member of majority party leadership (1=yes)	8,062	0.011	0.106	0.000	1.000
Committee chair (1=yes)	8,062	0.055	0.229	0.000	1.000
Ranking minority member on committee (1=yes)	8,062	0.054	0.227	0.000	1.000
Member of Appropriations Committee (1=yes)	8,062	0.149	0.356	0.000	1.000
Member of Ways & Means Committee (1=yes)	8,062	0.088	0.283	0.000	1.000
Member is Republican (1=yes)	8,062	0.460	0.498	0.000	1.000
Member is in first term (1=yes)	8,062	0.134	0.340	0.000	1.000
Member's last election was close (1=vote margin < 5%)	8,062	0.062	0.241	0.000	1.000

Table A3: Summary Statistics of Variables used in Table 3, columns 1 and 2

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Log of High-variance Spending	3,228	19.322	0.697	16.692	22.157
Log of All Spending	3,228	21.785	0.279	20.837	22.935
Member of Pres. Party X last election close	3,228	0.028	0.164	0.000	1.000
Winning presidential candidate's margin in state (0 to 1)	3,228	0.121	0.082	0.000	0.373
Member of House Majority (1=yes)	3,228	0.487	0.500	0.000	1.000
House is Repub. X District Republican Tendency	3,228	-0.013	0.120	-0.404	0.293
Member of majority X last election close	3,228	0.009	0.096	0.000	1.000
Member of party leadership (1=yes)	3,228	0.011	0.102	0.000	1.000
Committee chair (1=yes)	3,228	0.057	0.232	0.000	1.000
Ranking minority member on committee	3,228	0.070	0.256	0.000	1.000

(1=yes)					
Member of Appropriations Committee (1=yes)	3,228	0.171	0.376	0.000	1.000
Member of Ways & Means Committee (1=yes)	3,228	0.090	0.286	0.000	1.000
Member is in first term (1=yes)	3,228	0.094	0.292	0.000	1.000
Member's last election was close (1=vote margin < 5%)	3,228	0.041	0.197	0.000	1.000

Table A4: Summary Statistics of Variables used in Table 3, columns 3 and 4

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Log of High-variance Spending	2,583	19.397	0.712	17.303	22.362
Log of All Spending	2,583	21.834	0.292	20.715	23.052
Member of President's Party (1=yes)	2,583	0.498	0.500	0.000	1.000
Pres. is Repub. X District Republican Tendency	2,583	-0.004	0.086	-0.413	0.293
Member of Pres. Party X last election close	2,583	0.026	0.160	0.000	1.000
Winning presidential candidate's margin in state (0 to 1)	2,583	0.127	0.088	0.000	0.373
Member of majority X last election close	2,583	0.019	0.138	0.000	1.000
Member of party leadership (1=yes)	2,583	0.014	0.116	0.000	1.000
Committee chair (1=yes)	2,583	0.047	0.211	0.000	1.000
Ranking minority member on committee (1=yes)	2,583	0.052	0.223	0.000	1.000
Member of Appropriations Committee (1=yes)	2,583	0.156	0.363	0.000	1.000
Member of Ways & Means Committee (1=yes)	2,583	0.095	0.294	0.000	1.000
Member is in first term (1=yes)	2,583	0.126	0.332	0.000	1.000
Member's last election was close (1=vote margin < 5%)	2,583	0.047	0.211	0.000	1.000

2 FAADS Programs

2.1 Spending by Variance, Award Type, and Administrative Discretion

The vast majority of outlays to House districts (89%) come from the low-variance programs as opposed to the high-variance programs (11%) that previous work (Levitt and Snyder 1995; Berry et al. 2010) considers to be discretionary spending (see section 1.2 for a discussion of how program variance is determined). We have validated this categorization by examining how the Congressional Research Service (Dilger and Boyd 2013) codes the degree of administrative discretion in budgetary implementation for each type of grant in the FAADS dataset.[2] For low-variance spending, 100% is characterized as low-discretion or formula-based. [3] For high-variance spending, 54% is low-discretion, and 46% is high-discretion. Thus, while not all high-variance spending is readily amenable to ex-post manipulation (Some is affected, for example, by congressional earmarks), high-variance spending is more open to political influences during implementation than low-variance spending.

Table A5 presents the mean annual outlays per House district from FAADS programs based on their level of variance, award type, and susceptibility to federal administrative discretion. The data are from House districts and fiscal years included in the analysis in Table 1 of the manuscript (see section 1.3 for a discussion of which House districts are excluded from that analysis).

FAADS uses the following definitions of the different award types based on the "Catalog of Federal Domestic Assistance" (Executive Office of the President 2013). See Tables A6 and A7 for examples of the types of programs that fall under each award type.

1. **Block Grants and Formula Grants:** "Allocations of money to States or their subdivisions in accordance with distribution formulas prescribed by law or administrative regulation, for activities of a continuing nature not confined to a specific project."
2. **Cooperative Agreements and Project Grants:** "The funding, for fixed or known periods, of specific projects. Project grants can include fellowships, scholarships, research grants, training grants, traineeships, experimental and demonstration grants, evaluation grants, planning grants, technical assistance grants, survey grants, and construction grants."
3. **Direct Payments for Specified Use:** "Financial assistance from the Federal government provided directly to individuals, private firms, and other private institutions to encourage or subsidize a particular activity by conditioning the receipt of the assistance on a particular performance by the recipient. This does not include solicited contracts for the procurement of goods and services for the Federal government."
4. **Direct Payments with Unrestricted Use:** "Financial assistance from the Federal government provided directly to beneficiaries who satisfy Federal eligibility requirements with no restrictions being imposed on the recipient as to how the money is spent. Included are payments under retirement, pension, and compensatory programs."

[2] The report by the Congressional Research Service only considers grants, which excludes the "direct payment" awards. However, since these are primarily formula-based, we classified them with the low-discretion, formula-based grants.

[3] We note that some of the formulas for these programs may be created by the bureaucracy rather than through statute. Nonetheless, the formula places some limitation on attempts to target districts based solely on the partisanship of the legislator.

Table A5: Mean Annual FAADS Outlays per District in millions of 2010 USD
by Variance, Award Type, and level of Administrative Ex-Post Discretion

	Low-Variance			High-Variance		
	Mean Annual Outlays Per District (millions)	% of Total Outlays	# of Pro-grams	Mean Annual Outlays Per District (millions)	% of Total Outlays	# of Pro-grams
TOTAL	$2,237	88.7%	31	$221	11.4%	2,623
LOW DISCRETION	$1,882	88.6%	28	$73	6.2%	467
Block Grants	$2	0.1%	1	$1	0.0%	16
Direct Payment w/ Restricted Use	$1,263	50.1%	10	$24	1.2%	162
Direct Payment w/ Unrestricted Use	$619	24.5%	12	$50	2.6%	37
Formula Grants	$351	13.9%	5	$45	2.3%	252
HIGH DISCRETION	$1	0.1%	3	$103	5.3%	2,156
Project Grants	$1	0.0%	3	$93	4.8%	1,645
Cooperative Agreements	$0	0.0%	0	$10	0.5%	511

2.2 Summary Data of Individual FAADS Programs

Tables A6 and A7 display summary data about the FAADS programs included in the analysis. Table A6 displays data about all 31 low-variation programs while Table A7 displays data about the 50 largest (in terms of total outlays) high-variation programs.

A few patterns are worth noting. First, FAADS spending is concentrated in a few, low-variance programs. The six largest programs, which are all part of Social Security, Medicare, or Medicaid, represent nearly 80% of total spending. Meanwhile, the largest high-variance programs constitute just 4% of total spending. A second pattern is that the largest programs in both tables are forms of redistribution primarily targeted at individuals (and not geographic-specific programs).

The following is a description of the data presented in each column in Tables A6 and A7:

1. **Program Name:** This is the official name of the program according to the Catalog of Federal Domestic Assistance as of fiscal year 2010. Program names may change over time, but the CFDA documents those changes, allowing us to aggregate all outlays from the same program even if its named changed.
2. **CFDA ID #:** This is the official program identification number according to the Catalog of Federal Domestic Assistance as of fiscal year 2010. Program identification numbers may change over time, but the CFDA documents those changes, allowing us to aggregate all outlays from the same program even if its named changed.
3. **% of Districts Receiving:** This indicates the percent of districts in the analysis that received outlays from this program during the years in which the program existed.
4. **# of District-Year Obs.:** This indicates the number of district-year observations that received outlays from this program.
5. **# of Years:** This indicates the number of years that the program existed during the fiscal years included in our analysis (1984 – 2010, excluding all observations from 1993 and 2003 due to post-census redistricting)
6. **Coeff. of Variation:** This is the value of each program's coefficient of variation. See section 1.2 for a definition of how this figure was calculated.
7. **Rank (Low to High):** This is the program's coefficient of variation rank-ordering from low to high.
8. **No State Capitals:** This indicates total outlays, excluding districts with state capital counties (and all other observations excluded in the analysis), from the program across all years in billions of 2010 USD.
9. **With State Capitals:** This indicates total outlays, including districts with state capital counties (but excluding all other observations that would have been excluded in the analysis due to other criteria), from the program across all years in billions of 2010 USD.
10. **% of Total Outlays:** This indicates the percent of total FAADS outlays, excluding state capitals, that are from this program.
11. **Direct Payment Awards:** This indicates the percent of outlays from a program that are in the form of Direct Payments with Restricted Use or Direct Payments with Unrestricted Use. These are grouped together given their similarity.
12. **Block & Formula Grants:** This indicates the percent of outlays from a program that are in the form of Block Grants or Formula Grants. These are grouped together given their similarity.
13. **Project Grants & Coop. Agrmnt:** This indicates the percent of outlays from a program that are in the form of Project Grants or Cooperative Agreements. These are grouped together given their similarity.

Table A6: Summary Data of Low-Variation FAADS Programs for House Districts analyzed in Table 1
Fiscal Years 1984 – 2010, Ordered by Outlays (Largest to Smallest)

			Distribution across districts and years			Variance		Outlays across all years (billions of 2010 USD)			% Low Discretion		% High Disc.
	Program Name	CFDA ID #	% of Distr-icts Receiv-ing	# of District-Year Obs.	# of Years	Coeff. of Vari-ation	Rank (Low to High)	No State Capitals	With State Capitals	% of Total Outlays	Direct Pay-ment Awards	Block & Form-ula Grants	Project Grants & Coop. Agrmnt
TOTAL (ALL LOW-VARIATION PROGRAMS)								$18,710	$23,710	88.6%	84.0%	15.8%	0.1%
1	Social Security Retirement Insurance	96.002	100%	8,062	25	0.27	2	$6,101	$7,746	28.89%	100%	0%	0%
2	Medicare-Hospital Insurance	93.773	96%	7,762	25	0.47	4	$2,956	$3,683	13.99%	100%	0%	0%
3	Medical Assistance Program	93.778	100%	8,061	25	0.62	10	$2,655	$3,361	12.57%	0%	100%	0%
4	Medicare-Supplementary Medical Insurance	93.774	97%	7,794	25	0.51	5	$1,995	$2,473	9.45%	100%	0%	0%
5	Social Security Survivors Insurance	96.004	100%	8,062	25	0.23	1	$1,833	$2,319	8.68%	100%	0%	0%
6	Social Security Disability Insurance	96.001	100%	8,062	25	0.33	3	$1,242	$1,647	5.88%	100%	0%	0%
7	Supplemental Security Income	96.006	100%	8,062	25	0.55	7	$631	$782	2.99%	100%	0%	0%
8	Veterans Compensation For Service-Connected Disability	64.109	100%	8,062	25	0.52	6	$359	$480	1.70%	100%	0%	0%
9	Social Insurance For Railroad Workers	57.001	100%	8,062	25	0.72	16	$208	$268	0.98%	100%	0%	0%
10	Temporary Assistance For Needy Families	93.558	99%	4,116	13	0.87	23	$194	$237	0.92%	0%	100%	0%
11	Federal Pell Grant Program	84.063	100%	8,034	25	0.75	18	$162	$223	0.77%	100%	0%	0%
12	Veterans Dependency & Indemnity Compensation For Svc-Connected Death	64.110	100%	8,062	25	0.61	9	$72	$95	0.34%	100%	0%	0%
13	Pension For Non-Service-Connected Disability For Veterans	64.104	100%	8,062	25	0.60	8	$62	$79	0.29%	100%	0%	0%
14	State Children's Insurance Program (CHIP)	93.767	100%	3,205	10	0.63	11	$52	$67	0.25%	0%	100%	0%
15	Child Support Enforcement	93.563	98%	7,934	25	0.82	21	$45	$57	0.21%	0%	100%	0%
16	Federal Employees Compensation	17.FEC	100%	7,808	24	0.71	13	$42	$55	0.20%	100%	0%	0%
17	Pension To Veterans Surviving Spouses And Children	64.105	100%	8,062	25	0.68	12	$26	$33	0.13%	100%	0%	0%
18	State And Local Government Fiscal Assistance Revenue Sharing	21.300	97%	1,160	4	0.80	20	$19	$24	0.09%	0%	100%	0%
19	All Volunteer Force Educational	64.124	100%	7,204	22	0.72	15	$18	$25	0.08%	100%	0%	0%

	Assistance												
20	Federal Work Study Program	84.033	97%	7,873	25	0.89	24	$16	$22	0.08%	100%	0%	0%
21	Federal Supplemental Educational Opportunity Grants	84.007	96%	7,755	25	0.91	25	$12	$17	0.06%	100%	0%	0%
22	Trio-Upward Bound	84.047	81%	6,510	25	0.97	30	$5	$6	0.02%	0%	0%	100%
23	Survivors And Dependents Educational Assistance	64.117	100%	8,062	25	0.74	17	$4	$6	0.02%	100%	0%	0%
24	Trio-Student Support Services	84.042	86%	6,932	25	0.94	28	$4	$5	0.02%	0%	0%	100%
25	Social Insurance For Rr Workers - Unemployment & Sickness Benefits	57.AAA	100%	7,204	22	0.93	27	$2	$3	0.01%	100%	0%	0%
26	Chapter 33 Post 9/11 Veterans Educational Assistance Act Of 2008	64.130	100%	636	2	0.93	26	$2	$3	0.01%	100%	0%	0%
27	Post-9/11 Veterans Educational Assistance	64.028	100%	323	1	0.87	22	$2	$2	0.01%	100%	0%	0%
28	Retired And Senior Volunteer Program (Rsvp)	94.002	86%	6,912	25	0.95	29	$1	$1	0.00%	0%	0%	100%
29	Reserve Education Assistance Program	64.999	100%	636	2	0.71	14	$0.2	$0.2	0.00%	100%	0%	0%
30	Economic Recovery Payments	57.005	100%	313	1	0.75	19	$0.1	$0.1	0.00%	100%	0%	0%
31	State Survey And Certification Of Health Care Providers And Suppliers	93.777	99%	8,015	25	0.98	31	-$7	-$5	-0.04%	0%	0%	100%

Table A7: Summary Data of High-Variation FAADS Programs for House Districts analyzed in Table 1
Fiscal Years 1984 – 2010, 50 Largest High-Variation Programs Ordered by Outlays (Largest to Smallest)

			Distribution across districts and years			Variance		Outlays across all years (billions of 2010 USD)			% Low Discretion		% High Disc.
	Program Name	CFDA ID #	% of Distr-icts Receiv-ing	# of District - Year Obs.	# of Years	Coeff of Vari-ation	Rank (Low to High)	No State Capitals	With State Capitals	% of Total Outlays	Direct Pay-ment Awards	Block & Form-ula Grants	Project Grants & Coop. Agrmnt
TOTAL (ALL HIGH-VARIATION PROGRAMS)								$2,406	$6,850	11.4%	33.0%	20.6%	46.5%
1	Low Income Housing Assistance Program-Section 8 Moderate Rehabilitation	14.856	92%	6,865	23	1.0	32	$223	$287	1.05%	100%	0%	0%
2	Family Support Payments To States-Assistance Payments	93.560	78%	5,057	20	2.5	156	$184	$220	0.87%	0%	100%	0%
3	Production Flexibility Payments For Contract Commodities	10.055	90%	7,248	25	3.2	274	$140	$194	0.66%	100%	0%	0%
4	Medicare-Prescription Drug Coverage	93.770	62%	988	5	3.8	392	$117	$157	0.55%	100%	0%	0%
5	Federal Direct Student Loans	84.268	97%	2,135	7	1.3	46	$104	$149	0.49%	0%	0%	100%
6	Head Start	93.60	92%	7,374	25	1.3	45	$84	$112	0.40%	0%	0%	100%
7	Federal Transit Formula Grants	20.507	72%	5,776	25	3.7	368	$76	$92	0.36%	0%	100%	0%
8	Public And Indian Housing	14.850	92%	7,456	25	2.4	142	$73	$91	0.34%	13%	0%	87%
9	Community Development Block Grants/Entitlement Grants	14.218	89%	7,138	25	1.5	56	$64	$77	0.30%	0%	100%	0%
10	Section 8 Housing Choice Vouchers	14.871	98%	1,557	5	1.2	43	$57	$77	0.27%	100%	0%	0%
11	Federal Transit-Capital Investment Grants	20.500	42%	3,338	25	4.9	619	$48	$63	0.23%	0%	0%	100%
12	Airport Improvement Program	20.106	83%	6,706	25	1.5	60	$37	$59	0.17%	0%	2%	98%
13	Conservation Reserve Program	10.069	70%	5,282	23	3.4	314	$27	$42	0.13%	100%	0%	0%
14	Heart And Vascular Diseases Research	93.837	58%	4,688	25	2.2	119	$27	$39	0.13%	0%	0%	100%
15	Wheat Production Stabilization	10.058	84%	4,103	15	5.1	660	$26	$44	0.13%	100%	0%	0%
16	Allergy, Immunology And Transplantation Research	93.855	47%	3,816	25	2.8	210	$20	$29	0.09%	0%	0%	100%
17	Special Benefits For Disabled Coal Miners (Black Lung)	96.005	100%	5,860	18	3.9	395	$19	$22	0.09%	100%	0%	0%
18	Community Health Centers	93.224	78%	6,271	25	1.2	39	$19	$26	0.09%	0%	0%	100%
19	Section 8 Housing Assistance Payments Program-Special Allocations	14.195	100%	1,594	5	1.1	36	$19	$29	0.09%	100%	0%	0%
20	Construction Grants For Wastewater Treatment Works	66.418	50%	3,717	23	10.0	1508	$18	$24	0.08%	0%	2%	98%

21	Highway Planning And Construction	20.205	14%	1,004	23	15.0	2179	$17	$793	0.08%	0%	56%	43%
22	Mathematical And Physical Sciences	47.049	73%	5,870	25	2.7	187	$16	$23	0.08%	0%	0%	100%
23	Microbiology And Infectious Diseases Research	93.856	51%	4,093	25	2.6	175	$16	$22	0.08%	0%	0%	100%
24	Pharmacology, Physiology And Biological Chemistry Research	93.859	50%	3,990	25	2.2	123	$15	$22	0.07%	0%	0%	100%
25	Mental Health Research Grants	93.242	54%	4,331	25	2.7	186	$15	$21	0.07%	0%	0%	100%
26	Research Grants For The Space Program	43.AAA	70%	5,621	25	2.7	184	$15	$21	0.07%	0%	0%	100%
27	Home Investment Partnerships Program	14.239	94%	4,830	16	1.2	42	$15	$26	0.07%	0%	80%	20%
28	Cotton Production Stabilization	10.052	24%	1,190	15	5.1	661	$14	$17	0.07%	100%	0%	0%
29	Diabetes, Endocrinology And Metabolism Research	93.847	54%	4,358	25	2.3	126	$14	$19	0.07%	0%	0%	100%
30	Cancer Treatment Research	93.395	54%	4,319	25	2.4	144	$14	$19	0.07%	0%	0%	100%
31	Extramural Research Program In Neurosciences & Neurological Disorders	93.853	46%	3,416	23	2.7	189	$14	$19	0.07%	0%	0%	100%
32	Impact Aid	84.041	89%	7,192	25	2.9	218	$14	$27	0.06%	18%	81%	1%
33	Coal Mine Workers' Compensation	17.307	100%	7,775	24	3.8	387	$13	$15	0.06%	100%	0%	0%
34	Office Of Science Financial Assistance Program	81.049	65%	5,264	25	2.5	154	$13	$20	0.06%	0%	0%	100%
35	Cancer Cause And Prevention Research	93.393	52%	4,148	25	3.0	236	$13	$19	0.06%	0%	0%	100%
36	Public Housing Capital Funds	14.872	97%	2,128	7	2.1	112	$13	$16	0.06%	0%	100%	0%
37	Aging Research	93.866	53%	4,279	25	2.5	157	$12	$17	0.06%	0%	0%	100%
38	Disaster Assistance	10.DIS	77%	2,569	10	60.4	2599	$12	$17	0.06%	100%	0%	0%
39	Center For Research For Mothers And Children	93.865	54%	4,370	25	2.3	131	$12	$17	0.06%	0%	0%	100%
40	Commodity Loans And Loan Deficiency Payments	10.051	75%	2,396	10	4.2	456	$12	$18	0.06%	100%	0%	0%
41	Drug Abuse Research Programs	93.279	50%	4,004	25	2.8	208	$11	$16	0.05%	0%	0%	100%
42	Geosciences	47.050	60%	4,810	25	5.7	775	$11	$15	0.05%	0%	0%	100%
43	Public And Indian Housing-Comprehensive Grant Program	14.859	54%	2,084	12	5.0	629	$10	$13	0.05%	0%	0%	100%
44	Unemployment Insurance	17.225	8%	638	25	5.3	706	$10	$73	0.05%	0%	100%	0%
45	Rural Rental Assistance Payments	10.427	72%	4,918	21	1.4	51	$9	$14	0.04%	100%	0%	0%
46	Rice Production Stabilization	10.065	9%	471	15	8.6	1286	$9	$11	0.04%	100%	0%	0%
47	Cancer Biology Research	93.396	50%	4,031	25	2.6	170	$9	$13	0.04%	0%	0%	100%
48	Title I Grants To Local Education Agencies	84.010	2%	135	25	10.6	1606	$9	$215	0.04%	0%	100%	0%
49	Engineering Grants	47.041	62%	4,995	25	2.4	141	$8	$11	0.04%	0%	0%	100%
50	Water And Waste Disposal System For Rural Communities	10.760	44%	3,190	22	2.0	101	$8	$11	0.04%	0%	0%	100%

3 Robustness Checks

3.1 Alternative Measures of District Partisanship

A key variable in our analysis is *District Republican Tendency*. To test its robustness as a measure of the partisan disposition of a House district's mass electorate, we reran the analysis from Table 1 using alternative measures. The results of these regressions are displayed in Table A8. In sum, the substantive findings of our analysis are robust to these alternative measures. The coefficients on the key independent variables and other covariates are consistent across the specifications.

The definitions of the alternative measures of each district's partisan disposition are below, beginning with the definition of the variable used in the paper:

1. **Original Measure of *District Republican Tendency*:** For each election, we calculate the proportion of the two-party vote share for the Republican presidential candidate in a district minus the average proportion of the Republican vote share in the general election across all districts. We then average this figure across all elections between censuses for which a district is geographically fixed. (See section 1.2 for more detailed definition.)
2. **Alternative Measure in Models (1) and (2):** This is calculated the same way as the original measure of *District Republican Tendency* except that it is not averaged within each geographic fixed effect. Instead, it is calculated based on the results from the most recent presidential election relative to when each legislator was elected (i.e., *District Republican Tendency* for legislators in office in 2009 would be based on the results from the 2008 presidential elections while for legislators in office in 2008, it would be based on the 2004 elections).
3. **Alternative Measure in Models (3) and (4):** This is the original measure of *District Republican Tendency* divided by its standard deviation in each presidential election.
4. **Alternative Measure in Models (5) and (6):** This is calculated the same way as the original measure of *District Republican Tendency* except that we do not subtract out the average proportion of the vote share for the Republican presidential candidate across all districts. Thus, this alternative measure of *District Republican Tendency* is the proportion of the two-party vote share for the Republican presidential candidate averaged across all elections between censuses for which a district is geographically fixed.
5. **Alternative Measure in Models (7) and (8):** This is the proportion of the two-party vote share for the Republican presidential candidate in the most recent presidential election relative to when each legislator was elected (i.e., *District Republican Tendency* for legislators in office in 2009 would be based on the results from the 2008 presidential elections while for legislators in office in 2008, it would be based on the 2004 elections).

Table A8: Models from Table 1, using alternative measures of *District Republican Tendency*

	(1)	(2)	(3	(4)	(5)	(6)	(7)	(8)
Alternative Measure of District Republican Tendency	District Republican Tendency in most recent Pres. election		District Republican Tendency divided by its Std. Dev.		Average Repub. Vote Share in Pres. elections w/in Fixed Effect		Repub. Vote Share in most recent Pres. election	
Range of Alt. Measure	(-1 to 1)		(0 to 6.64)		(0 to 1)		(0 to 1)	
Outcome Measure	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending
PRESIDENTIAL PARTY VARIABLES								
Member of President's Party (1=yes)	-0.016	-0.004	-0.014	-0.003	-0.013	-0.003	-0.002	-0.001
	[0.017]	[0.004]	[0.018]	[0.004]	[0.018]	[0.004]	[0.018]	[0.004]
Pres. is Repub. X District Republican Tendency (range varies)	0.643	0.135	0.094	0.019	0.646	0.128	0.457	0.093
	[0.120]***	[0.030]***	[0.018]***	[0.004]***	[0.132]***	[0.032]***	[0.136]***	[0.030]***
Member of Pres. Party x last election close	0.112	0.009	0.102	0.006	0.101	0.006	0.101	0.006
	[0.057]**	[0.013]	[0.056]*	[0.013]	[0.056]*	[0.013]	[0.056]*	[0.013]
Winning presidential candidate's margin in state (0-1)	-0.306	-0.101	-0.275	-0.095	-0.276	-0.095	-0.306	-0.100
	[0.121]**	[0.030]***	[0.119]**	[0.029]***	[0.119]**	[0.030]***	[0.129]**	[0.032]***
MAJORITY PARTY VARIABLES								
Member of House Majority (1=yes)	-0.044	-0.003	-0.025	0.000	-0.026	0.000	-0.042	-0.001
	[0.020]**	[0.004]	[0.019]	[0.004]	[0.019]	[0.004]	[0.020]**	[0.004]
House is Rep. X District Republican Tendency (range varies)	0.302	0.113	0.015	0.013	0.118	0.085	0.316	0.110
	[0.129]**	[0.035]***	[0.018]	[0.005]***	[0.130]	[0.035]**	[0.135]**	[0.036]***
Member of majority x last election close	0.143	0.015	0.126	0.013	0.127	0.012	0.140	0.014
	[0.061]**	[0.014]	[0.061]**	[0.014]	[0.061]**	[0.014]	[0.061]**	[0.014]
Member of majority party leadership (1=yes)	0.010	0.007	0.013	0.007	0.013	0.007	0.009	0.007
	[0.080]	[0.014]	[0.079]	[0.014]	[0.079]	[0.014]	[0.078]	[0.014]
Committee chair (1=yes)	-0.049	-0.009	-0.048	-0.009	-0.048	-0.008	-0.051	-0.009
	[0.030]	[0.008]	[0.030]	[0.008]	[0.030]	[0.008]	[0.030]*	[0.008]
Ranking minority member on committee (1=yes)	-0.020	-0.001	-0.021	-0.001	-0.021	-0.001	-0.019	-0.001
	[0.029]	[0.008]	[0.029]	[0.008]	[0.029]	[0.008]	[0.029]	[0.008]
Member of Appropriations Committee (1=yes)	0.022	0.004	0.021	0.003	0.021	0.003	0.022	0.003
	[0.034]	[0.008]	[0.034]	[0.008]	[0.034]	[0.008]	[0.034]	[0.008]
Member of Ways & Means Committee (1=yes)	-0.028	-0.008	-0.028	-0.008	-0.028	-0.008	-0.025	-0.007
	[0.032]	[0.009]	[0.032]	[0.009]	[0.032]	[0.009]	[0.032]	[0.009]
Member is Republican (1=yes)	-0.027	0.000	-0.018	0.002	-0.019	0.002	-0.028	0.001
	[0.030]	[0.006]	[0.030]	[0.006]	[0.030]	[0.006]	[0.030]	[0.006]
Member's last election was close (1=vote margin < 5%)	-0.048	-0.006	-0.034	-0.004	-0.034	-0.003	-0.042	-0.004
	[0.053]	[0.012]	[0.052]	[0.012]	[0.052]	[0.012]	[0.053]	[0.012]
Member is in first term (1=yes)	-0.032	-0.002	-0.032	-0.002	-0.032	-0.002	-0.030	-0.001
	[0.017]*	[0.004]	[0.017]*	[0.004]	[0.017]*	[0.004]	[0.017]*	[0.004]
Constant	19.381	19.037	19.229	19.281	21.620	21.604	21.590	21.599
	[0.028]***	[0.053]***	[0.032]***	[0.030]***	[0.006]***	[0.010]***	[0.007]***	[0.006]***
Observations	8035	8035	8035	8035	8035	8035	8035	8035
Number of FE: District geography by census	1116	1116	1116	1116	1116	1116	1116	1116
R-squared	0.36	0.69	0.36	0.69	0.36	0.69	0.36	0.69
Mean of outcome in sample	19.216	21.622	19.216	21.622	19.216	21.622	19.216	21.622

Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

3.2 One-year Lag between Spending and Political Variables

In the analysis, we follow previous work by linking the budget in fiscal year *t* to the members of Congress and president who created that budget in the previous calendar year (*t-1*). We include this lag because if presidential and Congressional influence on spending can occur *ex-ante* during the lawmaking and budgeting process, then one needs to link spending decisions to the officials who made them. Additionally, because the federal fiscal year begins on October 1 of the prior calendar year, failing to lag would in some cases attribute spending decisions to officials who had not yet taken office.

On the other hand, the one year lag between the implementation of the budget in year *t* and the officials serving in year *t-1* conflates ex-ante influence that occurs in year *t-1* and ex-post influence (which occurs in year *t*). Given the nature of the data, however, we cannot test the extent to which both types of influences occur by running the analysis without the one-year lag (i.e., by linking the budget in fiscal year *t* to officials in office in calendar year *t*). In odd-numbered fiscal years, this approach would be subject to measurement error due to when new congresses and presidents take office. The set of officials exerting ex-ante influence in these years differ from those exerting ex-post influence. They may also be operating under different majority and presidential parties. For example, consider the budget in fiscal year 2009, which was appropriated by a Democratic House majority and Republican presidency (Bush II) in calendar year 2008 but was susceptible to ex-post influence from a new congress (though still a Democratic-controlled House) and a new Democratic president (Obama) during the first three quarters of 2009. (The last quarter of 2009 is the first quarter of the fiscal year 2010 budget.) Given the change in partisan control, ex-ante presidential influence on the allocation of the 2009 budget should reflect republican priorities while ex-post presidential influence should reflect democratic ones. Thus, to the extent that ex-post influence occurs, the budget in odd-numbered fiscal years is susceptible to influence from a different set of officials potentially operating under a different partisan environment. As we discuss in the manuscript, anticipation of changes in partisan control likely incentivizes officials to pursue appropriation strategies that shield their spending priorities from ex-post influence (de Figueiredo 2002).

In even-numbered fiscal years, spending is susceptible to ex-ante and ex-post influence from the same set of officials operating in the same partisan environment. For example, spending in fiscal year 2008 was appropriated by officials in 2007 and susceptible to ex-post influence in 2008. Both of these years fall under the same Congress (the 110^{th}). Except for the few cases where members leave office mid-congress, the same officials in a democratic House and the same republican administration (Bush II) would have exerted both ex-ante and ex-post influence on the 2008 budget. Since the independent variables do not vary within congresses, the results of our analysis in even-numbered fiscal years would be identical whether we included a one-year lag or not.

A virtue of the budget in even-numbered fiscal years is that both ex-ante and ex-post influence should push spending in the same direction. Even though we cannot disentangle the effects of these two forms of influence on the geographic allocation of the budget, we can at least use the even-numbered fiscal years to analyze the distributive effects of shared partisanship with minimal concern of measurement error caused by ex-post manipulation.

In Table A9, we repeat the analyses from Tables 1 and 2 respectively, restricting the sample to observations from even-numbered years. In both tables, the effects on the presidential party variables are practically unchanged from the original analysis that includes all years with a one-year lag. In particular, the coefficient on the interaction term, *President is Republican X District Republican Tendency*, is but a hair larger in these specifications when examining high-variance spending and almost exactly the same with low-variance spending. The effects of the House majority party variables are similar except for the coefficient on the interaction term, *House is Republican X District Republican Tendency.* Instead of failing to find a positive effect as we do in Tables 1 and 2 when examining high-variance spending, both

models in Table A9 predict a large *negative* effect, meaning places with more Republican voters receive *less* high-variance spending in even-numbered years when the Republican party controls the House. Apart from this, the remaining predicted effects in the analysis of outlays in even-numbered years are similar to those in Tables 1 and 2.

We should note that this analysis of outlays in even-numbered fiscal years is not comparable to an analysis restricted to odd-numbered fiscal years, regardless of whether a one-year lag is used or not. Besides the issues of measurement error, there are also cyclical differences between even- and odd-numbered years that likely affect politicians' distributive strategies. These include the anticipation of changing party control in odd-numbered years and the occurrence of elections in even-numbered years.

Finally, these considerations about linking spending to the relevant political variables underscore the general possibility of measurement error in this and prior work. For example, awards may be reported in one lump sum even if actual spending is spread out over multiple years. Awards may also be from ongoing, multi-year appropriations authorized by statutes created several years earlier.

Table A9: Models from Tables 1 and 2, restricting sample to even-numbered years

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome measure	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending
Research Design	Pooled Cross-Sectional Design		Difference Design			
Cases included	All Districts, Even Years Only		Members serving in both House majority and minority, Even Years Only		Members serving with both same and opposite party president, Even Years Only	
PRESIDENTIAL PARTY VARIABLES						
Member of President's Party (1=yes)	-0.013	-0.001			-0.034	-0.007
	[0.020]	[0.004]			[0.023]	[0.006]
Pres. is Repub. X District Republican Tendency (-1 to 1)	0.782	0.128			0.724	0.162
	[0.141]***	[0.033]***			[0.165]***	[0.044]***
Member of Pres. Party x last election close	0.118	0.011	-0.156	-0.005	0.180	0.038
	[0.069]*	[0.017]	[0.109]	[0.023]	[0.161]	[0.032]
Winning presidential candidate's margin in state (0-1)	-0.211	-0.106	-0.305	-0.238	0.084	-0.116
	[0.135]	[0.030]***	[0.445]	[0.090]***	[0.170]	[0.044]***
HOUSE MAJORITY VARIABLES						
Member of House Majority (1=yes)	-0.025	-0.002	0.021	0.010		
	[0.023]	[0.005]	[0.029]	[0.007]		
House is Rep. X District Republican Tendency (-1 to 1)	-0.413	-0.008	-0.470	-0.049		
	[0.172]**	[0.038]	[0.202]**	[0.048]		
Member of majority x last election close	0.122	0.019	-0.014	-0.051	0.142	0.026
	[0.072]*	[0.019]	[0.150]	[0.053]	[0.150]	[0.034]
Member of majority party leadership (1=yes)	0.059	0.009	0.413	0.049	0.096	0.002
	[0.094]	[0.016]	[0.202]**	[0.046]	[0.285]	[0.039]
Committee chair (1=yes)	-0.043	-0.005	0.017	-0.001	0.022	-0.019
	[0.036]	[0.008]	[0.064]	[0.018]	[0.076]	[0.013]
Ranking minority member on committee (1=yes)	-0.037	-0.004	0.030	-0.007	0.067	0.016
	[0.031]	[0.008]	[0.055]	[0.020]	[0.045]	[0.009]*
Member of Appropriations Committee (1=yes)	0.035	0.004	0.080	0.004	0.097	-0.005
	[0.037]	[0.009]	[0.067]	[0.021]	[0.084]	[0.021]
Member of Ways & Means Committee (1=yes)	-0.006	-0.012	0.136	-0.004	-0.071	-0.012
	[0.037]	[0.011]	[0.069]**	[0.036]	[0.098]	[0.017]
Member is Republican (1=yes)	-0.021	0.002				
	[0.035]	[0.008]				
Member is in first term (1=yes)	-0.042	-0.011	0.195	0.004	-0.193	-0.046
	[0.066]	[0.016]	[0.090]**	[0.016]	[0.168]	[0.037]
Member's last election was close (1=vote margin < 5%)	-0.032	-0.001	-0.083	0.020	-0.029	-0.005
	[0.020]	[0.004]	[0.065]	[0.015]	[0.030]	[0.007]
Constant	19.066	21.596	19.214	21.747	19.559	21.852
	[0.029]***	[0.007]***	[0.058]***	[0.013]***	[0.032]***	[0.009]***
Observations	4,574	4,574	1,634	1,634	1,578	1,578
R-squared	0.381	0.679	0.185	0.279	0.481	0.577
Mean of outcome in sample	19.239	21.637	19.331	21.787	19.434	21.842
Number of Fixed Effects	1,118	1,118	529	529	570	570

Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

3.3 Districts with "common support" for both parties

As discussed in the manuscript, one concern with our analysis is the source of variation in the key independent variables and, in particular, whether sufficient leverage exists to distinguish legislator partisanship from voter partisanship given the strong correlation between these variables. We address this issue in three ways. The first is provided by our difference models (see the section "Robustness: Difference Models" in the manuscript). The second approach is to analyze the data graphically (see Figure 1 and the section "Additional Robustness Checks" in the manuscript).

The third robustness check is to examine the range of district partisanship for which both Democrats and Republican House members are elected and see how many members of the legislature fall into this "overlap." That is, how many Democrats are elected from places that are at least as conservative as a place that elects a Republican in that election year, and how many Republicans are elected from places that are at least as liberal as a place that elects a Democrat. For the cases included in our analysis, 91% of observations from the 1980s are from this overlap region, 79% in the 1990s, but only 68% in the 2000s. Over time, similarly, there is a smaller range of district partisanship that supports members of both parties (from .38 of the one-point range in the 1980s, to .29 in the 2000s).

In light of this changing range of district partisanship that provides "common support" for both parties, we have repeated our regression analysis (Tables 1 and 2) but eliminated all cases outside of this overlap region. In other words, all districts with a Republican tendency more conservative than the most conservative place that elected a Democrat or more liberal than the most liberal place that elected a Republican are eliminated. This ensures our parameter estimates are derived from the types of districts (in terms of voter preferences) that have both Democratic and Republican legislators in each election cycle.

To summarize those results in this restricted sample, the only substantive difference is that the coefficient on the interaction *House Republican* × *District Republican Tendency* is no longer significant in explaining overall spending. We continue to find strong and statistically significant evidence that the interaction of a president's partisanship and voter preferences explains differences in district-level spending. At the same time, there is no evidence that presidents generate greater resources for districts represented by fellow party members. This pattern also holds graphically as illustrated in figure 1 of the manuscript. Overall, the correlation between voter preferences and which places elect Democratic and Republican House members therefore does not appear to explain the lack of evidence that presidents garner additional resources for all of their party's House members.

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Table A10: Models from Tables 1 and 2, restricting the sample to districts with "common support" for both parties

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome measure	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending
Research Design	Pooled Cross-Section Design		Difference Design			
Cases included	All Districts with "Common Support"		Members serving in both House majority and minority in "Common Support" Districts		Members serving with both same and opposite party president in "Common Support" Districts	
PRESIDENTIAL PARTY VARIABLES						
Member of President's Party (1=yes)	-0.031	-0.006			-0.045	-0.014
	[0.019]	[0.005]			[0.023]*	[0.007]*
Pres. is Repub. X District Republican Tendency (-1 to 1)	1.169 [0.296]***	0.259 [0.062]***			1.005 [0.330]***	0.321 [0.097]***
Member of Pres. Party x last election close	0.142	0.013	0.069	-0.013	0.204	0.051
	[0.056]**	[0.013]	[0.075]	[0.017]	[0.141]	[0.028]*
Winning presidential candidate's margin in state (0-1)	-0.344 [0.127]***	-0.130 [0.033]***	-0.413 [0.375]	-0.376 [0.094]***	-0.148 [0.162]	-0.156 [0.050]***
HOUSE MAJORITY VARIABLES						
Member of House Majority (1=yes)	-0.047	-0.004	-0.018	0.007		
	[0.020]**	[0.004]	[0.025]	[0.006]		
House is Rep. X District Republican Tendency (-1 to 1)	-0.134 [0.270]	0.054 [0.061]	-0.347 [0.283]	-0.039 [0.074]		
Member of majority x last election close	0.159	0.019	0.088	-0.008	0.162	0.041
	[0.061]***	[0.014]	[0.108]	[0.032]	[0.137]	[0.032]
Member of majority party leadership (1=yes)	-0.011 [0.088]	0.005 [0.016]	0.295 [0.207]	0.015 [0.063]	0.105 [0.341]	0.022 [0.045]
Committee chair (1=yes)	-0.021	-0.007	0.039	-0.014	0.013	-0.021
	[0.037]	[0.010]	[0.056]	[0.017]	[0.070]	[0.014]
Ranking minority member on committee (1=yes)	-0.029 [0.035]	-0.007 [0.009]	0.064 [0.051]	-0.006 [0.023]	0.115 [0.073]	0.005 [0.009]
Member of Appropriations Committee (1=yes)	0.029 [0.040]	0.005 [0.009]	0.102 [0.077]	0.015 [0.015]	0.151 [0.084]*	0.017 [0.016]
Member of Ways & Means Committee (1=yes)	-0.028 [0.038]	-0.003 [0.008]	0.066 [0.116]	0.040 [0.022]*	0.017 [0.080]	0.000 [0.013]
Member is Republican (1=yes)	-0.015 [0.030]	0.002 [0.007]				
Member is in first term (1=yes)	-0.015 [0.017]	-0.001 [0.004]	-0.014 [0.052]	0.014 [0.013]	-0.007 [0.030]	0.002 [0.007]
Member's last election was close (1=vote margin < 5%)	-0.069 [0.053]	-0.008 [0.012]	-0.012 [0.065]	0.005 [0.014]	-0.174 [0.150]	-0.052 [0.034]
Constant	18.946 [0.029]***	21.480 [0.007]***	19.055 [0.051]***	21.727 [0.013]***	19.178 [0.029]***	21.735 [0.006]***
Observations	6420	6420	2189	2189	1841	1841
R-squared	0.343	0.684	0.275	0.584	0.384	0.568
Mean of outcome in sample	19.12	21.58	19.322	21.744	19.245	21.797
Number of Fixed Effects	945	945	353	353	389	389

Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

3.4 Accounting for Senate Partisanship

Although our analysis focuses primarily on the influence of presidential and House majority partisanship on the geographic allocation of federal spending, partisanship in the Senate may also have an influence, especially given the strong interbranch effects between the presidency and House. As we note above, for important theoretical reasons our data exclude resources that flow to state capitals, but Senators are arguably far less concerned about targeting specific geographic areas in their state than they are in bringing home rewards for their entire state (Lee and Oppenheimer 1999). Thus, to understand the role of Senators, we would likely need to undertake different analyses (e.g., Lazarus and Steigerwalt 2009). Additionally, malapportionment in the Senate makes forming majorities across the House and Senate subject to concerns about the "costs" of attracting the votes of Senators from states that differ widely in their population (Lee 2000).

Although a full theoretical treatment of how the partisan environment in the Senate affects distributive outcomes is beyond the scope of this paper, we do consider whether Senate related variables affect the results of our analysis. In table A11, we repeat our regression analysis with variables indicating the number of Senators from the districts' state who are in the Senate majority, the interaction of whether the majority party in the Senate is republican and the districts' republican tendency,[4] and the number of Senators from the districts' state who are in the president's party. Including these variables, however, does not affect the results.

[4] As in the models in Table 1 and 2, the indicator variable of whether the Senate majority is Republican or Democratic is subsumed in the geographic and year fixed effects.

Table A11: Models from Table 1, including Senate-related variables

	(1)	(2)	(3)	(4)
Outcome measure	Log of High Variance Spending		Log of All Spending	
SENATE VARIABLES				
Senators in Pres. party (0-2)	0.012	0.004	0.000	0.000
	[0.008]	[0.009]	[0.002]	[0.002]
Number of majority party Senators (0-2)	-0.006	-0.009	0.001	0.001
	[0.006]	[0.007]	[0.001]	[0.001]
Senate is Rep. X District Republican Tendency		0.097		-0.071
		[0.185]		[0.026]***
Number of Republican Senators (0-2)		0.022		-0.010
		[0.015]		[0.004]***
PRESIDENTIAL PARTY VARIABLES				
Member of President's Party (1=yes)	0.033	-0.012	0.006	-0.003
	[0.014]**	[0.018]	[0.003]*	[0.004]
Pres. is Repub. X District Republican Tendency (-1 to 1)		0.667		0.094
		[0.160]***		[0.038]**
Member of Pres. Party x last election close		0.103		0.006
		[0.056]*		[0.013]
Winning presidential candidate's margin in state (0-1)		-0.288		-0.093
		[0.126]**		[0.029]***
HOUSE MAJORITY VARIABLES				
Member of House Majority (1=yes)	-0.004	-0.027	0.009	0.000
	[0.015]	[0.019]	[0.003]***	[0.004]
House is Rep. X District Republican Tendency (-1 to 1)		0.049		0.160
		[0.243]		[0.047]***
Member of majority x last election close		0.129		0.011
		[0.061]**		[0.014]
Member of majority party leadership (1=yes)		0.008		0.011
		[0.079]		[0.014]
Committee chair (1=yes)		-0.052		-0.008
		[0.030]*		[0.008]
Ranking minority member on committee (1=yes)		-0.022		-0.001
		[0.029]		[0.008]
Member of Appropriations Committee (1=yes)		0.015		0.003
		[0.034]		[0.008]
Member of Ways & Means Committee (1=yes)		-0.032		-0.008
		[0.032]		[0.009]
Member is Republican (1=yes)		-0.021		0.003
		[0.030]		[0.006]
Member is in first term (1=yes)		-0.032		-0.002
		[0.017]*		[0.004]
Member's last election was close (1=vote margin < 5%)		-0.034		-0.002
		[0.052]		[0.012]
Constant	19.273	19.330	21.595	21.613
	[0.022]***	[0.032]***	[0.005]***	[0.008]***
Observations	8062	8062	8062	8062
Number of Fixed Effects: District geography by census	1118	1118	1118	1118
R-squared	0.356	0.363	0.691	0.695
Mean of outcome in sample	19.220	19.220	21.620	21.620

Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

3.5 State Capital Districts

As explained in section 1.3 and in the paper, we exclude from our analysis House districts that overlap with counties that contain the state capital. In Table A12, we repeat the analysis from models in Tables 1 and 2 but include state capital House districts in the sample. Overall, the results are similar to those when these state capital districts are excluded. There are a few noteworthy differences in the pooled cross-sectional design (models [1] and [2]). The coefficients on *Member of Pres. Party X Last Election Close* and *Winning Presidential Candidate's Margin in State* are attenuated, losing their statistical significance. On the other hand, we now find evidence that Republican places receive more high-variance and overall spending when Republicans control the House.

Table A12: Models from Tables 1 and 2, including State Capital Districts

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome measure	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending	Log of High Variance Spending	Log of All Spending
Research Design	Pooled Cross-Sectional Design		Difference Design			
Cases included	All Districts		Members serving in both House majority and minority		Members serving with both same and opposite party president	
PRESIDENTIAL PARTY VARIABLES						
Member of President's Party (1=yes)	-0.019	-0.004			-0.041	-0.010
	[0.015]	[0.005]			[0.018]**	[0.006]*
Pres. is Repub. X District Republican Tendency (-1 to 1)	0.629	0.129			0.654	0.165
	[0.121]***	[0.035]***			[0.140]***	[0.043]***
Member of Pres. Party x last election close	0.076	0.015	-0.112	-0.023	0.111	0.016
	[0.049]	[0.013]	[0.075]	[0.022]	[0.130]	[0.030]
Winning presidential candidate's margin in state (0-1)	-0.062	-0.054	-0.508	-0.259	0.014	-0.098
	[0.100]	[0.028]*	[0.297]*	[0.075]***	[0.132]	[0.042]**
HOUSE MAJORITY VARIABLES						
Member of House Majority (1=yes)	-0.029	0.001	-0.004	0.009		
	[0.018]	[0.004]	[0.020]	[0.006]		
House is Rep. X District Republican Tendency (-1 to 1)	0.218	0.102	0.097	0.053		
	[0.119]*	[0.033]***	[0.128]	[0.042]		
Member of majority x last election close	0.100	0.019	0.087	-0.005	0.058	0.003
	[0.052]*	[0.014]	[0.108]	[0.028]	[0.128]	[0.033]
Member of majority party leadership (1=yes)	-0.111	-0.034	0.248	0.029	0.081	0.023
	[0.106]	[0.030]	[0.142]*	[0.034]	[0.255]	[0.034]
Committee chair (1=yes)	-0.031	-0.008	0.050	0.002	0.009	-0.012
	[0.028]	[0.008]	[0.042]	[0.013]	[0.046]	[0.012]
Ranking minority member on committee (1=yes)	-0.016	0.000	0.057	0.005	0.057	0.011
	[0.026]	[0.008]	[0.039]	[0.016]	[0.047]	[0.011]
Member of Appropriations Committee (1=yes)	0.027	0.007	0.050	0.007	0.060	-0.010
	[0.029]	[0.008]	[0.044]	[0.016]	[0.054]	[0.015]
Member of Ways & Means Committee (1=yes)	-0.015	-0.004	0.088	-0.001	0.020	0.011
	[0.026]	[0.008]	[0.066]	[0.028]	[0.056]	[0.017]
Member is Republican (1=yes)	-0.028	-0.001				
	[0.024]	[0.007]				
Member is in first term (1=yes)	-0.036	-0.007	-0.078	0.000	-0.049	-0.014
	[0.015]**	[0.004]*	[0.045]*	[0.012]	[0.024]**	[0.007]**
Member's last election was close (1=vote margin < 5%)	0.008	-0.004	0.100	0.006	-0.077	-0.014
	[0.047]	[0.014]	[0.063]	[0.019]	[0.133]	[0.035]
Constant	19.701	21.709	19.588	21.937	19.726	21.912
	[0.026]***	[0.007]***	[0.046]***	[0.012]***	[0.024]***	[0.007]***
Observations	10,243	10,243	4,117	4,117	3,288	3,288
R-squared	0.318	0.645	0.249	0.572	0.337	0.495
Mean of outcome in sample	19.578	21.712	19.689	21.870	19.750	21.914
Number of Fixed Effects	1,409	1,409	677	677	727	727

Robust standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%

3.6 Alternative Thresholds for Identifying High-Variation Programs

In Table A13, we run the model (4) specification from Table 1 using alternative thresholds for identifying high-variance programs. Even with a much higher threshold, we still find evidence that presidents target supporters in the electorate (although the marginal effects are much smaller). The same is not true for the House majority. We only find an effect on the interaction term, *House is Republican X District Republican Tenden*cy, for the lowest threshold tested in model (1).

Table A13: Model from Table 1 using alternative thresholds for identifying high-variance programs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outcome measure	Log of High Variance Spending (Using Alternative Thresholds)						
Threshold for Determining High Variance Programs	Coeff. of Var. > .33	Coeff. of Var. > .67	Coeff. of Var. > 1 (Used in Paper)	Coeff. of Var. > 1.33	Coeff. of Var. > 1.67	Coeff. of Var. > 2	Coeff. of Var. > 3
PRESIDENTIAL PARTY VARIABLES							
Member of President's Party (1=yes)	-0.006	-0.011	-0.014	-0.005	-0.004	-0.003	-0.023
	[0.006]	[0.014]	[0.018]	[0.021]	[0.022]	[0.022]	[0.029]
Pres. is Repub. X District Republican Tendency (-1 to 1)	0.179 [0.044]***	0.551 [0.109]***	0.658 [0.132]***	0.625 [0.149]***	0.674 [0.160]***	0.664 [0.164]***	0.931 [0.219]***
Marginal Effects (millions $)	$56.5	$37.6	$43.8	$21.7	$20.5	$19.8	$14.0
Member of Pres. Party x last election close	0.017	0.095	0.104	0.123	0.139	0.136	0.167
	[0.018]	[0.044]**	[0.056]*	[0.063]*	[0.069]**	[0.070]*	[0.098]*
Winning presidential candidate's margin in state (0-1)	-0.171 [0.042]***	-0.269 [0.096]***	-0.258 [0.118]**	-0.291 [0.133]**	-0.318 [0.144]**	-0.333 [0.145]**	-0.566 [0.185]***
HOUSE MAJORITY VARIABLES							
Member of House Majority (1=yes)	0.001	-0.015	-0.025	-0.013	-0.018	-0.017	-0.013
	[0.006]	[0.015]	[0.019]	[0.023]	[0.026]	[0.027]	[0.031]
House is Rep. X District Republican Tendency (-1 to 1)	0.097 [0.048]**	0.037 [0.109]	0.109 [0.130]	-0.009 [0.170]	-0.057 [0.184]	-0.053 [0.187]	-0.129 [0.221]
Marginal Effects (millions $)	$30.6	$2.5	$7.3	-$0.3	-$1.7	-$1.6	-$1.9
Member of majority x last election close	0.020	0.107	0.125	0.126	0.133	0.130	0.143
	[0.020]	[0.048]**	[0.061]**	[0.071]*	[0.077]*	[0.078]*	[0.110]
... The regular covariates were included in the specification but are not shown to save space...							
Constant	20.577 [0.009]***	19.017 [0.022]***	19.054 [0.028]***	18.404 [0.031]***	18.281 [0.034]***	18.259 [0.035]***	17.515 [0.046]***
Observations	8057	8057	8057	8057	8057	8057	8057
Number of Fixed Effects	1118	1118	1118.000	1118	1118	1118	1118
R-squared	0.804	0.473	0.367	0.269	0.262	0.263	0.251
Mean of outcome in sample	20.774	19.243	19.217	18.566	18.436	18.415	17.727

Robust standard errors in brackets.
^Predicted marginal effects are in millions of USD for a 30% pt. increase in District Republican Tendency.
* significant at 10%; ** significant at 5%; *** significant at 1%

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