

TESTING MODELS OF DISTRIBUTIVE POLITICS USING EXIT POLLS TO MEASURE VOTER PREFERENCES AND PARTISANSHIP

by Valentino Larcinese, James Snyder and Cecilia Testa

Appendix

In this Appendix we provide further information and robustness checks relative to the material presented in the paper “Testing Models of Distributive Politics Using Exit Polls to Measure Voters’ Preferences and Partisanship”.

The Appendix is divided in three Sections.

In Section A we provide the results of a simulation exercise that, compared to Table 1 in the paper, takes into account the possibility of measurement error (Table A1). We also provide summary statistics for all variables (Table A2) and a correlation matrix for our main explanatory variables (Table A3)

In Section B (Tables B1-B12) we report detailed regression tables corresponding to the coefficients presented in the main text in Table 3.

In Section C (Tables C1-C12), we report detailed regression tables when we include Census division dummies to take into account possible spatial correlation in the dependent variables. In specifications without state fixed effects we include division fixed effects and division-specific trends. In specifications with state fixed effects we only include division-specific trends. The Census divides the US contiguous states into nine divisions reported below:

Division 1: CT, MA, ME, NH, RI, VT

Division 2: NJ, NY, PA

Division 3: IL, IN, MI, OH, WI

Division 4: IA, KS, MN, MO, ND, NE, SD

Division 5: DE, FL, GA, MD, NC, SC, VA, WV

Division 6: AL, KY, MS, TN

Division 7: AR, LA, OK, TX

Division 8: AZ, CO, ID, MT, NM, NV, UT, WY

Division 9: CA, OR, WA

Table A1: Simulation Results with and without measurement error							
Case 1: $\alpha_P = \beta_P = 0$, $\beta_I = 1.0$, $\sigma_\mu = .20$, $\sigma_\epsilon = .09$							
		Model 4, meas error			Model 4, no error		
α_I	α_C	\hat{a}_I	\hat{a}_C	\hat{a}_P	\hat{a}_I	\hat{a}_C	\hat{a}_P
0.0	0.0	-.01	.09	.27	-.00	.09	.27
0.0	0.5	.05	.39	.22	.11	.39	.24
0.0	1.0	.13	.54	.19	.26	.56	.19
0.5	0.0	.20	.08	.29	.49	.08	.29
0.5	0.5	.23	.43	.26	.54	.44	.26
0.5	1.0	.28	.69	.23	.63	.71	.22
1.0	0.0	.39	.11	.30	.99	.07	.30
1.0	0.5	.40	.51	.27	1.00	.48	.27
1.0	1.0	.43	.80	.25	1.05	.80	.24

The table above gives the basic type of results from the simulations when there is measurement error in the “direct” measure of voters’ partisanship – i.e. in the share of independent, I_j . We focus on the first panel from the original simulations. The figures from the original simulations are shown on the right, in the columns under the heading “Model 4, no error.” The new results are shown on the left, in the columns under the heading “Model 5, meas error.” Not surprisingly, the estimated coefficient on the term measured with error – i.e., \hat{a}_I – is biased toward zero. This is the usual attenuation bias, and is large because the amount of error added to the underlying variable is quite large. Not much else is going on, however. In particular, the average estimated values for \hat{a}_c and \hat{a}_p are quite similar to the average estimated values when there is no measurement error in I_j .

Table A2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
federal expenditure (real per capita 1,000 USD)	1174	3.0705	0.6095	1.7948	5.6807
targetable spending (real per capita 1,000 USD)	1126	1.4840	0.5199	0.4325	3.5832
grants (real per capita 1,000 USD)	1174	0.5118	0.1673	0.2315	1.3872
share of independents	1174	0.2732	0.0819	0.0934	0.7500
closeness (poll data)	1174	0.8850	0.0880	0.5610	1.0000
partisan alignment	1174	0.3633	0.0761	0.0000	0.6161
standard deviation of democratic vote	1174	0.0579	0.0296	0.0017	0.2218
closeness (voting data)	1174	0.8559	0.1012	0.4407	0.9999
vote share of incumbent president	1174	0.5497	0.0636	0.3435	0.7797
income (real per capita 1,000 USD)	1174	13.9622	2.5302	8.6011	24.0687
population (thousand)	1174	5291	5501	425	35100
share of population above 65	1174	0.1226	0.0214	0.0455	0.3760
share of population in schooling age (5-17)	1174	0.1941	0.0271	0.0233	0.6199
unemployment (percentage)	1174	6.0026	2.1078	2.2000	18
natural disaster	1174	0.5162	0.5000	0.0000	1

Table A3. Correlation matrix of main explanatory variables

	share of Independents	standard deviation of Democratic vote	closeness (exit polls)	closeness (voting)	share of Presidential copartisans (party identification)	share of Presidential vote
share of Independents	1					
standard deviation of Democratic vote	-0.0074	1				
closeness (exit polls)	0.1015	-0.3469	1			
closeness (voting)	0.0298	-0.1168	0.166	1		
share of Presidential copartisans (party identification)	-0.5559	0.0003	-0.3469	-0.2629	1	
share of Presidential vote	-0.1101	0.2165	-0.0477	-0.684	0.3887	1

Table B1. Testing the swing voter hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
share independents	0.3409 (0.5912)		-0.3660 (0.3539)		0.2520 (0.6581)		0.1167 (0.5754)	
standard deviation of Democratic vote		0.5218 (1.0483)		-1.3085*** (0.4751)		0.6772 (1.0917)		-1.3023** (0.5213)
income	0.0089 (0.0263)	0.0161 (0.0260)	-0.0598* (0.0333)	-0.0574* (0.0315)	0.0093 (0.0271)	0.0157 (0.0267)	-0.0677* (0.0372)	-0.0656* (0.0347)
population (log)	-0.0791 (0.0520)	-0.0899* (0.0504)	-1.3526*** (0.2110)	-1.3660*** (0.1958)	-0.0951 (0.0572)	-0.1022* (0.0541)	-1.3004*** (0.2293)	-1.3354*** (0.2114)
share aged >65	5.3127*** (1.3666)	5.3792*** (1.4186)	9.5203*** (2.5517)	9.6081*** (2.4358)	5.6518*** (1.4032)	5.7140*** (1.4664)	11.1723*** (2.8633)	11.0043*** (2.7512)
share aged 5-17	-2.2241*** (0.8260)	-2.3886*** (0.8722)	-4.4705*** (1.3216)	-4.3372*** (1.2960)	-2.5409** (0.9634)	-2.6765*** (0.9916)	-5.3428*** (1.4399)	-5.1628*** (1.4101)
unemployment rate	0.0001 (0.0182)	-0.0009 (0.0187)	-0.0042 (0.0137)	-0.0015 (0.0128)	-0.0017 (0.0244)	-0.0027 (0.0246)	-0.0079 (0.0174)	-0.0048 (0.0158)
natural disaster	0.0356 (0.0341)	0.0355 (0.0351)	0.0226 (0.0151)	0.0238 (0.0154)	0.1193 (0.1076)	0.1131 (0.1099)	0.0520 (0.0572)	0.0601 (0.0587)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6360	0.6351	0.9178	0.9194	0.6602	0.6604	0.9472	0.9490

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B2. Testing the battleground hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
closeness (poll data)	-0.8658* (0.4869)		0.1896 (0.1949)		-0.8579 (0.5404)		0.2039 (0.2004)	
closeness (voting data)		-0.4902* (0.2824)		0.1005 (0.1593)		-0.7128** (0.3196)		-0.0142 (0.1753)
income	0.0204 (0.0264)	0.0121 (0.0260)	-0.0600* (0.0337)	-0.0573 (0.0343)	0.0185 (0.0271)	0.0113 (0.0264)	-0.0676* (0.0371)	-0.0679* (0.0379)
population (log)	-0.0875* (0.0481)	-0.0763 (0.0508)	-1.3469*** (0.2088)	-1.3742*** (0.2246)	-0.0987* (0.0523)	-0.0840 (0.0527)	-1.3088*** (0.2249)	-1.2982*** (0.2364)
share aged >65	5.8026*** (1.4610)	5.8547*** (1.4542)	9.7411*** (2.5239)	9.7230*** (2.5420)	6.1834*** (1.5319)	6.5063*** (1.5978)	11.0145*** (2.8707)	11.0896*** (2.8647)
share aged 5-17	-2.9687*** (0.9908)	-2.7366*** (0.8689)	-4.4989*** (1.3197)	-4.5581*** (1.3277)	-3.1819*** (1.1142)	-3.1651*** (1.0657)	-5.2243*** (1.4597)	-5.3027*** (1.4520)
unemployment rate	-0.0062 (0.0185)	0.0034 (0.0187)	-0.0026 (0.0140)	-0.0033 (0.0142)	-0.0092 (0.0244)	0.0050 (0.0245)	-0.0062 (0.0171)	-0.0079 (0.0174)
natural disaster	0.0311 (0.0340)	0.0353 (0.0351)	0.0236 (0.0153)	0.0232 (0.0150)	0.1048 (0.1069)	0.1224 (0.1098)	0.0573 (0.0572)	0.0528 (0.0560)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6470	0.6393	0.9178	0.9176	0.6702	0.6688	0.9474	0.9472

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B3. Testing the partizanship hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
partisan alignment	-0.0975 (0.4230)		0.3610** (0.1739)		-0.0004 (0.4711)		0.3832** (0.1903)	
vote share of incumbent president		0.4364* (0.2445)		0.1024 (0.1555)		0.8062** (0.3045)		0.3281* (0.1719)
income	0.0135 (0.0256)	0.0139 (0.0262)	-0.0591* (0.0332)	-0.0600* (0.0336)	0.0134 (0.0262)	0.0143 (0.0269)	-0.0647* (0.0369)	-0.0656* (0.0376)
population (log)	-0.0888* (0.0502)	-0.0868* (0.0504)	-1.3190*** (0.2173)	-1.3342*** (0.2083)	-0.1031* (0.0544)	-0.0971* (0.0533)	-1.2796*** (0.2322)	-1.2846*** (0.2219)
share aged >65	5.3332*** (1.3502)	5.4806*** (1.4037)	9.7144*** (2.5196)	9.7966*** (2.5482)	5.7173*** (1.4048)	5.9860*** (1.4766)	11.0792*** (2.7893)	10.9830*** (2.8095)
share aged 5-17	-2.3465*** (0.8217)	-2.4471*** (0.8463)	-4.4764*** (1.3178)	-4.5833*** (1.3320)	-2.6542*** (0.9538)	-2.8248*** (0.9771)	-5.2234*** (1.4081)	-5.2654*** (1.4169)
unemployment rate	-0.0008 (0.0191)	0.0000 (0.0186)	-0.0024 (0.0135)	-0.0039 (0.0139)	-0.0015 (0.0256)	0.0001 (0.0241)	-0.0057 (0.0166)	-0.0088 (0.0171)
natural disaster	0.0370 (0.0350)	0.0322 (0.0351)	0.0187 (0.0146)	0.0214 (0.0150)	0.1182 (0.1080)	0.1099 (0.1077)	0.0462 (0.0567)	0.0484 (0.0565)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6347	0.6361	0.9186	0.9176	0.6596	0.6640	0.9481	0.9478

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B4. Testing swing, battleground and partizanship hypotheses in one equation (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
share independents)	0.4288 (0.5280)		-0.1183 (0.3745)		0.3755 (0.5941)		0.3484 (0.5763)	
closeness (poll data)	-0.8662* (0.4796)		0.1792 (0.1951)		-0.8572 (0.5390)		0.2317 (0.2058)	
partisan alignment	0.1637 (0.2779)		0.3390 (0.2041)		0.1998 (0.3159)		0.4330** (0.2129)	
standard deviation of Democratic vote	0.3597 (1.0264)			-1.4605*** (0.4945)		0.1858 (1.0509)		-1.4103** (0.5719)
closeness (voting data)	-0.5389 (0.3870)		0.3644 (0.2553)		-0.6263 (0.3744)		0.1591 (0.2608)	
vote share of incumbent president	-0.1528 (0.3773)		0.5583** (0.2551)		0.2129 (0.3443)		0.5524** (0.2613)	
income	0.0149 (0.0272)	0.0133 (0.0259)	-0.0595* (0.0331)	-0.0510 (0.0336)	0.0146 (0.0281)	0.0124 (0.0267)	-0.0647* (0.0373)	-0.0590 (0.0382)
population (log)	-0.0759 (0.0493)	-0.0760 (0.0513)	-1.3281*** (0.2179)	-1.4399*** (0.2164)	-0.0898 (0.0547)	-0.0845 (0.0534)	-1.2774*** (0.2322)	-1.3567*** (0.2163)
share aged >65	5.7955*** (1.4128)	5.8673*** (1.4783)	9.5740*** (2.4926)	9.2919*** (2.3691)	6.2092*** (1.4882)	6.4804*** (1.6026)	11.2675*** (2.8156)	10.7552*** (2.6454)
share aged 5-17	-2.8257*** (0.9595)	-2.7581*** (0.8930)	-4.3689*** (1.2975)	-4.2336*** (1.2502)	-3.0785*** (1.0959)	-3.1542*** (1.0652)	-5.2538*** (1.4183)	-5.0662*** (1.3439)
unemployment rate	-0.0048 (0.0178)	0.0032 (0.0188)	-0.0017 (0.0135)	-0.0013 (0.0131)	-0.0077 (0.0240)	0.0043 (0.0246)	-0.0034 (0.0168)	-0.0053 (0.0158)
natural disaster	0.0292 (0.0341)	0.0360 (0.0353)	0.0201 (0.0152)	0.0212 (0.0151)	0.1043 (0.1073)	0.1183 (0.1115)	0.0476 (0.0590)	0.0540 (0.0592)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6485	0.6396	0.9189	0.9205	0.6712	0.6691	0.9486	0.9502

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B5. Testing the swing voter hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
share independents	0.4078 -0.5614		-0.4018 -0.3384		0.2909 (0.6098)		-0.3337 (0.5771)	
standard deviation of Democratic vote		0.3528 -0.9516		-0.8402 -0.5333		0.5181 (0.9824)		-0.8957 (0.5653)
income	0.0218 -0.0258	0.0297 -0.0249	-0.031 -0.0375	-0.0295 -0.0364	0.0233 (0.0257)	0.0298 (0.0247)	-0.0330 (0.0423)	-0.0320 (0.0410)
population (log)	-0.0656 -0.0507	-0.0791 -0.0486	-0.5504* -0.2818	-0.5474* -0.2792	-0.0730 (0.0526)	-0.0815* (0.0476)	-0.4362 (0.3429)	-0.4528 (0.3386)
share aged >65	-2.9507** -1.3476	-2.8717** -1.3915	5.4185** -2.3877	5.5689** -2.2291	-2.7422** (1.2439)	-2.6691** (1.2997)	6.8382** (2.9018)	7.0395** (2.7542)
share aged 5-17	0.9882 -0.9199	0.8085 -0.9426	-2.4858** -1.0084	-2.3899** -0.9767	1.2085 (0.8945)	1.0606 (0.9115)	-2.9684** (1.3861)	-2.9952** (1.3395)
unemployment rate	-0.0286 -0.0178	-0.0295 -0.0185	-0.0141 -0.0135	-0.0123 -0.0128	-0.0325 (0.0229)	-0.0332 (0.0233)	-0.0170 (0.0166)	-0.0148 (0.0159)
natural disaster	0.036 -0.0326	0.0365 -0.0334	0.0237 -0.0161	0.0241 -0.0164	0.0957 (0.0896)	0.0905 (0.0913)	0.0399 (0.0634)	0.0423 (0.0640)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.5726	0.5701	0.8942	0.8948	0.6003	0.5998	0.9231	0.9241

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B6. Testing the battleground hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
closeness (poll data)	-0.7512*		0.0997		-0.7076		0.1849	
	-0.4338		-0.1929		(0.4732)		(0.1984)	
closeness (voting data)		-0.294		0.0612		-0.4850*		-0.0090
		-0.2593		-0.1584		(0.2786)		(0.1721)
income	0.0336	0.0269	-0.0312	-0.0296	0.0323	0.0266	-0.0333	-0.0335
	-0.0254	-0.0255	-0.0382	-0.0391	(0.0252)	(0.0249)	(0.0428)	(0.0434)
population (log)	-0.0771	-0.071	-0.5414*	-0.5584*	-0.0786*	-0.0692	-0.4358	-0.4274
	-0.0466	-0.05	-0.2861	-0.2893	(0.0463)	(0.0474)	(0.3439)	(0.3546)
share aged >65	-2.5686*	-2.6232*	5.6880**	5.6525**	-2.2821	-2.1297	7.0315**	7.0978**
	-1.4371	-1.413	-2.3234	-2.3329	(1.3716)	(1.3712)	(2.8416)	(2.8179)
share aged 5-17	0.2258	0.5542	-2.5545**	-2.5861**	0.6425	0.7300	-3.0208**	-3.0913**
	-1.1282	-0.963	-1.013	-0.9935	(1.0522)	(0.9692)	(1.3752)	(1.3554)
unemployment rate	-0.0340*	-0.0268	-0.0131	-0.0134	-0.0387*	-0.0279	-0.0154	-0.0170
	-0.0184	-0.0185	-0.0137	-0.0138	(0.0230)	(0.0232)	(0.0168)	(0.0169)
natural disaster	0.0316	0.0362	0.0242	0.0241	0.0833	0.0973	0.0413	0.0373
	-0.0326	-0.0334	-0.0162	-0.0159	(0.0889)	(0.0908)	(0.0622)	(0.0615)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.5826	0.5721	0.8938	0.8938	0.6096	0.6053	0.9232	0.9229

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B7. Testing the partizanship hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
partisan alignment	-0.3352 (0.4050)		0.1755 (0.1851)		-0.2313 (0.4342)		0.1470 (0.1816)	
vote share of incumbent president		0.1410 (0.2615)		-0.0376 (0.1897)		0.5006** (0.2469)		0.0840 (0.1704)
income	0.0259 (0.0248)	0.0281 (0.0254)	-0.0311 (0.0379)	-0.0307 (0.0381)	0.0256 (0.0248)	0.0285 (0.0251)	-0.0323 (0.0428)	-0.0329 (0.0431)
population (log)	-0.0743 (0.0486)	-0.0780 (0.0489)	-0.5262* (0.2924)	-0.5419* (0.2858)	-0.0788 (0.0487)	-0.0785 (0.0474)	-0.4214 (0.3505)	-0.4256 (0.3438)
share aged >65	-3.0025** (1.3283)	-2.8469** (1.3822)	5.6803** (2.3241)	5.7007** (2.3275)	-2.8100** (1.2239)	-2.4997* (1.2951)	7.0922** (2.8052)	7.0680** (2.8163)
share aged 5-17	0.9218 (0.8971)	0.7886 (0.9245)	-2.5735** (0.9907)	-2.5975** (0.9926)	1.1540 (0.8684)	0.9717 (0.8944)	-3.0603** (1.3520)	-3.0808** (1.3520)
unemployment rate	-0.0307 (0.0186)	-0.0290 (0.0185)	-0.0129 (0.0134)	-0.0135 (0.0136)	-0.0343 (0.0239)	-0.0313 (0.0229)	-0.0161 (0.0165)	-0.0172 (0.0167)
natural disaster	0.0387 (0.0331)	0.0360 (0.0334)	0.0220 (0.0157)	0.0240 (0.0161)	0.0968 (0.0899)	0.0892 (0.0894)	0.0348 (0.0617)	0.0362 (0.0618)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.5718	0.5700	0.8941	0.8937	0.5999	0.6016	0.9231	0.9229

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B8. Testing swing, battleground and partizanship hypotheses in one equation (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
share independents	0.3250 (0.5095)		-0.3074 (0.3760)		0.2309 (0.5515)		-0.2589 (0.5935)	
closeness (poll data)	-0.7451* (0.4295)		0.0857 (0.1905)		-0.7103 (0.4729)		0.1902 (0.2008)	
partisan alignment	-0.1254 (0.2639)		0.1207 (0.2138)		-0.1116 (0.2785)		0.1305 (0.2027)	
standard deviation of Democratic vote	0.3481 (0.9436)		-0.8733 (0.5429)		0.1908 (0.9556)		-0.9600 (0.6028)	
closeness (voting data)	-0.4401 (0.3659)		0.1130 (0.2487)		-0.4470 (0.3288)		-0.0130 (0.2631)	
vote share of incumbent president	-0.3775 (0.4005)		0.1504 (0.2945)		0.0726 (0.2914)		0.1410 (0.2769)	
income	0.0273 (0.0263)	0.0284 (0.0250)	-0.0313 (0.0374)	-0.0279 (0.0381)	0.0274 (0.0265)	0.0274 (0.0249)	-0.0321 (0.0426)	-0.0313 (0.0440)
population (log)	-0.0646 (0.0485)	-0.0699 (0.0502)	-0.5415* (0.2869)	-0.5710* (0.2855)	-0.0696 (0.0508)	-0.0695 (0.0479)	-0.4328 (0.3445)	-0.4427 (0.3525)
share aged >65	-2.6799* (1.3941)	-2.5694* (1.4353)	5.4412** (2.3952)	5.5044** (2.2237)	-2.4102* (1.3081)	-2.1485 (1.3741)	6.8303** (2.9320)	6.9987** (2.7579)
share aged 5-17	0.4053 (1.1057)	0.4925 (0.9960)	-2.4466** (1.0249)	-2.3801** (0.9688)	0.7815 (1.0379)	0.7356 (0.9715)	-2.8985** (1.4126)	-2.9756** (1.3408)
unemployment rate	-0.0343* (0.0176)	-0.0262 (0.0188)	-0.0131 (0.0134)	-0.0122 (0.0130)	-0.0398* (0.0226)	-0.0284 (0.0234)	-0.0147 (0.0165)	-0.0151 (0.0159)
natural disaster	0.0313 (0.0325)	0.0383 (0.0337)	0.0231 (0.0162)	0.0237 (0.0163)	0.0854 (0.0893)	0.0948 (0.0926)	0.0411 (0.0647)	0.0406 (0.0645)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.5855	0.5730	0.8944	0.8949	0.6111	0.6054	0.9236	0.9243

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B9. Testing the swing voter hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
share independents	0.1149 (0.2252)		0.0949 (0.1038)		0.1313 (0.2524)		0.2281 (0.1516)	
standard deviation of Democratic vote		-0.1775 (0.2568)		-0.0229 (0.1419)		-0.0449 (0.2723)		0.0714 (0.1650)
income	0.0084 (0.0106)	0.0096 (0.0089)	-0.0063 (0.0066)	-0.0063 (0.0068)	0.0085 (0.0109)	0.0105 (0.0091)	-0.0073 (0.0085)	-0.0071 (0.0087)
population (log)	-0.0647** (0.0260)	-0.0685*** (0.0221)	-0.3512*** (0.0676)	-0.3543*** (0.0672)	-0.0664** (0.0269)	-0.0706*** (0.0230)	-0.3498*** (0.0757)	-0.3521*** (0.0742)
share aged >65	0.5511 (0.6864)	0.5721 (0.6990)	1.5890** (0.6027)	1.5133** (0.6024)	0.6392 (0.6827)	0.6737 (0.7118)	2.0903** (0.8382)	1.9201** (0.8245)
share aged 5-17	0.1444 (0.3547)	0.1005 (0.3866)	-0.6620** (0.2979)	-0.6289** (0.2991)	0.0762 (0.3556)	0.0186 (0.3900)	-0.8951** (0.4414)	-0.8197* (0.4363)
unemployment rate	0.0168*** (0.0045)	0.0169*** (0.0047)	0.0081*** (0.0026)	0.0081*** (0.0026)	0.0184*** (0.0054)	0.0186*** (0.0056)	0.0095** (0.0039)	0.0093** (0.0039)
natural disaster	0.0102 (0.0075)	0.0108 (0.0075)	-0.0007 (0.0033)	-0.0007 (0.0033)	0.0350 (0.0239)	0.0348 (0.0239)	-0.0065 (0.0127)	-0.0051 (0.0130)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.5838	0.5825	0.9245	0.9243	0.6189	0.6167	0.9457	0.9448

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B10. Testing the battleground hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
closeL1	-0.1245 (0.1144)		0.0496 (0.0422)		-0.1231 (0.1288)		0.0173 (0.0591)	
closeness (voting data)		-0.0408 (0.1030)		-0.0836* (0.0424)		-0.1239 (0.1383)		-0.1230** (0.0520)
income	0.0111 (0.0087)	0.0099 (0.0083)	-0.0064 (0.0068)	-0.0076 (0.0071)	0.0114 (0.0087)	0.0103 (0.0083)	-0.0070 (0.0087)	-0.0095 (0.0084)
population (log)	-0.0680*** (0.0221)	-0.0668*** (0.0224)	-0.3551*** (0.0672)	-0.3212*** (0.0663)	-0.0699*** (0.0231)	-0.0672*** (0.0236)	-0.3544*** (0.0740)	-0.3162*** (0.0757)
share aged >65	0.6340 (0.7084)	0.5797 (0.7205)	1.5013** (0.5980)	1.3673** (0.5817)	0.7403 (0.7209)	0.8105 (0.7699)	1.9100** (0.8289)	1.9733** (0.8436)
share aged 5-17	0.0088 (0.3855)	0.0742 (0.3770)	-0.6116** (0.2943)	-0.5519* (0.2846)	-0.0586 (0.3975)	-0.0716 (0.4130)	-0.8057* (0.4364)	-0.8326* (0.4430)
unemployment rate	0.0158*** (0.0048)	0.0171*** (0.0048)	0.0083*** (0.0026)	0.0075*** (0.0025)	0.0174*** (0.0058)	0.0197*** (0.0058)	0.0096** (0.0038)	0.0089** (0.0037)
natural disaster	0.0097 (0.0076)	0.0107 (0.0074)	-0.0004 (0.0034)	0.0000 (0.0033)	0.0325 (0.0246)	0.0351 (0.0238)	-0.0044 (0.0130)	-0.0056 (0.0131)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1222	1174	1222	322	322	322	322
R-squared	0.5851	0.5777	0.9245	0.9213	0.6194	0.6201	0.9448	0.9465

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B11. Testing the partizanship hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
partisan alignment	-0.0065 (0.1432)		0.0666 (0.0447)		-0.0006 (0.1890)		0.0641 (0.0518)	
vote share of incumbent president		0.0535 (0.0788)		0.0913** (0.0427)		0.1030 (0.1530)		0.1053** (0.0493)
income	0.0102 (0.0091)	0.0100 (0.0084)	-0.0062 (0.0069)	-0.0060 (0.0073)	0.0106 (0.0096)	0.0107 (0.0087)	-0.0065 (0.0089)	-0.0064 (0.0088)
population (log)	-0.0683*** (0.0231)	-0.0675*** (0.0216)	-0.3496*** (0.0683)	-0.3416*** (0.0639)	-0.0705*** (0.0242)	-0.0698*** (0.0225)	-0.3501*** (0.0743)	-0.3482*** (0.0723)
share aged >65	0.5699 (0.6784)	0.5518 (0.6925)	1.5009** (0.6006)	1.3168** (0.5705)	0.6731 (0.6720)	0.7078 (0.7060)	1.9151** (0.8203)	1.8837** (0.8198)
share aged 5-17	0.0964 (0.3719)	0.0956 (0.3776)	-0.6138** (0.2984)	-0.5411* (0.2790)	0.0173 (0.3676)	-0.0046 (0.3851)	-0.7993* (0.4373)	-0.8009* (0.4316)
unemployment rate	0.0167*** (0.0051)	0.0168*** (0.0047)	0.0082*** (0.0025)	0.0074*** (0.0025)	0.0185*** (0.0062)	0.0187*** (0.0056)	0.0098** (0.0037)	0.0092** (0.0037)
natural disaster	0.0105 (0.0075)	0.0106 (0.0071)	-0.0014 (0.0033)	0.0001 (0.0032)	0.0344 (0.0236)	0.0333 (0.0235)	-0.0059 (0.0133)	-0.0062 (0.0130)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1222	1174	1222	322	322	322	322
R-squared	0.5817	0.5775	0.9248	0.9210	0.6166	0.6175	0.9451	0.9456

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table B12. Testing swing, battleground and partizanship hypotheses in one equation (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
share independents	0.1661 (0.2137)		0.1628 (0.1120)		0.1968 (-0.2258)		0.2778* (-0.1522)	
closeness (poll data)	-0.1252 (0.1105)		0.0539 (0.0425)		-0.1227 (-0.1244)		0.0251 (-0.0583)	
partisan alignment	0.0888 (0.0692)		0.0920* (0.0503)		0.1103 (-0.1125)		0.0948* (-0.0555)	
standard deviation of Democratic vote	-0.2051 (0.2609)			-0.0729 (0.1403)		-0.135 (-0.2854)		-0.014 (-0.1602)
closeness (voting data)	-0.0619 (0.1762)			-0.0699 (0.0763)		-0.1378 (-0.1789)		-0.1168 (-0.081)
vote share of incumbent president	0.0015 (0.1919)			0.0331 (0.0796)		-0.014 (-0.1992)		0.0141 (-0.0832)
income	0.0092 (0.0107)	0.0092 (0.0087)	-0.0062 (0.0067)	-0.0079 (0.0065)	0.0094 (-0.011)	0.0098 (-0.0087)	-0.0066 (-0.0087)	-0.0093 (-0.0083)
population (log)	-0.0639** (0.0257)	-0.0667*** (0.0233)	-0.3447*** (0.0704)	-0.3304*** (0.0707)	-0.0653** (-0.0266)	-0.0672*** (-0.0238)	-0.3440*** (-0.0769)	-0.3177*** (-0.0777)
share aged >65	0.6429 (0.6847)	0.6326 (0.7435)	1.6025*** (0.5891)	1.5582** (0.6104)	0.7573 (-0.6826)	0.8219 (-0.7739)	2.1190** (-0.8218)	1.9652** (-0.8485)
share aged 5-17	0.0573 (0.3519)	0.0550 (0.3910)	-0.6323** (0.2906)	-0.6365** (0.3026)	-0.0062 (-0.362)	-0.0742 (-0.4149)	-0.8848** (-0.4357)	-0.8285* (-0.4463)
unemployment rate	0.0165*** (0.0046)	0.0174*** (0.0048)	0.0089*** (0.0025)	0.0078*** (0.0025)	0.0182*** (-0.0055)	0.0200*** (-0.0058)	0.0103*** (-0.0037)	0.0089** (-0.0037)
natural disaster	0.0088 (0.0076)	0.0107 (0.0070)	-0.0014 (0.0034)	-0.0015 (0.0033)	0.0322 (-0.0248)	0.0364 (-0.0228)	-0.008 (-0.0136)	-0.0056 (-0.0135)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.5881	0.5835	0.9257	0.9255	0.6227	0.6205	0.9464	0.9465

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C1. Testing the swing voter hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
share independents	0.4776 (0.5957)		-0.1799 (0.4168)		0.3453 (0.3819)		0.4262 (0.4001)	
standard deviation of Democratic vote		2.7774** (1.0784)		0.6983 (0.6794)		3.2506*** (0.9558)		0.9364* (0.5499)
income	0.0042 (0.0240)	0.0107 (0.0230)	-0.0622* (0.0319)	-0.0610* (0.0328)	0.0036 (0.0140)	0.0097 (0.0137)	-0.0796*** (0.0237)	-0.0783*** (0.0235)
population (log)	0.0485 (0.0561)	0.0418 (0.0555)	-1.5012*** (0.1928)	-1.4835*** (0.1935)	0.0358 (0.0318)	0.0330 (0.0321)	-1.4749*** (0.1461)	-1.4413*** (0.1413)
share aged >65	6.0432*** (1.4541)	5.9765*** (1.4498)	6.3129*** (2.3058)	6.2792** (2.3769)	6.2267*** (0.8795)	6.1888*** (0.8551)	7.5139*** (1.9991)	7.0977*** (1.9679)
share aged 5-17	-2.0802** (0.8093)	-2.3800*** (0.8595)	-3.3550*** (1.1778)	-3.4080*** (1.2228)	-2.3814*** (0.6594)	-2.6757*** (0.6759)	-4.1678*** (1.0079)	-4.0566*** (1.0064)
unemployment rate	0.0201 (0.0127)	0.0203 (0.0126)	-0.0080 (0.0112)	-0.0078 (0.0115)	0.0185 (0.0134)	0.0175 (0.0134)	-0.0166 (0.0118)	-0.0180 (0.0119)
natural disaster	0.0279 (0.0240)	0.0212 (0.0237)	0.0189 (0.0132)	0.0175 (0.0132)	0.0873 (0.0807)	0.0610 (0.0801)	0.0559 (0.0410)	0.0530 (0.0407)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.7520	0.7573	0.9267	0.9270	0.7741	0.7824	0.9569	0.9572

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C2. Testing the battleground hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
closeness (poll data)	-0.7230* (0.3744)		-0.0800 (0.2197)		-0.7507*** (0.2686)		-0.2202 (0.1682)	
closeness (voting data)		-0.2753 (0.2679)		0.0781 (0.1468)		-0.5500** (0.2547)		-0.1000 (0.1370)
income	0.0116 (0.0232)	0.0079 (0.0224)	-0.0621* (0.0320)	-0.0622* (0.0326)	0.0100 (0.0132)	0.0077 (0.0130)	-0.0769*** (0.0232)	-0.0789*** (0.0235)
population (log)	0.0379 (0.0536)	0.0452 (0.0556)	-1.4902*** (0.1996)	-1.5193*** (0.2062)	0.0270 (0.0313)	0.0380 (0.0312)	-1.4516*** (0.1474)	-1.4425*** (0.1589)
share aged >65	6.2483*** (1.4508)	6.0987*** (1.5014)	6.4303*** (2.3652)	6.3273** (2.3586)	6.5538*** (0.8935)	6.5499*** (0.9377)	7.4937*** (1.9991)	7.4018*** (2.0053)
share aged 5-17	-2.6378*** (0.8756)	-2.3044*** (0.8386)	-3.4144*** (1.1980)	-3.3662*** (1.2002)	-2.9042*** (0.6988)	-2.6926*** (0.7229)	-4.1680*** (1.0167)	-4.0912*** (1.0185)
unemployment rate	0.0150 (0.0141)	0.0218* (0.0127)	-0.0079 (0.0114)	-0.0076 (0.0114)	0.0120 (0.0142)	0.0239* (0.0135)	-0.0176 (0.0115)	-0.0170 (0.0116)
natural disaster	0.0241 (0.0231)	0.0252 (0.0241)	0.0184 (0.0130)	0.0196 (0.0132)	0.0775 (0.0799)	0.0820 (0.0807)	0.0540 (0.0414)	0.0576 (0.0410)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes							
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.7571	0.7515	0.9267	0.9267	0.7795	0.7780	0.9569	0.9568

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C3. Testing the partizanship hypothesis (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
partisan alignment	0.0579 (0.3008)		0.3436** (0.1547)		0.2045 (0.2719)		0.3865** (0.1614)	
vote share of incumbent president		0.3740* (0.1929)		0.1597 (0.1445)		0.6615* (0.358)		0.3066* (0.1708)
income	0.0071 -0.0228	0.007 (0.0227)	-0.0622* (0.032)	-0.0619* (0.0323)	0.0067 (0.0134)	0.0061 (0.0132)	-0.0777*** (0.0234)	-0.0775*** (0.0236)
population (log)	0.0421 -0.0569	0.0438 (0.0562)	-1.4692*** (0.1962)	-1.4901*** (0.193)	0.0314 (0.0321)	0.0355 (0.031)	-1.4366*** (0.1458)	-1.4526*** (0.1449)
share aged >65	5.9319*** -1.4763	5.9335*** (1.4766)	6.3734*** (2.3286)	6.3825*** (2.3721)	6.2119*** (0.8876)	6.2199*** (0.8818)	7.4088*** (1.9583)	7.2969*** (1.9605)
share aged 5-17	-2.1794** -0.8198	-2.1956** (0.829)	-3.3276*** (1.1818)	-3.3864*** (1.2027)	-2.4706*** (0.6765)	-2.4989*** (0.672)	-4.0428*** (0.9924)	-4.0697*** (0.9976)
unemployment rate	0.0202 -0.0127	0.0202 (0.0131)	-0.0069 (0.0109)	-0.0079 (0.0113)	0.0208 (0.0136)	0.0197 (0.0135)	-0.0152 (0.0114)	-0.0179 (0.0116)
natural disaster	0.0267 -0.0256	0.0231 (0.0237)	0.0151 (0.0128)	0.0172 (0.013)	0.0799 (0.0816)	0.0723 (0.0799)	0.0509 (0.0408)	0.0539 (0.0408)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.7503	0.7513	0.9277	0.9269	0.7737	0.7762	0.9577	0.9573

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C4. Testing swing, battleground and partizanship hypotheses in one equation (federal expenditure)

Dependent Variable	(1) federal exp.	(2) federal exp.	(3) federal exp.	(4) federal exp.	(5) federal exp.	(6) federal exp.	(7) federal exp.	(8) federal exp.
share independents	0.6228 (0.6207)		0.0393 (0.4389)		0.5680 (0.4404)		0.6684* (0.3999)	
closeness (poll data)	-0.6997* (0.3728)		-0.0666 (0.2182)		-0.7272*** (0.2658)		-0.1861 (0.1631)	
partisan alignment	0.3129 (0.2032)		0.3479** (0.1706)		0.3993 (0.3079)		0.4425*** (0.1602)	
standard deviation of Democratic vote		2.6906** (1.0874)		0.5538 (0.6712)		2.8330*** (0.9451)		0.7615 (0.5657)
closeness (voting data)		-0.1924 (0.3772)		0.3645 (0.2537)		-0.3683 (0.2635)		0.1464 (0.1792)
vote share of incumbent president		-0.0702 (0.3593)		0.4347* (0.2548)		0.0527 (0.3601)		0.3624 (0.2239)
income	0.0095 (0.0245)	0.0113 (0.0228)	-0.0619* (0.0316)	-0.0581* (0.0346)	0.0090 (0.0137)	0.0107 (0.0135)	-0.0787*** (0.0235)	-0.0764*** (0.0242)
population (log)	0.0453 (0.0528)	0.0436 (0.0550)	-1.4616*** (0.2013)	-1.5625*** (0.2109)	0.0329 (0.0305)	0.0373 (0.0316)	-1.4109*** (0.1492)	-1.4688*** (0.1521)
share aged >65	6.4462*** (1.4731)	6.0959*** (1.5102)	6.4227*** (2.2628)	5.9790** (2.3060)	6.7646*** (0.9285)	6.4531*** (0.9107)	7.8115*** (1.9827)	7.0033*** (1.9827)
share aged 5-17	-2.5365*** (0.8619)	-2.4611*** (0.8847)	-3.3579*** (1.1502)	-3.3192*** (1.1800)	-2.8445*** (0.6935)	-2.8178*** (0.7140)	-4.2668*** (0.9922)	-4.0293*** (1.0037)
unemployment rate	0.0172 (0.0135)	0.0215* (0.0120)	-0.0070 (0.0112)	-0.0083 (0.0115)	0.0151 (0.0138)	0.0211 (0.0133)	-0.0155 (0.0116)	-0.0188 (0.0118)
natural disaster	0.0218 (0.0229)	0.0207 (0.0230)	0.0146 (0.0129)	0.0164 (0.0130)	0.0738 (0.0800)	0.0614 (0.0805)	0.0417 (0.0411)	0.0500 (0.0408)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes							
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.7593	0.7577	0.9277	0.9277	0.7812	0.7846	0.9584	0.9576

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C5. Testing the swing voter hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
share independents	0.5119 (0.5862)		-0.1135 (0.3482)		0.2752 (0.3458)		0.1452 (0.3881)	
standard deviation of Democratic vote		2.0781** (1.0299)		0.4931 (0.6943)		2.4684*** (0.8456)		0.7083 (0.5137)
income	0.0188 (0.0227)	0.0247 (0.0212)	-0.0425 (0.0379)	-0.0411 (0.0390)	0.0181 (0.0126)	0.0229* (0.0121)	-0.0524** (0.0261)	-0.0520** (0.0260)
population (log)	0.0668 (0.0500)	0.0585 (0.0503)	-0.7998*** (0.2382)	-0.7925*** (0.2366)	0.0545* (0.0282)	0.0523* (0.0279)	-0.8204*** (0.1803)	-0.7949*** (0.1752)
share aged >65	-2.5088* (1.2651)	-2.5926** (1.2825)	0.6388 (1.8944)	0.6266 (1.8769)	-2.3524*** (0.6794)	-2.3838*** (0.6730)	1.0351 (1.9334)	0.7909 (1.9143)
share aged 5-17	1.2989* (0.7326)	1.0293 (0.7898)	-0.7136 (0.7738)	-0.7646 (0.7876)	1.3019** (0.5060)	1.0761** (0.5151)	-0.8414 (0.9456)	-0.7966 (0.9455)
unemployment rate	-0.0027 (0.0119)	-0.0027 (0.0120)	-0.0156 (0.0114)	-0.0155 (0.0115)	-0.0081 (0.0123)	-0.0089 (0.0122)	-0.0210* (0.0114)	-0.0220* (0.0115)
natural disaster	0.0310 (0.0237)	0.0267 (0.0236)	0.0221 (0.0139)	0.0214 (0.0139)	0.0941 (0.0680)	0.0740 (0.0685)	0.0644 (0.0392)	0.0611 (0.0390)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.7232	0.7258	0.9049	0.9051	0.7515	0.7584	0.9380	0.9383

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C6. Testing the battleground hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
closeness (poll data)	-0.5500* (0.3225)		-0.0860 (0.1991)		-0.5023** (0.2247)		-0.0909 (0.1615)	
closeness (voting data)		-0.0820 (0.2547)		0.1153 (0.1717)		-0.3609* (0.2156)		-0.0027 (0.1312)
income	0.0250 (0.0215)	0.0220 (0.0209)	-0.0423 (0.0379)	-0.0426 (0.0387)	0.0227* (0.0119)	0.0212* (0.0118)	-0.0514** (0.0259)	-0.0519** (0.0262)
population (log)	0.0565 (0.0490)	0.0605 (0.0506)	-0.7879*** (0.2418)	-0.8248*** (0.2450)	0.0481* (0.0275)	0.0554** (0.0273)	-0.8107*** (0.1788)	-0.8196*** (0.1871)
share aged >65	-2.4420* (1.2809)	-2.6063** (1.2928)	0.7208 (1.9180)	0.5606 (1.9397)	-2.1425*** (0.7064)	-2.1502*** (0.7189)	1.0390 (1.9262)	0.9787 (1.9293)
share aged 5-17	0.8036 (0.8274)	1.1423 (0.7533)	-0.7606 (0.7999)	-0.6887 (0.7915)	0.9442* (0.5377)	1.0890** (0.5474)	-0.8483 (0.9504)	-0.8096 (0.9484)
unemployment rate	-0.0065 (0.0134)	-0.0023 (0.0120)	-0.0156 (0.0115)	-0.0154 (0.0115)	-0.0124 (0.0128)	-0.0045 (0.0124)	-0.0214* (0.0114)	-0.0211* (0.0114)
natural disaster	0.0274 (0.0230)	0.0298 (0.0239)	0.0215 (0.0138)	0.0229 (0.0138)	0.0872 (0.0676)	0.0902 (0.0682)	0.0635 (0.0395)	0.0653* (0.0392)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.7259	0.7206	0.9049	0.9050	0.7549	0.7538	0.9380	0.9379

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C7. Testing the partizanship hypothesis (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
partisan alignment	-0.1824 (0.3223)		0.0935 (0.1816)		0.0095 (0.2434)		0.1173 (0.1456)	
vote share of incumbent president		0.0635 (0.1981)		-0.0805 (0.1913)		0.3672 (0.2803)		0.0626 (0.1599)
income	0.0210 (0.0213)	0.0216 (0.0210)	-0.0424 (0.0380)	-0.0432 (0.0382)	0.0198 (0.0122)	0.0200* (0.0118)	-0.0518** (0.0261)	-0.0518** (0.0261)
population (log)	0.0603 (0.0509)	0.0600 (0.0511)	-0.7899*** (0.2480)	-0.8009*** (0.2411)	0.0514* (0.0280)	0.0535* (0.0274)	-0.8088*** (0.1802)	-0.8159*** (0.1787)
share aged >65	-2.6677** (1.2945)	-2.6491** (1.2868)	0.6881 (1.9112)	0.6404 (1.9107)	-2.4057*** (0.7011)	-2.3732*** (0.6844)	0.9968 (1.9211)	0.9676 (1.9187)
share aged 5-17	1.2313 (0.7391)	1.1853 (0.7524)	-0.7289 (0.7767)	-0.7062 (0.7839)	1.2519** (0.5128)	1.2219** (0.5099)	-0.7999 (0.9435)	-0.8084 (0.9451)
unemployment rate	-0.0040 (0.0121)	-0.0029 (0.0126)	-0.0152 (0.0112)	-0.0154 (0.0114)	-0.0077 (0.0124)	-0.0073 (0.0125)	-0.0206* (0.0114)	-0.0213* (0.0114)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
natural disaster	0.0319 (0.0250)	0.0297 (0.0238)	0.0212 (0.0138)	0.0228 (0.0139)	0.0916 (0.0689)	0.0851 (0.0682)	0.0630 (0.0393)	0.0644 (0.0392)
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.7209	0.7205	0.9050	0.9049	0.7509	0.7522	0.9381	0.9380

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C8. Testing swing, battleground and partizanship hypotheses in one equation (targetable spending)

Dependent Variable	(1) targetable sp.	(2) targetable sp.	(3) targetable sp.	(4) targetable sp.	(5) targetable sp.	(6) targetable sp.	(7) targetable sp.	(8) targetable sp.
share independents	0.4957 (0.5896)		-0.0645 (0.3708)		0.3371 (0.3818)		0.2202 (0.3982)	
closeness (poll data)	-0.5305 (0.3216)		-0.0839 (0.1957)		-0.4931** (0.2246)		-0.0808 (0.1619)	
partisan alignment	0.0320 (0.2071)		0.0803 (0.1890)		0.1220 (0.2616)		0.1343 (0.1469)	
standard deviation of Democratic vote	2.1811** (1.0307)		0.5705 (0.6935)		2.2643*** (0.8436)		0.7258 (0.5319)	
closeness (voting data)	-0.0998 (0.3510)		0.1429 (0.2535)		-0.2693 (0.2270)		0.0788 (0.1761)	
vote share of incumbent president	-0.2402 (0.3337)		0.0121 (0.2815)		-0.0967 (0.2814)		0.0671 (0.2112)	
income	0.0222 (0.0233)	0.0253 (0.0210)	-0.0419 (0.0375)	-0.0406 (0.0400)	0.0214* (0.0126)	0.0236* (0.0121)	-0.0520** (0.0260)	-0.0513* (0.0266)
population (log)	0.0633 (0.0477)	0.0586 (0.0500)	-0.7828*** (0.2480)	-0.8249*** (0.2477)	0.0518* (0.0275)	0.0547** (0.0276)	-0.7983*** (0.1816)	-0.8150*** (0.1844)
share aged >65	-2.3095* (1.2904)	-2.5404* (1.3019)	0.7026 (1.9309)	0.4756 (1.9144)	-2.0460*** (0.7294)	-2.2025*** (0.7098)	1.1425 (1.9567)	0.7304 (1.9363)
share aged 5-17	0.9135 (0.8100)	0.9876 (0.7934)	-0.7506 (0.7942)	-0.7233 (0.7893)	0.9926* (0.5396)	0.9764* (0.5485)	-0.8822 (0.9558)	-0.7813 (0.9520)
unemployment rate	-0.0060 (0.0126)	-0.0022 (0.0112)	-0.0155 (0.0114)	-0.0155 (0.0116)	-0.0117 (0.0126)	-0.0065 (0.0121)	-0.0208* (0.0115)	-0.0221* (0.0115)
natural disaster	0.0279 (0.0230)	0.0281 (0.0235)	0.0208 (0.0140)	0.0221 (0.0139)	0.0875 (0.0679)	0.0761 (0.0691)	0.0596 (0.0399)	0.0608 (0.0393)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1126	1126	1126	1126	322	322	322	322
R-squared	0.7283	0.7261	0.9050	0.9053	0.7556	0.7596	0.9382	0.9384

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C9. Testing the swing voter hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
share independents	0.0347 (0.2018)		0.0770 (0.1015)		0.0224 (0.1189)		0.1814* (0.0943)	
standard deviation of Democratic vote		-0.0066 (0.3314)		-0.1148 (0.1737)		0.2303 (0.3459)		-0.0280 (0.1559)
income	-0.0039 (0.0103)	-0.0037 (0.0100)	-0.0093 (0.0059)	-0.0094 (0.0062)	-0.0046 (0.0053)	-0.0042 (0.0051)	-0.0100 (0.0065)	-0.0094 (0.0065)
population (log)	-0.0711** (0.0268)	-0.0716*** (0.0256)	-0.3881*** (0.0726)	-0.3918*** (0.0729)	-0.0702*** (0.0137)	-0.0704*** (0.0130)	-0.4075*** (0.0676)	-0.4086*** (0.0663)
share aged >65	0.0679 (0.5418)	0.0590 (0.5230)	1.5672** (0.6658)	1.5520** (0.6781)	0.1306 (0.3038)	0.1284 (0.2982)	1.9415*** (0.6390)	1.8765*** (0.6420)
share aged 5-17	0.3814 (0.3466)	0.3751 (0.3524)	-0.6566* (0.3324)	-0.6400* (0.3301)	0.3799* (0.2024)	0.3594* (0.2092)	-0.8223** (0.3190)	-0.7826** (0.3145)
unemployment rate	0.0108*** (0.0034)	0.0108*** (0.0035)	0.0047** (0.0019)	0.0046** (0.0019)	0.0099** (0.0043)	0.0098** (0.0043)	0.0053* (0.0031)	0.0053* (0.0031)
natural disaster	0.0109 (0.0067)	0.0109* (0.0064)	0.0005 (0.0030)	0.0007 (0.0030)	0.0326 (0.0280)	0.0307 (0.0279)	-0.0023 (0.0108)	-0.0010 (0.0112)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6538	0.6537	0.9323	0.9322	0.6904	0.6909	0.9551	0.9546

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C10. Testing the battleground hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
closeness (poll data)	-0.1662 (0.1270)		0.0510 (0.0502)		-0.1638* (0.0949)		0.0225 (0.0556)	
closeness (voting data)		-0.0117 (0.0918)		-0.0768** (0.0381)		-0.0947 (0.1085)		-0.1050*** (0.0383)
income	-0.0026 (0.0097)	-0.0041 (0.0097)	-0.0094 (0.0061)	-0.0087 (0.0067)	-0.0035 (0.0050)	-0.0041 (0.0050)	-0.0096 (0.0065)	-0.0101 (0.0064)
population (log)	-0.0726*** (0.0249)	-0.0706*** (0.0250)	-0.3945*** (0.0742)	-0.3629*** (0.0738)	-0.0715*** (0.0130)	-0.0694*** (0.0125)	-0.4100*** (0.0671)	-0.3733*** (0.0704)
share aged >65	0.1340 (0.5326)	0.0645 (0.4941)	1.5088** (0.6619)	1.4729** (0.6813)	0.2128 (0.3129)	0.1938 (0.3194)	1.8539*** (0.6317)	1.9301*** (0.6362)
share aged 5-17	0.2678 (0.3524)	0.3601 (0.3318)	-0.6250* (0.3285)	-0.5970* (0.3330)	0.2751 (0.2168)	0.3329 (0.2190)	-0.7724** (0.3129)	-0.8009** (0.3148)
unemployment rate	0.0096*** (0.0035)	0.0105*** (0.0034)	0.0047** (0.0019)	0.0049** (0.0019)	0.0084* (0.0045)	0.0108** (0.0044)	0.0053* (0.0031)	0.0050* (0.0030)
natural disaster	0.0101 (0.0069)	0.0101 (0.0065)	0.0008 (0.0031)	0.0006 (0.0030)	0.0309 (0.0281)	0.0320 (0.0279)	-0.0007 (0.0110)	-0.0022 (0.0108)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes							
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1222	1174	1222	322	322	322	322
R-squared	0.6585	0.6501	0.9323	0.9294	0.6940	0.6921	0.9546	0.9558

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C11. Testing the partizanship hypothesis (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
partisan alignment	0.0303 (0.1041)		0.0679* (0.0382)		0.0627 (0.1157)		0.0649 (0.0496)	
vote share of incumbent president		0.0584 (0.0717)		0.0939** (0.0440)		0.1363 (0.1579)		0.1030** (0.0504)
income	-0.0036 (0.0100)	-0.0041 (0.0096)	-0.0091 (0.0062)	-0.0082 (0.0066)	-0.0041 (0.0053)	-0.0044 (0.0050)	-0.0093 (0.0065)	-0.0092 (0.0064)
population (log)	-0.0716*** (0.0257)	-0.0704*** (0.0249)	-0.3837*** (0.0738)	-0.3792*** (0.0703)	-0.0706*** (0.0131)	-0.0697*** (0.0126)	-0.4011*** (0.0657)	-0.4000*** (0.0641)
share aged >65	0.0641 (0.5229)	0.0606 (0.5185)	1.5301** (0.6770)	1.4533** (0.6662)	0.1430 (0.3031)	0.1391 (0.3032)	1.8801*** (0.6253)	1.8534*** (0.6235)
share aged 5-17	0.3713 (0.3568)	0.3611 (0.3547)	-0.6324* (0.3375)	-0.6018* (0.3253)	0.3673* (0.2077)	0.3643* (0.2078)	-0.7769** (0.3121)	-0.7809** (0.3094)
unemployment rate	0.0110*** (0.0036)	0.0104*** (0.0034)	0.0047** (0.0018)	0.0046** (0.0019)	0.0105** (0.0044)	0.0101** (0.0043)	0.0055* (0.0030)	0.0049 (0.0030)
natural disaster	0.0105 (0.0066)	0.0098 (0.0061)	-0.0002 (0.0029)	0.0007 (0.0029)	0.0310 (0.0279)	0.0299 (0.0278)	-0.0025 (0.0112)	-0.0027 (0.0110)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes							
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1222	1174	1222	322	322	322	322
R-squared	0.6538	0.6504	0.9326	0.9294	0.6908	0.6919	0.9549	0.9554

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.

Table C12. Testing swing, battleground and partizanship hypotheses in one equation (grants)

Dependent Variable	(1) grants	(2) grants	(3) grants	(4) grants	(5) grants	(6) grants	(7) grants	(8) grants
share independents	0.0566 (0.1946)		0.1380 (0.1053)		0.0682 (0.1251)		0.2270** (0.0947)	
closeness (poll data)	-0.1641 (0.1277)		0.0566 (0.0504)		-0.1596* (0.0935)		0.0280 (0.0534)	
partisan alignment	0.0532 (0.0605)		0.0910** (0.0442)		0.0825 (0.1266)		0.0907* (0.0494)	
standard deviation of Democratic vote		-0.0523 (0.3350)		-0.2113 (0.1812)		0.1153 (0.2987)		-0.1530 (0.1519)
closeness (voting data)		0.0004 (0.1480)		-0.0491 (0.0642)		-0.0612 (0.1179)		-0.0910* (0.0540)
vote share of incumbent president		0.0568 (0.1494)		0.0655 (0.0739)		0.0698 (0.1696)		0.0425 (0.0692)
income	-0.0027 (0.0104)	-0.0037 (0.0100)	-0.0096 (0.0061)	-0.0095 (0.0065)	-0.0034 (0.0055)	-0.0040 (0.0051)	-0.0102 (0.0066)	-0.0099 (0.0064)
population (log)	-0.0720*** (0.0259)	-0.0713*** (0.0256)	-0.3851*** (0.0798)	-0.3772*** (0.0771)	-0.0709*** (0.0133)	-0.0693*** (0.0125)	-0.4015*** (0.0687)	-0.3803*** (0.0722)
share aged >65	0.1560 (0.5482)	0.0595 (0.5048)	1.5615** (0.6629)	1.6042** (0.6827)	0.2467 (0.3269)	0.1777 (0.3184)	1.9560*** (0.6330)	1.9557*** (0.6493)
share aged 5-17	0.2743 (0.3391)	0.3753 (0.3298)	-0.6307* (0.3282)	-0.6492* (0.3313)	0.2784 (0.2149)	0.3339 (0.2204)	-0.8132** (0.3163)	-0.8006** (0.3151)
unemployment rate	0.0100*** (0.0036)	0.0108*** (0.0035)	0.0051*** (0.0018)	0.0045** (0.0019)	0.0091* (0.0046)	0.0105** (0.0044)	0.0058* (0.0030)	0.0051* (0.0030)
natural disaster	0.0096 (0.0066)	0.0103* (0.0060)	-0.0002 (0.0029)	-0.0002 (0.0029)	0.0297 (0.0281)	0.0300 (0.0282)	-0.0038 (0.0113)	-0.0018 (0.0112)
Division fixed effects	Yes	Yes	No	No	Yes	Yes	No	No
Division-specific trends	Yes							
State Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Period unit	Year	Year	Year	Year	Presid. Term	Presid. Term	Presid. Term	Presid. Term
Observations	1174	1174	1174	1174	322	322	322	322
R-squared	0.6589	0.6540	0.9334	0.9334	0.6946	0.6925	0.9558	0.9560

Robust t statistics in parentheses, clustered by state. * significant at 10%; ** significant at 5%; *** significant at 1%

All regressions contain a constant, period dummies and, if state fixed effects are not included, dummies for Maryland, New Mexico, and Virginia.