ONLINE APPENDIX

Supporting Information for
"Divided Government, Strategic Substitution, and Presidential Unilateralism"

Contents

A   Directive Data and Estimation

Our data and measures come from Kaufman and Rogowski (2021). That paper reports data on presidential directives from 1877 to 2020 and describes a text analytic approach to estimating the policy significance of each directive. Based on the data from that paper, we study directives issued between 1946 and 2020 along with their associated significance estimates. Here, we briefly describe the data and methods from Kaufman and Rogowski (2021) that are relevant for the measures used in this paper.

A.1   Data source and descriptive patterns

The data on presidential directives used in Kaufman and Rogowski (2021) were obtained from the "Legislative and Executive Publications" section of the ProQuest Congressional database. The dataset includes either an original document announcing a presidential action or a message from the president containing evidence of presidential action. The *CIS Index to Presidential Executive Orders and Proclamations* (1987) inspected documents to ensure there was no duplication. Documents that did not have policy consequences or did not reflect unilateral action (such as pardons, nominations, Statements of Administration Policy, etc.) were excluded. The remaining directives included executive orders, proclamations, memoranda, public land orders, treaty proclamations, administrative directives, presidential policy directives, and the like.

For our primary analyses, directives were grouped into the following categories (ProQuest "source record group" identifiers shown in parentheses):

- Executive orders: numbered executive orders (EO), Public Land Orders (03)

- Proclamations: numbered proclamations (PR), treaty proclamations (29)

- Memoranda and other directives: presidential documents (04), Secretary of Interior Orders (06), Public Papers of the Presidents (21), Weekly Compilation of Presidential Documents

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(53), Presidential Policy Directives and National Security Decision Memoranda (56)

This provided 33,921 directives issued by presidents between 1946 and 2020 (inclusive), which includes 11,641 documents classified as executive orders and 7,779 proclamations. The remaining 14,501 directives are memoranda, department or administrative directives, and the like.

A.2   Measuring directive significance

Kaufman and Rogowski (2021) measure the significance of each directive based on their text. First, they extracted the full text of each of the directives in the data. Then, they use significance estimates from Chiou and Rothenberg (2017)[25] along with hand-coded significance measures for a sample of directives to recover the relationship between words and phrases in the text and the estimated significance of the documents; these documents comprise the training set (10,574 of the directives). Finally, they use standard machine learning techniques to model the relationship between the text of the remaining 23,347 documents and evaluate its performance using k-fold cross validation. Based on this procedures, two directives will have similar significance estimates to the extent they contain similar lexical features.

The resulting estimates of directive significance range between zero and one, and they distinguish significant directives as those whose significance scores are greater than 0.355. This value equalizes the false-negative and false-positive rates, which means that even though document significance is measured with error, the error is unlikely to be systematically biased in either the positive or negative direction. Using this threshold, about 18 percent of the directives are identified as significant for our purposes. This choice of threshold identifies a similar proportion of directives as significant relative to other research that characterizes the significance of executive

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[25]Chiou and Rothenberg (2017) use an item-response model to estimate the significance of executive orders from 1947 to 2002 based on their appearance in media outlets and historical accounts, along with a set of exogenous variables.

orders (Chiou and Rothenberg 2017; Howell 2003; Mayer 2001). Among significant directives, 2,350 were classified as executive orders, 1,344 were classified as proclamations, and 2,318 were classified as memoranda.

Figure A.1: Annual Number of Unilateral Actions by Directive Type, 1946–2020
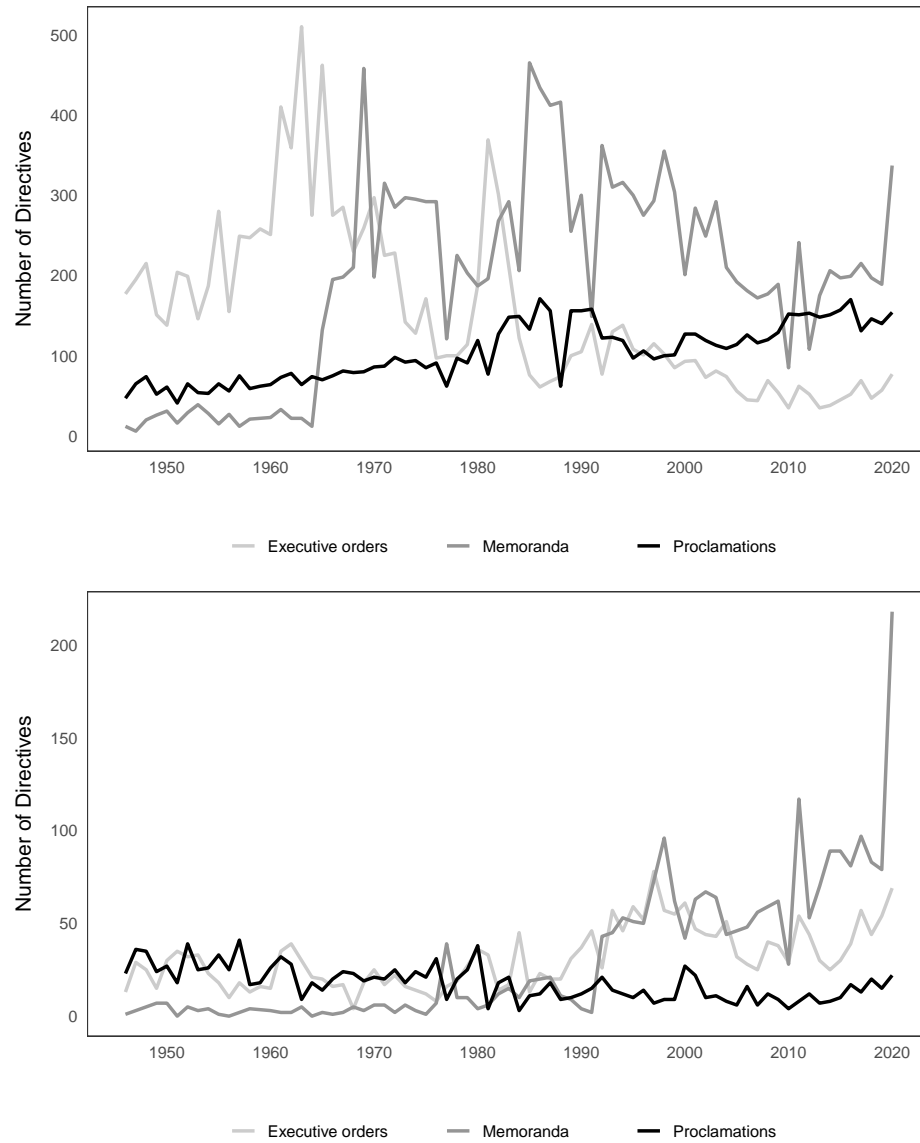
Note: Lines show the annual number of unilateral directives by each directive type. The top plot shows data for all unilateral directives and the bottom plot shows data for those identified as policy significant.

B   Robustness Checks for Table 1

Omitting Public Land Orders

Table B.1: Political Context and Directive Choice: Omitting Public Land Orders

	Dependent variable:				
	Issued as executive order				
	(1)	(2)	(3)	(4)	(5)
Divided government	−0.064*	−0.053*	−0.079*	−0.089*	−0.083*
	(0.025)	(0.017)	(0.021)	(0.023)	(0.022)
Unemployment rate	−0.010*	−0.009*	−0.011*	−0.010*	−0.009*
	(0.005)	(0.003)	(0.004)	(0.004)	(0.004)
Approval rating					−0.083
					(0.118)
Issue salience					0.414*
					(0.190)
Presidential priority					0.003
					(0.159)
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	5,080	5,080	5,080	4,552	4,552

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a significant unilateral directive was issued as an executive order (y=1) or a memorandum (y=0). Public Land Orders are omitted from the data. *p<0.05 (two-tailed tests).

Estimates from Logistic Regression

Table B.2: Divided Party Control and Choice of Unilateral Directive (Logistic regression)

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	−0.221*	−0.307*	−0.514*	−0.546*	−0.524*
	(0.080)	(0.106)	(0.137)	(0.138)	(0.131)
Unemployment rate	−0.054*	−0.054*	−0.067*	−0.062	−0.062
	(0.025)	(0.026)	(0.031)	(0.033)	(0.032)
Approval rating					−0.331
					(0.782)
Issue salience					-0.002
					(1.180)
Presidential priority					−0.041
					(1.132)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	6,012	6,012	6,012	5,437	5,437

Note: Entries are logistic regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). *p<0.05 (two-tailed tests).

Table B.3: Divided Party Control and Choice of Unilateral Directive (Nonsignificant directives, using logistic regression)

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	0.176	0.162	0.171	0.077	-0.116
	(0.117)	(0.087)	(0.104)	(0.101)	(0.176)
Unemployment rate	0.139*	−0.013	−0.014	−0.022	0.001
	(0.046)	(0.042)	(0.041)	(0.044)	(0.044)
Approval rating					2.024*
					(0.792)
Issue salience					6.198*
					(1.383)
Presidential priority					−1.174
					(0.723)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	27,909	27,909	27,909	25,793	25,793

Note: Entries are logistic regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation ($y=1$) or some other directive type ($y=0$). *$p<0.05$ (two-tailed tests).

Table B.4: Political Context and Directive Choice: EOs and Memos (Logistic regression)

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	-0.242^*	-0.356^*	-0.496^*	-0.473^*	-0.490^*
	(0.085)	(0.106)	(0.140)	(0.135)	(0.121)
Unemployment rate	-0.047	-0.064^*	-0.076^*	-0.067^*	-0.068^*
	(0.028)	(0.025)	(0.028)	(0.030)	(0.030)
Approval rating					0.167
					(0.816)
Issue salience					-0.077
					(1.045)
Presidential priority					-0.619
					(0.927)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	4,668	4,668	4,668	4,379	4,379

Note: Entries are logistic regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order (y=1) or some other directive type (y=0). *p<0.05 (two-tailed tests).

Estimates from Non-significant Directives

Table B.5: Divided Party Control and Choice of Unilateral Instrument: Nonsignificant Directives

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	0.031	0.008	0.010	0.011	−0.017
	(0.020)	(0.011)	(0.013)	(0.015)	(0.025)
Unemployment rate	0.029*	−0.002	−0.002	−0.004	0.001
	(0.009)	(0.006)	(0.006)	(0.007)	(0.007)
Approval rating					0.297*
					(0.109)
Issue salience					0.824*
					(0.234)
Presidential priority					−0.365*
					(0.098)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	27,909	27,909	27,909	25,793	25,793

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). *p<0.05 (two-tailed tests).

Alternative Measure of Interbranch Conflict

Table B.6: Congressional Composition and Choice of Unilateral Directive

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Opposition seat share	-0.420	−0.325	−0.513*	−0.605*	−0.550*
	(0.298)	(0.208)	(0.238)	(0.233)	(0.251)
Unemployment rate	−0.014*	−0.010*	−0.012*	−0.012*	−0.010*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Approval rating					−0.116
					(0.107)
Issue salience					0.445*
					(0.210)
Presidential priority					0.027
					(0.166)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	6,012	6,012	6,012	5,437	5,437

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). $^*p<0.05$ (two-tailed tests).

Potential Variation in the Relationship between Political Context and Directive Substitution

Table B.7: Divided Party Control and Choice of Unilateral Directive: Variation by Presidential Approval

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	−0.248	−0.257*	−0.324*	−0.382*	−0.387*
	(0.134)	(0.130)	(0.135)	(0.152)	(0.149)
Divided x Approval rating	0.392	0.422	0.508*	0.650*	0.662*
	(0.261)	(0.250)	(0.250)	(0.291)	(0.286)
Approval rating	−0.181	−0.410	−0.434	−0.565*	−0.582*
	(0.237)	(0.240)	(0.222)	(0.253)	(0.249)
Unemployment rate	−0.008	−0.005	−0.006	−0.004	−0.002
	(0.007)	(0.004)	(0.005)	(0.005)	(0.006)
Issue salience					0.447*
					(0.212)
Presidential priority					0.019
					(0.162)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	5,603	5,603	5,603	5,437	5,437

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). *p<0.05 (two-tailed tests).

Table B.8: Divided Party Control and Choice of Unilateral Directive: Variation by Election Timing

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	−0.046	−0.037*	−0.049*	−0.053*	−0.045*
	(0.024)	(0.016)	(0.018)	(0.020)	(0.022)
Divided x Election year	−0.064	−0.090*	−0.083*	−0.116*	−0.118*
	(0.058)	(0.044)	(0.041)	(0.041)	(0.039)
Election year	0.086	0.095*			
	(0.046)	(0.038)			
Unemployment rate	−0.012*	−0.008*	−0.008*	−0.008*	−0.006
	(0.005)	(0.003)	(0.004)	(0.004)	(0.004)
Approval rating					−0.109
					(0.093)
Issue salience					0.435*
					(0.213)
Presidential priority					0.013
					(0.162)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	6,012	6,012	6,012	5,437	5,437

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). *$p<0.05$ (two-tailed tests).

Table B.9: Divided Party Control and Choice of Unilateral Directive: Variation by Election Timing

	Dependent variable:				
	Issued as executive order or proclamation				
	(1)	(2)	(3)	(4)	(5)
Divided government	−0.034	−0.034*	−0.047*	−0.051*	−0.044*
	(0.022)	(0.015)	(0.018)	(0.020)	(0.022)
Divided x Re-election year	−0.159*	−0.145*	−0.134*	−0.135*	−0.136*
	(0.067)	(0.050)	(0.045)	(0.047)	(0.046)
Re-election year	0.154*	0.141*	0.122*	0.112*	0.118*
	(0.044)	(0.040)	(0.042)	(0.042)	(0.041)
Unemployment rate	−0.012*	−0.008*	−0.008	−0.007	−0.006
	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
Approval rating					−0.116
					(0.097)
Issue salience					0.432*
					(0.214)
Presidential priority					0.011
					(0.162)
Time period	1946-2020	1946-2020	1946-2020	1956-2020	1956-2020
President fixed effects	✓	✓	✓	✓	✓
Issue area fixed effects		✓	✓	✓	✓
Quarter of term fixed effects			✓	✓	✓
Observations	6,012	6,012	6,012	5,437	5,437

Note: Entries are linear regression coefficients with standard errors clustered on congress in parentheses. The dependent variable is an indicator for whether a unilateral directive was issued as an executive order or proclamation (y=1) or some other directive type (y=0). *$p<0.05$ (two-tailed tests).

C Robustness Checks for Table 3

Table C.1: Divided Government and Significant Unilateral Action, 1946–2020 (Including Public Land Orders as Executive Orders)

	Executive orders		Proclamations		Memoranda		All directives	
Divided government	0.003	0.055	0.174*	0.161	0.254*	0.393*	0.172*	0.224*
	(0.103)	(0.092)	(0.077)	(0.124)	(0.115)	(0.164)	(0.078)	(0.074)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	75	75	75	75	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Table C.2: Divided Government and Significant Unilateral Action, 1946–2020

	Executive orders	Proclamations	Memoranda	All directives
Divided government	−0.047	0.161	0.393*	0.221*
	(0.113)	(0.124)	(0.164)	(0.075)
Inflation rate	0.029	0.009	−0.152*	−0.016
	(0.019)	(0.021)	(0.036)	(0.011)
Spending (% of GDP)	0.010	0.009	0.031	0.025
	(0.026)	(0.014)	(0.026)	(0.021)
War	0.252	0.065	−0.334	0.057
	(0.191)	(0.123)	(0.369)	(0.130)
Lame duck	−0.107	0.130	−0.005	−0.093
	(0.258)	(0.183)	(0.181)	(0.115)
Administration change	0.287	0.010	0.206	0.191*
	(0.153)	(0.224)	(0.176)	(0.076)
Time trend	−0.017	0.011	0.015	0.018
	(0.024)	(0.033)	(0.038)	(0.018)
President Fixed Effects	Yes	Yes	Yes	Yes
Observations	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Table C.3: Divided Government and Significant Unilateral Action, 1946–2020

	Executive orders		Proclamations		Memoranda		All directives	
President's seat share	1.140	0.622	−2.591*	−2.812	−1.903	−7.251*	−1.755*	−3.540*
	(1.249)	(1.166)	(0.912)	(1.499)	(1.714)	(2.499)	(0.652)	(1.129)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Table C.4: Divided Government and Significant Unilateral Action, 1946–2020

	Executive orders		Proclamations		Memoranda		All directives	
D(president, House median)	−0.496	0.202	0.334	0.064	0.847*	1.183	0.475*	0.722*
	(0.335)	(0.308)	(0.292)	(0.409)	(0.255)	(0.612)	(0.185)	(0.265)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Table C.5: Divided Government and Significant Unilateral Action, 1946–2020

	Executive orders		Proclamations		Memoranda		All directives	
D(president, Senate median)	−0.525	0.174	0.879*	0.825	0.629	0.530	0.419*	0.686*
	(0.498)	(0.465)	(0.381)	(0.511)	(0.328)	(0.612)	(0.213)	(0.310)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Table C.6: Divided Government and Significant Unilateral Action, 1946–2020

	Executive orders		Proclamations		Memoranda		All directives	
Average, D(president, House median) &	−0.698	0.296	0.741	0.507	1.072*	1.478	0.626*	1.077*
D(president, Senate median)	(0.441)	(0.461)	(0.428)	(0.596)	(0.350)	(0.794)	(0.250)	(0.350)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses.
* indicates $p < 0.05$ (two-tailed tests).

**Table C.7:** Divided Government and Significant Unilateral Action, 1946–2019

	Executive orders		Proclamations		Memoranda		All directives	
Divided government	−0.230	−0.172	0.160	0.141	0.178	0.333*	0.094	0.144
	(0.122)	(0.107)	(0.082)	(0.143)	(0.127)	(0.168)	(0.079)	(0.080)
President Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	74	74	74	75	74	74	74	74

Dependent variable is the annual number of directives indicated at the top of the columns. Estimates are negative binomial regression coefficients with standard errors clustered on Congress shown in parentheses. * indicates $p < 0.05$ (two-tailed tests).

Figure C.1: Coefficient Estimate for Divided Government with All Possible Combinations of Other Independent Variables
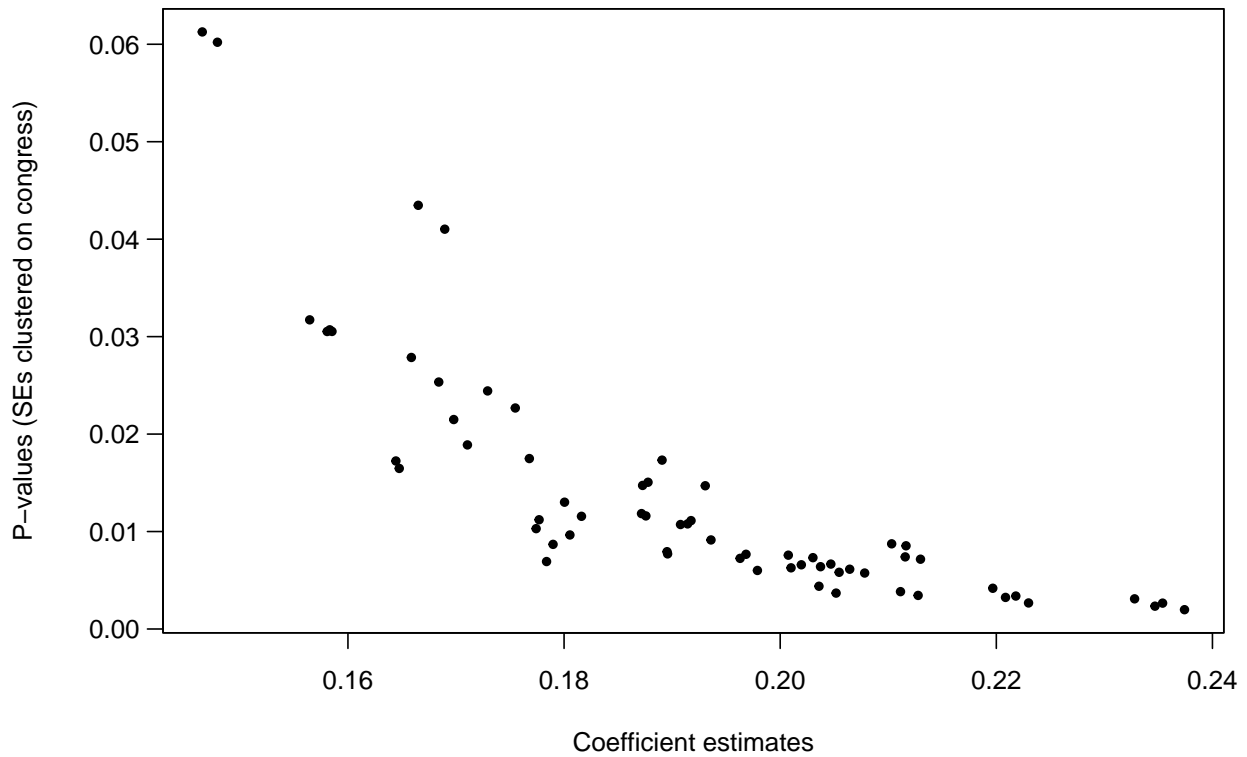

Plot shows the coefficients and associated *p*-values when estimating regressions with all possible combinations of the other six covariates (in addition to divided government) based on the specification in the last column of Table 3. Results from 64 separate regressions are shown in the figure. *P*-values are based on standard errors clustered on congress. All 64 coefficient estimates are positive and statistically distinguishable from zero; thus, the findings in Table 3 do not depend on any specific model specification.

Varying Thresholds for Distinguishing Significant Directives

Figure C.2 displays coefficients for *Divided government* from models that used increasingly limited deciles to identify significant directives.[26] For instance, the coefficient for "All" directives on the left side of the plot shows the results when including all 26,491 unilateral directives from 1946 to 2020 (excluding Public Land Orders, as is done in Table 3). The next coefficient to its right shows the results for directives whose significance estimates ranked in the top 90%, followed by the 80%, 70%, and so on. Across all ten models, the coefficient for *Divided government* is positive and it is statistically significant for the three highest deciles of significance.

Figure C.2: Divided Government and Unilateral Activity across Varying Thresholds of Directive Significance

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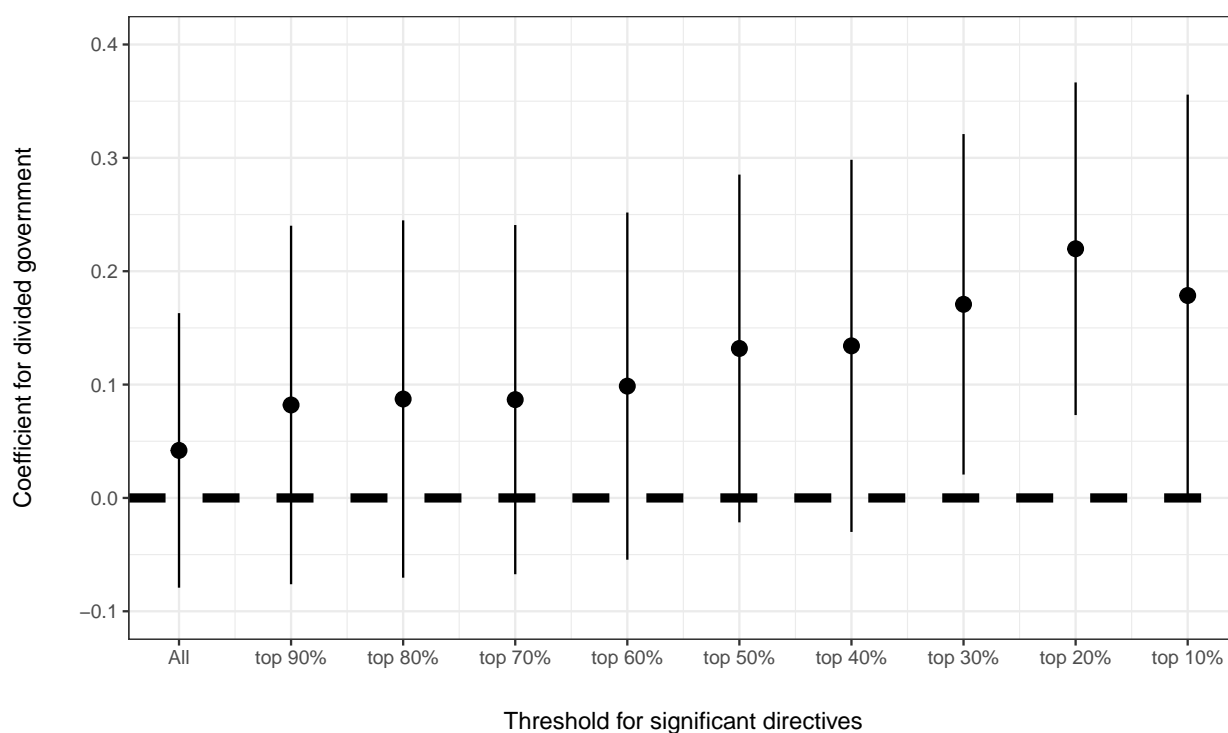
[26]We drew from the full sample of directives and estimated the model specification from the last column in Table 3 for the period 1946–2020.