

Appendices for “Legislative Gridlock and Policymaking Through the Appropriations Process”—For Online Publication Only

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Appendix A: Identifying Appropriations Laws and Types Included in Analysis

One of the challenges of this research is the identification of appropriations laws. While Congress.gov has identified all appropriations laws going back to 1998, our dataset extends back to 1948. Thus, identifying all the appropriations laws for the full time-period required an alternative approach. The approach we took was to conduct keyword searches of law names and descriptions for all 17,130 non-commemorative public laws passed between 1948 and 2012. The complete list of public laws and descriptions comes from the Comparative Agendas Project. The Comparative Agendas Project data includes a variable that identifies commemorative laws but does not include law names (only descriptions). We added law names into the dataset by scraping them from a file that contained the full text of all laws.

The keywords used to identify appropriations laws were: **appropriations**, **appropriating**, and **appropriate**. Many authorization laws are named or described in a way that includes one of the appropriations keyword identifiers (e.g. “authorizing appropriations for. . .”). To avoid treating these laws as appropriations laws, we also keyword search for: **authorization**, **authorizing**, and **authorize**. When one of the authorization keywords appears in conjunction with an appropriations keyword, we treat the law as an authorizing law.

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It was also necessary to identify types of appropriations laws. To identify emergency and supplemental appropriations we used the keywords **emergency**, **supplemental**, and **additional**. When any of these keywords appears in a law already deemed to be an appropriations law we treat it accordingly. Continuing appropriations laws are identified using the keywords **continuing**, **temporary**, and **further** in conjunction with the other appropriations keywords.

Following our categorizing laws based on keyword searches, we compared our data with the complete list of regular, continuing, and supplemental appropriations laws since 1998 provided by Congress.gov. This helped us refine keyword language and ensured accuracy for that time period. We also examined the coding and made law-by-law adjustments as necessary.

Types of Appropriations Bills Included in the Analysis

Our analysis focuses on annual appropriations laws because of the extreme reversion point that occurs if they fail to become law. Thus, it is necessary for us to separate out those appropriations laws that were passed for supplemental or emergency purposes (e.g. funding for hurricane relief). Note that emergency and supplemental appropriations laws are excluded from both the analysis of appropriations laws and the analysis of authorization laws.

Continuing appropriations laws are treated somewhat differently. We can make two distinctions between types of continuing appropriations laws. The first is between short-term and full-year and the second distinction is between formulaic and non-formulaic. Short-term appropriations typically extend the previous year's funding levels for a period of days, weeks, or sometimes months. As the name implies, full-year appropriations take the place of regular appropriations laws and maintain the previous year's funding levels for the remainder of fiscal year. The distinction between formulaic and non-formulaic is about how the continuing funding is enacted. Formulaic appropriations continue the previous year's by only indicating a rate at which the previous year's funding should be continued (referring to the existing law(s)) and may include limited language making exceptions to the formula (e.g. canceling money for earmarks). Non-formulaic appropriations continue the previous year's funding levels including the full text of the existing appropriations law(s) in the text of the law along with either a rate indicated at the beginning and exceptions indicated within or account-by-account reductions (see Saturno and Tollestrup 2016).

Our analysis treats full-year non-formulaic continuing appropriations laws as regular appropriations law and excludes the other kinds of continuing appropriations from the analysis. The exclusion of most continuing appropriations laws from the analysis is because their construction and function is different than regular appropriations laws despite still having an extreme reversion point. First, they tend to be considerably shorter than regular appropriations bills (there is an average difference of over 14,300 words) so they end up being outliers in the analysis. Second, they exist only to keep the government open temporarily with the intention of passing a full appropriations law before its end date. We include full-year non-formulaic continuing appropriations laws—as identified Saturno and Tollestrup (2016)—in the analysis because they do not meet either of the above criteria; that is, they are not temporary and are not word count outliers. However, the inclusion or exclusion of all full-year continuing appropriations laws in the analysis does not impact the results.

We also do not classify individual provisions or titles as important because there is no evidence that symbolic or trivial legislation is included in appropriations. A substantive reading of a sample of authorization provisions in appropriations bills reveals that they are not composed of commemorative provisions, naming federal building, or recognizing individuals. The CRS report on legislative provisions in appropriations bills (Keith 2008) also makes the case that these legislative provisions are frequently “substantial,” in nature. Items that do not make important changes would not be included in appropriations bills systematically as a means of passage because of their non-trivial nature; Congress can pass these bills through the normal authorization process, even during times of gridlock (Howell, Adler, Cameron & Riemann 2000).

Our theoretical claims focus on regular appropriations, as those types of funding laws are where we expect the policy dynamics we describe to play out. As we note, continuing and supplemental/emergency appropriations are excluded from the sample because they serve fundamentally different purposes in Congress.

To validate these claims, we estimated our main empirical models including continuing and supplemental/emergency appropriations in the sample. The results are shown in Table A1 and demonstrate how different the results are with both of these additional types of bills. The first column of results show the direction of the coefficient and the p-value. The first rows are for the gridlock interval size and interchamber distance in results estimated in the paper for the House; both are positive and statistically significant. The second two rows show the effects of the interaction terms for House majority time in power with the size of the gridlock interval and interchamber distance; the coefficients are negative and significant.

When continuing appropriations are included, the coefficient becomes negative, but not significant. This is because increasing legislative gridlock makes continuing appropriations *shorter* because these bills are (mostly) stopgap solutions when regular appropriations are expiring. And, the likelihood of needing stopgap solutions increases when there are greater institutional preferences. Unlike regular appropriations, in which failed passage may result in an extreme reversion point, a continuing appropriations bill indicates the reversion point has already occurred or is imminent.

Supplemental and emergency appropriations produce a similar relationship as regular appropriations; the direction of each of the coefficients is the same, and the p-values are closer to traditional levels of statistical significance. This suggests that these bills may also be used as legislative vehicles in certain circumstances given that they are likely “must-pass” legislation to address a particular crisis, and legislators may use this opportunity to add extraneous provisions to the bills. Further examining the dynamics behind both of these bills would be a fruitful area for future research.

Table A1: Robustness Tests of House Results Using Different Sets of Appropriations Bills

	Regular	With Continuing	With Supplemental/ Emergency	With Both
Gridlock Interval Size	+ ; .01	- ; .82	+ ; .24	- ; .48
Interchamber Distance	+ ; .05	- ; .82	+ ; .23	- ; .56
House Majority Time in Power x Gridlock Interval Size	- ; 0.0	- ; .07	- ; 0.0	- ; .04
House tMajority Time in Power x Interchamber Distance	- ; 0.0	+ ; .59	- ; .11	+ ; .78

Signs show direction of coefficient, numbers after semi-colon indicate p-value level. “Regular” column indicates results shown in body of paper, “With Continuing” column indicates results for regular appropriations with continuing appropriations, “With Supplemental/Emergency” column indicates results for regular appropriations with supplemental and emergency appropriations, while the last column indicates results for regular appropriations with both other types of appropriations.

Appendix B: Word Count Collection Strategy

Two different techniques to collect word counts were used due to the online availability of law text. The process for the 104th through the 115th Congresses is more straightforward because the full text of laws are available on `Congress.gov`. The text of each law was scraped from the website, parsed in R to remove extraneous words and phrases, and the R package “`quanteda`” was used to count the number of words.

For the robustness check in Appendix H which removes “stop words”, the package was also used to remove the stop words as defined in the package, and count the number of words. The results from the main analyses with these stop words removed are shown in Appendix H and are consistent with the main results. See Appendix H for more details.

Laws passed prior to the 104th were counted differently. Full text as an `.html` file for these laws are not available on `Congress.gov`. Instead, `Congress.gov` has an embedded `.pdf` file inside a window that cannot be easily scraped or parsed. Further, the `.pdf` file is an image of the relevant statutes at large printed copies. This poses a problem because text from each law spills over onto pages with text from different laws. Scraping, then parsing and separating these laws is also problematic.

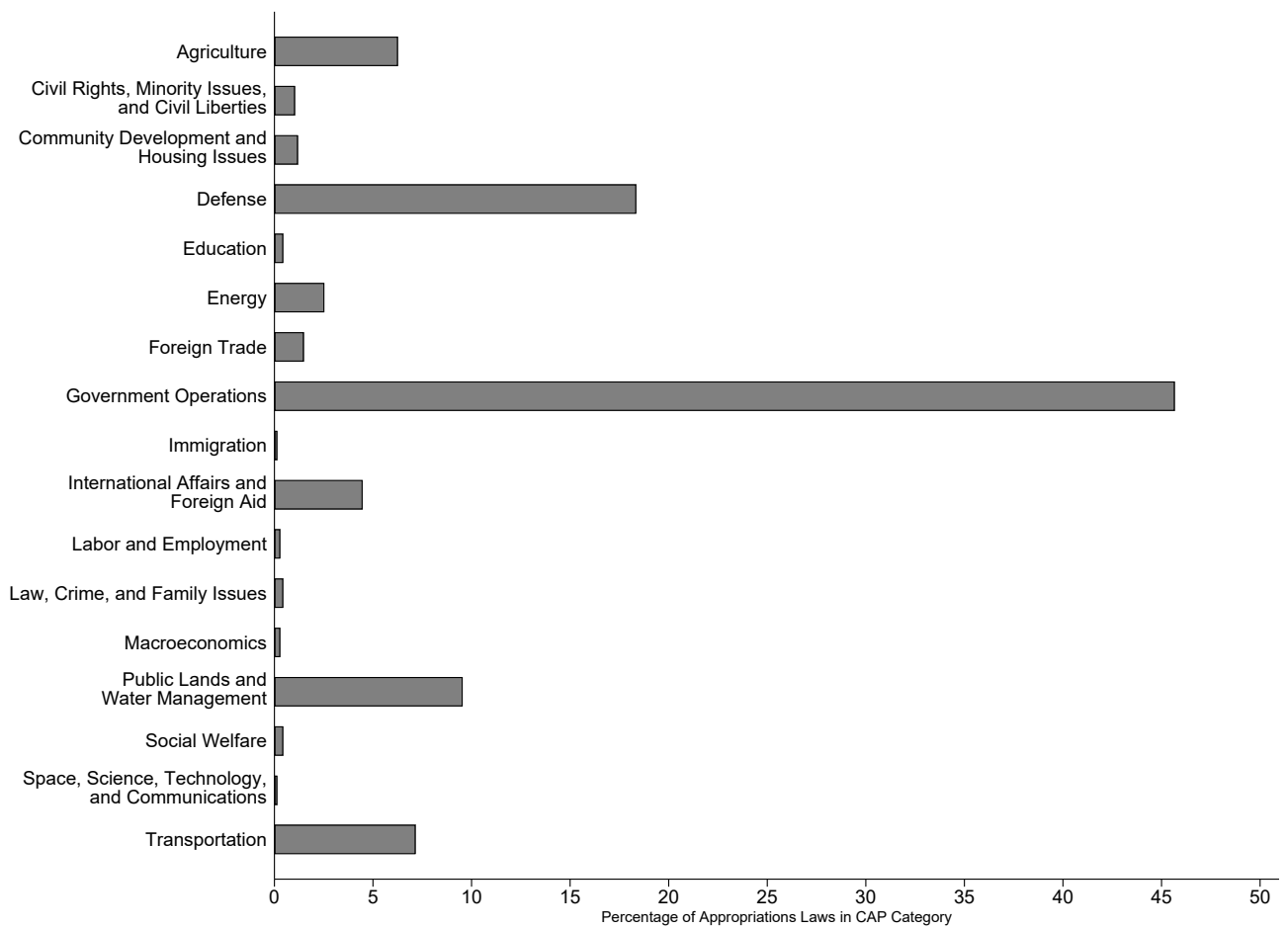
Our approach was to hand collect word counts using HeinOnline. In the HeinOnline database, one can search for individual statutes within a search box. A research assistant pulled up each individual statute, then selected the text view, which displays statute text in `.html` format. After hand-selecting the text, the Chrome browser extension “Word Count” was then used to count the number of words displayed in the text.

Appendix C: Summary Statistics

Table C1: Summary Statistics for Continuous Variables Used in Analysis

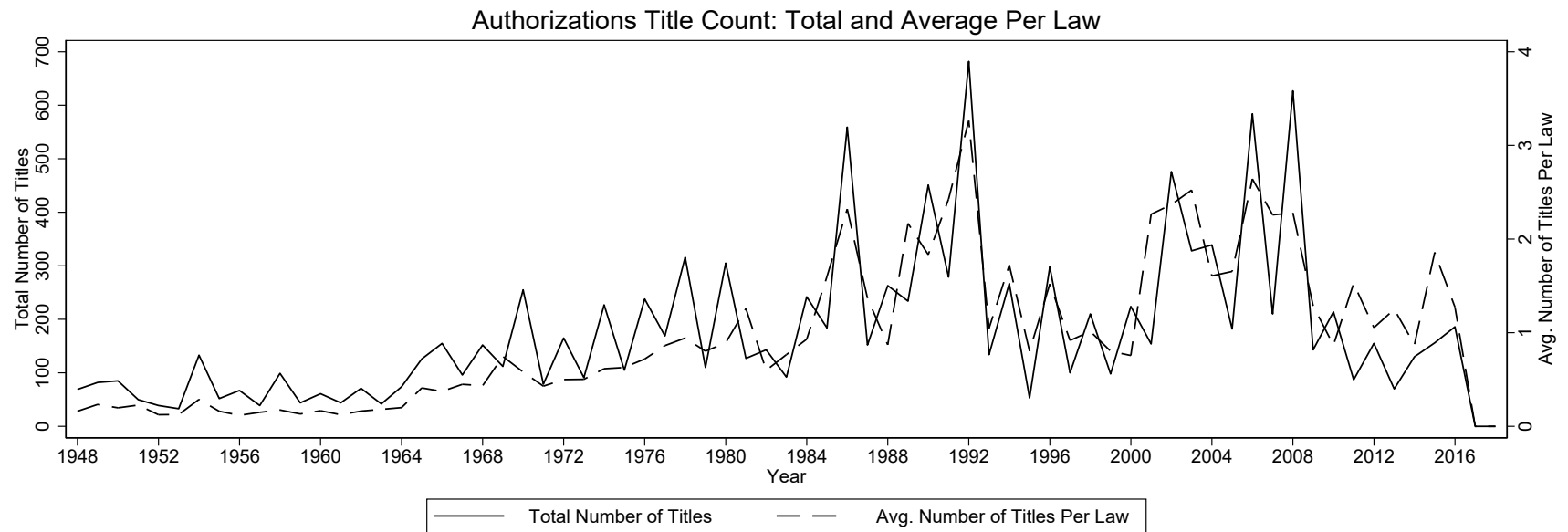
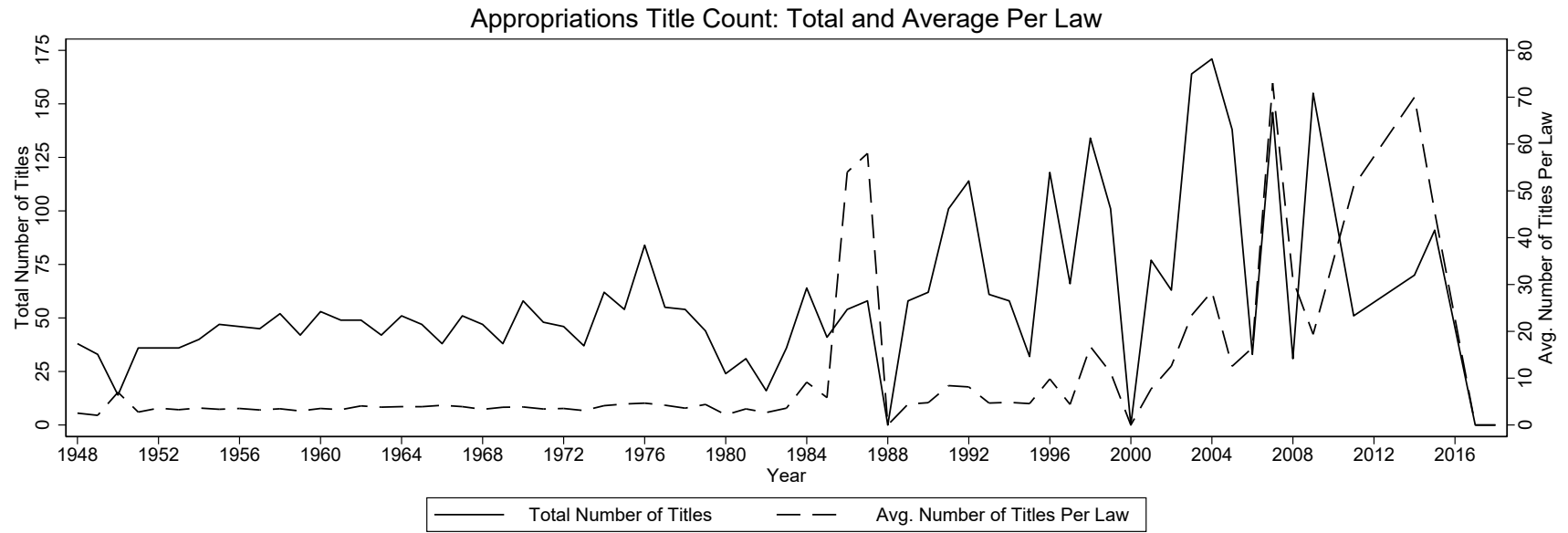
	Mean	Std. Dev.	Minimum	Maximum
Congress-Session Level Variables				
Congress	NA	NA	80	115
Gridlock Interval Size	.442	.104	.208	.701
Deficit as Percentage of GDP	-1.64	2.32	-9.8	4.5
Number of Regular Appropriations Bills in Year	10.67	4.71	0	18
Number of Authorization Bills in Year	300.78	127.31	58	576
Law-Level Variables				
Regular Appropriations Word Count (10,000 Words)	15.80	12.79	3.42	67.51
Authorizations Word Count (10,000 Words)	0.368	1.76	0.002	41.87
Titles In Appropriations Laws	5.83	11.56	0	130
Titles In Authorizations Laws	0.755	3.27	0	64

Figure C1: Distribution of Appropriations Laws by Policy Area, 1948-2018



Appendix D: Title Count for Authorizations and Appropriations Laws, 1948-2018

Figure D1: Title Counts for Authorization and Appropriations Bills, 1948-2018



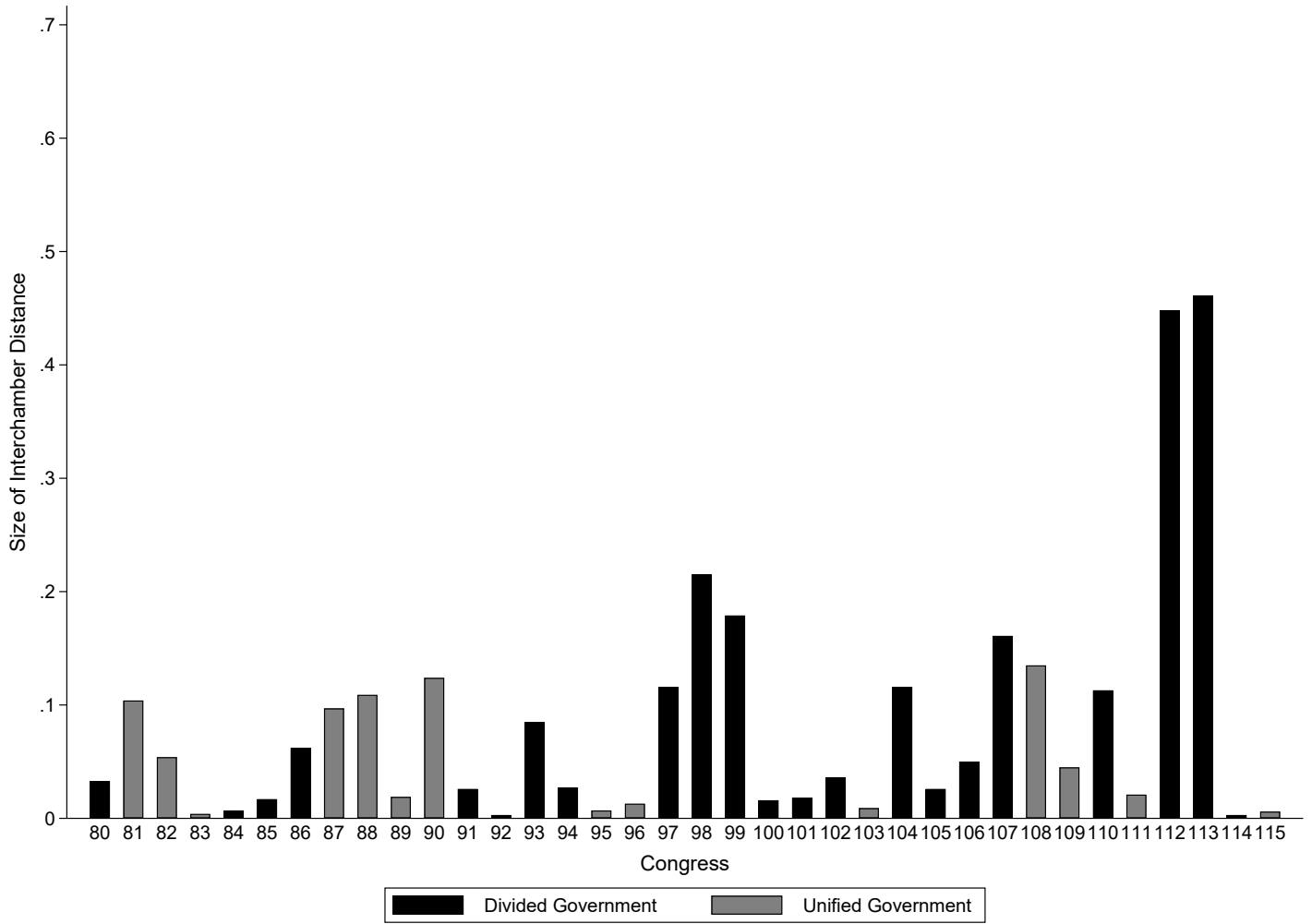
Appendix E: Gridlock and Interchamber Distances

Table E1: The Size of the Gridlock Interval Across Administrations, 1945-2011

Presidential Administration	Gridlock Interval Size	Change from Previous Administration
Mean Across Sample	.464	NA
Truman	.423	NA
Eisenhower	.422	-0.24%
Kennedy	.394	-6.64%
Johnson	.382	-3.05%
Nixon	.468	22.51%
Ford	.208	-25%
Carter	.261	-25.48%
Reagan	.402	54.02%
H. W. Bush	.449	11.69%
Clinton	.535	10.47%
W. Bush	.596	11.40%
Obama	.560	-6.04%
Trump	.679	21.25%

The sample extends through Trump's presidency. Because of the period in which Democrats had a filibuster-proof majority in the Senate in the 111th Congress, the average gridlock interval for Obama's term is slightly smaller than for Bush or Trump.

Figure E1: The Size of Interchamber Distance Over Time



Appendix F: The Conditional Effects of Time in Power on Interchamber Distance

Table F1: The Conditional Effect of House Majority Time in Power on Appropriations and Authorizations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Size of Gridlock Interval	74.84* (15.03)	196.60* (48.12)	-0.32 (0.86)	-3.46 (2.16)
House Maj. Time in Power	2.16* (0.55)	5.68* (1.64)	-0.06 (0.04)	-0.23 (0.14)
Gridlock x Time in Power	-5.34* (1.19)	-13.50* (3.59)	0.17 (0.11)	0.65# (0.38)
Lagged Deficit as Percentage of GDP	-0.55* (0.17)	-1.28* (0.48)	-0.00 (0.01)	-0.02 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.11 (0.09)	-0.02 (0.21)	-0.01# (0.01)	-0.01 (0.02)
Election Year	-0.09 (0.52)	0.57 (1.28)	0.06 (0.05)	0.02 (0.11)
Unified Government	4.10# (2.22)	9.30 (8.93)	0.07 (0.13)	-0.26 (0.28)
Unified Chambers	0.33 (1.39)	2.27 (5.86)	-0.07 (0.10)	-0.54# (0.32)
Dem. House Majority	2.38 (1.89)	13.91# (7.45)	0.11 (0.08)	-0.03 (0.15)
Dem. Senate Majority	2.14 (1.71)	-2.55 (6.12)	0.03 (0.10)	-0.28 (0.25)
Number of Regular Approp. Bills in Year	-0.35* (0.11)	-1.02* (0.33)		
Number of Authorization Bills in Year (x 100)			-0.03 (0.03)	0.02 (0.05)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant	-21.50 (13.91)	-88.86* (32.25)	1.12# (0.60)	3.62* (1.72)
AIC	3565.76	4875.19	65423.65	84089.68
N	655	652	16,575	16,264

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table F2: The Conditional Effect of Senate Majority Time in Power on Appropriations and Authorizations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Size of Gridlock Interval	65.02* (16.27)	200.63* (45.20)	2.15* (1.09)	4.33 (3.11)
Senate Maj. Time in Power	3.17* (1.12)	10.91* (2.90)	0.16 (0.12)	0.72# (0.37)
Gridlock x Time in Power	-7.23* (2.28)	-24.47* (5.97)	-0.37 (0.25)	-1.32# (0.71)
Lagged Deficit as Percentage of GDP	-0.57* (0.16)	-1.42* (0.40)	0.00 (0.01)	-0.01 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.12 (0.09)	-0.08 (0.21)	-0.01* (0.01)	-0.01 (0.02)
Election Year	-0.14 (0.56)	0.31 (1.46)	0.07 (0.05)	-0.05 (0.11)
Unified Government	4.21* (1.43)	13.68* (3.87)	0.28* (0.12)	0.39 (0.31)
Unified Chambers	-3.54* (1.46)	-9.49* (4.45)	-0.03 (0.07)	-0.26 (0.17)
Dem. House Majority	4.04* (1.49)	20.37* (4.97)	0.21* (0.09)	0.12 (0.21)
Dem. Senate Majority	-0.14 (1.03)	-7.23* (3.25)	0.11* (0.05)	0.01 (0.12)
Number of Regular Approp. Bills in Year	-0.32* (0.11)	-0.95* (0.32)		
Number of Authorization Bills in Year (x 100)			-0.04 (0.03)	0.05 (0.06)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant	-12.21 (13.96)	-83.10* (23.71)	-0.34 (0.56)	-1.34 (1.63)
AIC	3571.92	4875.07	65422.46	84087.90
N	655	652	16,575	16,264

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table F3: The Conditional Effect of House Majority Time in Power and Interchamber Distance on Appropriations and Authorizations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Distance from House to Senate Medians	24.86* (9.30)	69.96* (26.42)	-0.10 (0.38)	-0.74 (1.13)
House Maj. Time in Power	0.17 (0.23)	0.91 (0.76)	0.01 (0.01)	0.03 (0.03)
Distance x Time in Power	-2.21* (0.92)	-6.91* (2.62)	-0.06 (0.04)	0.12 (0.14)
Lagged Deficit as Percentage of GDP	-0.25# (0.14)	-0.47 (0.36)	0.00 (0.01)	-0.01 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.09 (0.07)	0.01 (0.16)	-0.01* (0.01)	-0.01 (0.02)
Election Year	-0.09 (0.45)	0.47 (1.08)	0.05 (0.04)	0.07 (0.12)
Unified Government	-2.24 (2.29)	-9.83 (7.44)	0.01 (0.09)	-0.21 (0.31)
Unified Chambers	1.03 (1.27)	4.85 (4.52)	0.01 (0.07)	-0.07 (0.15)
Dem. House Majority	1.15 (1.79)	10.24# (5.81)	0.05 (0.07)	-0.13 (0.19)
Dem. Senate Majority	-2.75 (2.25)	-17.78* (7.28)	0.00 (0.07)	-0.07 (0.23)
Number of Regular Approp. Bills in Year	-0.31* (0.10)	-0.88* (0.30)		
Number of Authorization Bills in Year (x 100)			-0.03 (0.03)	-0.01 (0.05)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant	20.92# (11.68)	26.75# (16.07)	1.07* (0.35)	1.55# (0.86)
AIC	3575.34	4878.01	65424.16	84095.38
N	655	652	16,575	16,264

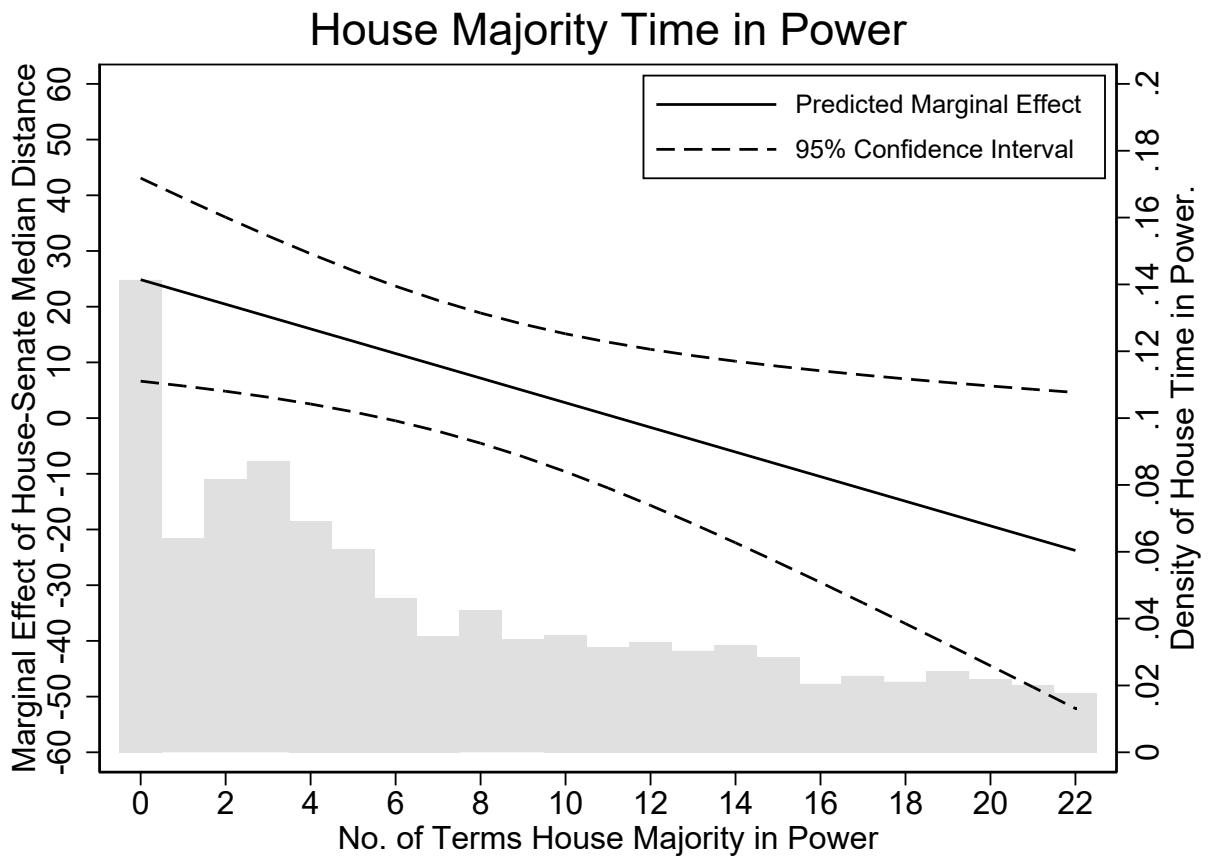
* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table F4: The Conditional Effect of Senate Majority Time in Power and Interchamber Distance on Appropriations and Authorizations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Distance from House to Senate Medians	9.45 (8.93)	28.69 (26.96)	-0.94 [#] (0.50)	-0.34 (1.17)
Senate Maj. Time in Power	-0.39 (0.33)	-1.05 (1.01)	-0.04 (0.03)	0.08 (0.09)
Distance x Time in Power	1.37 (1.86)	3.34 (5.51)	0.29* (0.09)	0.06 (0.22)
Lagged Deficit as Percentage of GDP	-0.29 [#] (0.15)	-0.64 [#] (0.38)	-0.00 (0.01)	-0.02 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.08 (0.08)	0.05 (0.18)	-0.01 [#] (0.01)	-0.01 (0.01)
Election Year	0.03 (0.46)	0.84 (1.16)	0.06 (0.05)	0.03 (0.12)
Unified Government	-1.29 [#] (0.74)	-3.26 (2.22)	0.08 (0.05)	0.09 (0.09)
Unified Chambers	1.41 (1.33)	5.39 (4.54)	-0.06 (0.08)	-0.21 (0.21)
Dem. House Majority	0.45 (1.71)	9.45 [#] (5.57)	0.05 (0.07)	-0.03 (0.13)
Dem. Senate Majority	-0.01 (1.44)	-6.69 (4.58)	0.14* (0.05)	0.07 (0.11)
Number of Regular Approp. Bills in Year	-0.36* (0.11)	-1.06* (0.33)		
Number of Authorization Bills in Year (x 100)			-0.03 (0.03)	0.01 (0.06)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant	18.87 [#] (10.76)	12.94 (8.95)	1.02* (0.32)	1.05* (0.48)
AIC	3545.34	4878.00	64498.59	84086.78
N	655	652	16,573	16,262

*p<.05, [#]p<.1; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Figure F1: The Marginal Effect of House-Senate Median Distance Conditional on House Majority Party Time in Power

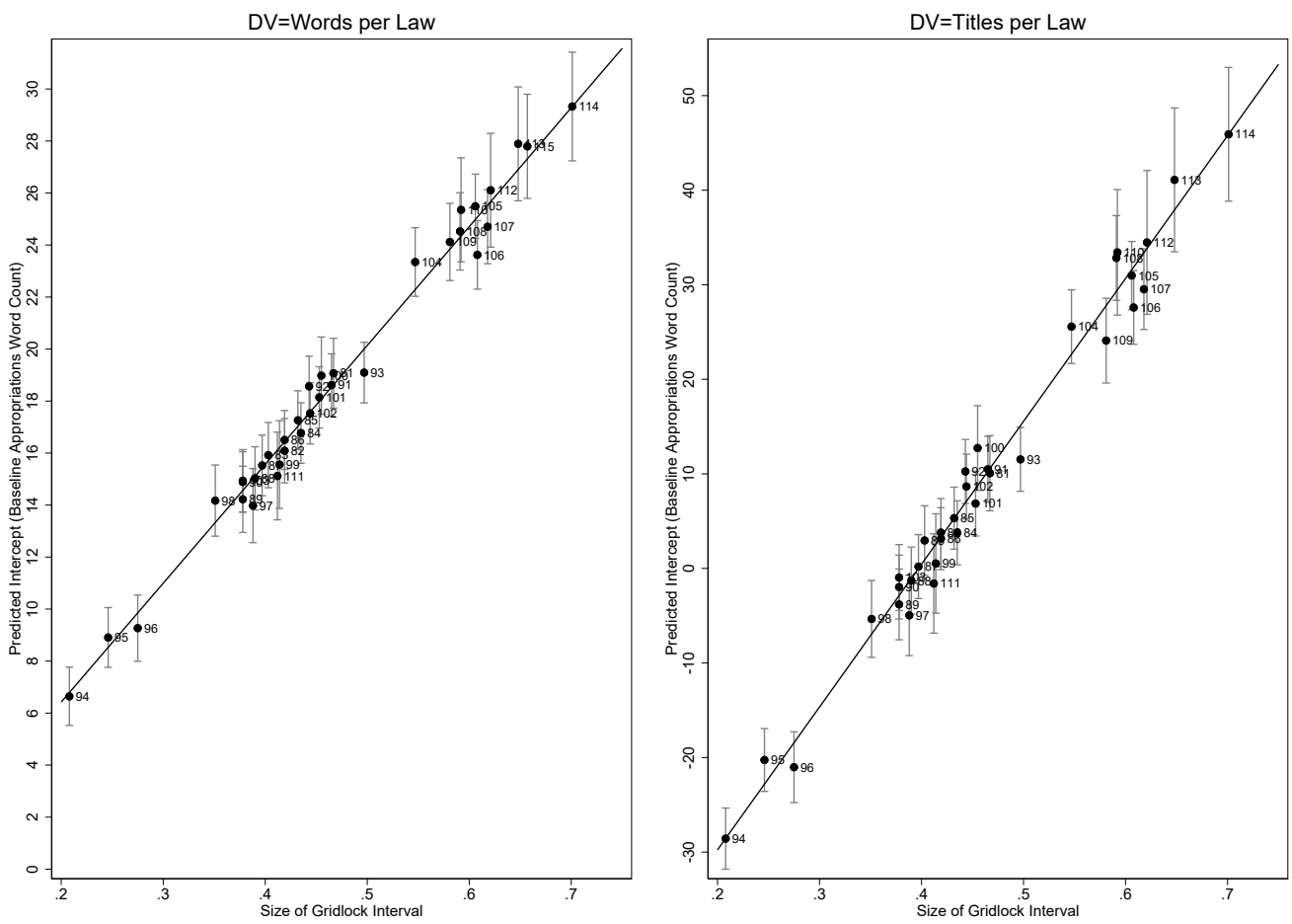


Marginal effects from models 1 in Table E1. The marginal effect is for the distance from the House to Senate medians on words per law, conditional on House majority time in power. Solid black line shows marginal effect, while dotted lines show 95% confidence interval.)

Appendix G: Average Effect of Regression Intercepts Across Congresses and Empirical Tests of Party Effects on Appropriations Policymaking

The multilevel model can be used to estimate the “average effect” of the regression intercepts across Congresses. If later congresses had a systematically higher baseline level of appropriations word counts, this would be evidence that the results might be driven by an increase in a time-varying factor (in this case, party power) not captured in the empirical models. Figure ?? plots the relationship between the predicted intercepts in each Congress (y-axis) and interchamber distance (x-axis) from the first and second set of results in Table ??. Each estimated intercept is also shown with its 95% confidence interval, developed from the standard deviation of the errors in the Congress-level regression, and the estimated multilevel regression line (see Gelman and Hill 2006). If, controlling for all other variables, later Congresses were more likely to use the appropriations process, they would consistently be under-predicted by the estimated regression intercept. Each estimated intercept can be interpreted as the predicted baseline level of appropriations words accounting for all variables in the model. There is no evidence that more recent Congresses have higher baseline levels of word counts than expected given their level of interchamber distance. The 113th, and 115th Congresses are slightly higher than predicted, while the 114th is slightly lower than predicted. Only the 100th Congress substantially outperforms the baseline expectation of words per title, despite having a relatively moderate gridlock interval. This is evidence that the relationship between the gridlock interval and appropriations policymaking has not fundamentally changed in more recent congresses. In other words, the relationship between interchamber distance and use of the appropriations process for policy-making appears to exist independent of the rise in polarization.

Figure G1: Predicted Congress Intercepts and Gridlock Distance



CPG suggests that when the parties are both ideologically distinct from each other and internally homogeneous, members will delegate to their leadership more, allowing the party to produce policies away from the chamber median (or other pivotal actors) and toward the party's preferences, usually conceptualized as represented by the party median. The interaction term included in the models below captures situations in which both conditions are satisfied: parties are both ideologically distinct from each other and internally cohesive.¹

Even when controlling for an interaction of interparty distance and majority party standard deviation for both the House and Senate, the size of the gridlock interval predicts appropriations words and titles as shown in Tables F1 and F2 ($p < .056$ in model 1 in Table F1). The substantive effects on both dependent variables are not statistically different from the model without the party strength measures. And, consistent with previous results, there is no effect on authorizations words or titles. The interactive effect of House interparty distance and majority party standard deviation is not significant, though the effect for the Senate is. Marginal effects show that an increase in majority party cohesion, but not in distance between the parties, increases appropriations policymaking. This result is not consistent with the claims about polarization, but does suggest that more cohesive parties use appropriations more, independent of the effects of the size of the gridlock interval.

Tables F3 and F4 estimate the same models but use interchamber distance as the measure of inter-institutional preferences rather than the gridlock interval. In Table F3, this measure is again statistically significant and positive, and substantively similar to the previous results, providing additional evidence that divergent preferences across lawmaking institutions drives appropriations policymaking, even when controlling for polarization in the House. The interchamber distance coefficients in Table F4, which control for Senate polarization are positive but not statistically significant. As with the House results, the interaction term is negative and marginal effects indicate that an increase in Senate majority party cohesion increases appropriations policymaking. Notably, that is not true for an increase in distance between the two parties. This offers mixed support for the claim that polarization drives appropriations lawmaking, and we leave investigation of this finding to future research.

¹Interparty distance correlates with the size of the gridlock interval at .73 in the House and .55 in the Senate, while majority party standard deviation correlates with the size of the gridlock interval at -.50 in the House, and -.21 in the Senate.

Table G1: The Effect of House Polarization and Gridlock Interval on Appropriations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Size of Gridlock Interval	27.86 [#] (14.30)	113.41* (43.38)	1.07 (1.13)	-2.49 (3.48)
Party Median Distance	31.22 (65.23)	1.91 (118.61)	4.08 (6.01)	10.72 (14.83)
Majority Party Std. Dev.	72.25 (191.64)	327.26 (288.01)	15.04 (16.59)	3.15 (34.85)
Median Distance x House Maj. Party Std. Dev.	-169.61 (333.98)	-770.67 (537.40)	-31.32 (28.64)	-12.23 (59.80)
Lagged Deficit as Percentage of GDP	-0.52* (0.20)	-1.59* (0.53)	-0.00 (0.01)	-0.01 (0.02)
Lagged Total Authorization Words (per 100,000 words)	-0.10 (0.08)	-0.04 (0.20)	-0.01* (0.01)	-0.01 (0.01)
Election Year	0.01 (0.49)	0.45 (1.35)	0.07 [#] (0.04)	0.09 (0.12)
Unified Government	1.15 (1.80)	0.89 (4.74)	0.19 (0.15)	0.23 (0.41)
Unified Chambers	-2.71 (1.73)	-5.23 (4.52)	-0.11 (0.15)	-0.42 (0.39)
Dem. House Majority	2.46 (1.70)	18.06* (4.74)	0.14 (0.10)	-0.04 (0.26)
Dem. Senate Majority	0.37 (1.42)	-6.91 [#] (3.74)	0.21* (0.09)	0.27 (0.20)
Number of Regular Approp. Bills in Year	-0.33* (0.11)	-0.99* (0.33)		
Number of Authorization Bills in Year (x 100)			-4.61 [#] (2.60)	-2.57 (5.26)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant -5.91	-16.28 (37.43)	-1.52 (57.43)	-2.99 (3.42)	(8.15)
AIC	3578.60	4880.56	65419.90	84094.61
N	655	652	16,575	16,264

*p<.05, [#]p<.1; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table G2: The Effect of Senate Polarization and Gridlock Interval on Appropriations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Size of Gridlock Interval	19.33 [#] (11.19)	83.89* (24.87)	0.22 (1.57)	3.13 (5.25)
Party Median Distance	124.46* (52.82)	303.94* (136.62)	2.97 (4.68)	-9.38 (15.91)
Majority Party Std. Dev.	359.15* (123.13)	1015.23* (347.50)	6.40 (10.40)	-19.30 (34.57)
Median Distance x Senate Maj. Party Std. Dev.	-636.30* (223.39)	-1819.94* (644.77)	-12.01 (19.31)	39.81 (65.73)
Lagged Deficit as Percentage of GDP	-0.54* (0.15)	-1.53* (0.43)	0.00 (0.01)	-0.02 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.09 (0.08)	0.00 (0.19)	-0.01* (0.01)	-0.01 (0.01)
Election Year	-0.03 (0.51)	0.57 (1.32)	0.07 (0.05)	0.12 (0.13)
Unified Government	-0.41 (1.26)	0.15 (3.40)	0.11 (0.17)	0.55 (0.65)
Unified Chambers	-0.49 (1.23)	-1.66 (3.78)	0.06 (0.12)	-0.47 (0.46)
Dem. House Majority	1.81 (1.75)	16.56* (5.30)	0.13 (0.11)	0.16 (0.31)
Dem. Senate Majority	-2.14 (1.71)	-13.92* (5.71)	0.05 (0.10)	0.39 (0.35)
Number of Regular Approp. Bills in Year	-0.32* (0.11)	-0.87* (0.33)		
Number of Authorization Bills in Year (x 100)			-3.47 (2.79)	-5.00 (5.55)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant -57.53*	-191.49* (26.34)	-0.87 (66.42)	3.67 (1.80)	(5.48)
AIC	3574.36	4877.07	65427.33	84095.30
N	655	652	16,575	16,264

*p<.05, #p<.1; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table G3: The Effect of House Polarization and Interchamber Distance on Appropriations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Distance from House to Senate Medians	13.44* (5.27)	48.19* (17.86)	0.04 (0.33)	0.32 (0.77)
House Parties Median Distance	155.08* (70.07)	468.31* (158.10)	6.42 (5.94)	7.66 (15.13)
House Majority Party Std. Dev.	380.48# (217.09)	1461.72* (449.85)	17.19 (17.42)	7.94 (38.20)
Median Distance x House Maj. Party Std. Dev.	-708.28# (374.52)	-2762.78* (771.36)	-35.38 (30.34)	-20.27 (66.26)
Lagged Deficit as Percentage of GDP	-0.25# (0.14)	-0.55 (0.37)	0.00 (0.01)	-0.01 (0.02)
Lagged Total Authorization Words (per 100,000 words)	-0.09 (0.08)	-0.01 (0.19)	-0.01* (0.01)	-0.01 (0.01)
Election Year	0.03 (0.47)	0.53 (1.22)	0.07 (0.04)	0.09 (0.12)
Unified Government	1.39 (1.78)	0.77 (5.71)	0.15 (0.13)	0.35 (0.40)
Unified Chambers	-1.90 (1.50)	-1.97 (4.36)	-0.12 (0.15)	-0.38 (0.44)
Dem. House Majority	0.33 (1.86)	9.57# (5.54)	0.06 (0.06)	0.14 (0.15)
Dem. Senate Majority	1.88 (1.71)	-1.35 (4.86)	0.24* (0.09)	0.23 (0.24)
Number of Regular Approp. Bills in Year	-0.38* (0.11)	-1.18* (0.34)		
Number of Authorization Bills in Year (x 100)			-3.90 (2.40)	-3.60 (4.79)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant -66.18	-236.64* (44.71)	-2.24 (100.82)	-2.78 (3.45)	(8.78)
AIC	3577.09	4882.55	65420.78	84093.59
N	655	652	16,575	16,264

*p<.05, #p<.1; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Table G4: The Effect of Senate Polarization and Interchamber Distance on Appropriations Policymaking

<i>Independent Variables</i>	Appropriations		Authorizations	
	(Words Per Law) (1)	(Titles per Law) (2)	(Words per Law) (3)	(Titles per Law) (4)
Session-Level Variables				
Distance from House to Senate Medians	2.87 (4.95)	9.15 (15.21)	-0.79* (0.35)	
Senate Parties Median Distance	159.24* (52.54)	470.76* (155.15)	7.36* (2.57)	-9.38 (15.91)
Senate Majority Party Std. Dev.	421.40* (128.00)	1330.40* (398.32)	17.10* (6.49)	-19.30 (34.57)
Median Distance x Senate Maj. Party Std. Dev.	-754.29* (235.66)	-2416.10* (747.08)	-30.85* (11.89)	39.81 (65.73)
Lagged Deficit as Percentage of GDP	-0.42* (0.14)	-1.07* (0.38)	-0.00 (0.01)	-0.02 (0.03)
Lagged Total Authorization Words (per 100,000 words)	-0.09 (0.08)	-0.01 (0.17)	-0.01* (0.00)	-0.01 (0.01)
Election Year	-0.04 (0.48)	0.44 (1.21)	0.07 (0.04)	0.12 (0.13)
Unified Government	-2.28* (1.05)	-8.44* (3.52)	0.07 (0.05)	0.55 (0.65)
Unified Chambers	1.31 (1.02)	5.95# (3.37)	-0.01 (0.08)	-0.47 (0.46)
Dem. House Majority	0.61 (1.72)	11.50* (5.64)	0.07 (0.05)	0.16 (0.31)
Dem. Senate Majority	-2.79 (2.04)	-17.23* (6.85)	0.01 (0.05)	0.39 (0.35)
Number of Regular Approp. Bills in Year	-0.34* (0.11)	-0.94* (0.32)		
Number of Authorization Bills in Year (x 100)			-4.17# (2.46)	-5.00 (5.55)
President Fixed Effects	Yes	Yes	Yes	Yes
Law-Level Variables				
Major Topic Policy Area Fixed Effects	Yes	Yes	Yes	Yes
Constant -65.44*	-232.89* (26.32)	-2.91* (75.62)	3.67 (1.38)	(5.48)
AIC	3575.93	4881.04	65424.51	84095.30
N	655	652	16,575	16,264

*p<.05, #p<.1; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 and 3 is through the 115th Congress, for 2 and 4 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law (models 1 and 3), or titles in a law (models 2 and 4). Lagged total authorization words in hundreds of thousands of words.

Appendix H: Replication of Main Analyses Removing “Stop Words” from Law Count

When conducting text analyses, it is common for researchers to remove “stop words” from the corpus in order to better identify content and meaning. Stop words consist of prepositions, articles, and some adverbs (e.g., very, me, would, should, through) While we are not performing text analysis, we are using word counts as one of our main outcomes in the empirical models. To ensure the results are not driven by the inclusion of stop words in the text of laws, we re-ran the main empirical tests with and without stop words, which were removed using the `quanteda` package in the 104th through 116th Congresses. For stop words to be driving our results, there would have to be systematically different amounts of stop words in different types of laws; while we do not have a theoretical reason to believe this is occurring, we can test the claim by removing all stop words from all laws.

The results are shown in Appendix H (Tables H1-H4) and demonstrate there are no important differences between the results including stop words and those without. For each of the key results in the tables, the coefficients are statistically significant and in the same direction as the original models for appropriations. For authorizations, none of the results are significant except for size of the gridlock interval at the .1 level. The estimated coefficients are smaller than in the original models, but this is to be expected as the overall word counts of laws are much smaller.

We also ran models comparing only the 104th-116th Congresses (not shown in paper but replication code provided in replication files). These offer a direct comparison between law text in the same congresses with stop words and without. The estimated coefficients are consistent with the full sample, though the coefficients are not statistically significant due to the small number of observations. Recall that the unit in the appropriations models are appropriations laws enacted, of which there are only 120 between the 104th and 116th Congresses, thus the empirical tests, with mixed effects, president fixed effects, and a host of control variables, are under-powered.

Table H1: The Effect of the Gridlock Interval on Policy Activity—Stop Words Removed

<i>Independent Variables</i>	Appropriations	Authorizations
	(Words Per Law)	
	(1)	(2)
Session-Level Variables		
Size of Gridlock Interval	21.58* (7.91)	1.01# (0.61)
Lagged Deficit as Percentage of GDP	-0.37* (0.12)	-0.003 (0.01)
Lagged Total Authorization Words (per 100,000 words)	-0.06 (0.06)	-0.01* (0.01)
Election Year	0.08 (0.38)	0.07# (0.04)
Unified Government	1.43# (0.84)	0.30* (0.10)
Unified Chambers	-1.39 (0.96)	-0.08 (0.06)
Dem. House Majority	1.43 (0.99)	0.18* (0.08)
Dem. Senate Majority	0.62 (0.77)	0.20* (0.05)
Number of Regular Approp. Bills in Year	-0.27* (0.09)	
Number of Authorization Bills in Year (x 100)		-0.04 (0.02)
President Fixed Effects	Yes	Yes
Law-Level Variables		
Major Topic Policy Area Fixed Effects	Yes	Yes
Constant	8.01 (10.76)	0.05 (0.42)
AIC	3110.04	57971.26
N	655	16,575

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 is through the 115th Congress, for 2 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law. Stop words have been removed from the law text for laws enacted between the 104th-114th Congresses. Lagged total authorization words in hundreds of thousands of words.

Table H2: The Effect of Interchamber Distance on Policy Activity—Stop Words Removed

<i>Independent Variables</i>	Appropriations	Authorizations
	(Words Per Law)	
	(1)	(2)
Session-Level Variables		
Distance from House to Senate Medians	8.40* (3.99)	-0.01 (0.27)
Lagged Deficit as Percentage of GDP	-0.20# (0.11)	-0.001 (0.01)
Lagged Total Authorization Words (per 100,000 words)	-0.07 (0.06)	-0.01* (0.01)
Election Year	-0.05 (0.38)	0.06 (0.04)
Unified Government	-0.51 (0.56)	0.19* (0.06)
Unified Chambers	1.27 (0.90)	-0.05 (0.07)
Dem. House Majority	0.11 (1.08)	0.08 (0.07)
Dem. Senate Majority	0.54 (0.98)	0.20* (0.06)
Number of Regular Approp. Bills in Year	-0.31* (0.09)	
Number of Authorization Bills in Year (x 100)		-0.03 (0.02)
President Fixed Effects	Yes	Yes
Law-Level Variables		
Major Topic Policy Area Fixed Effects	Yes	Yes
Constant	17.42# (10.49)	0.65* (0.26)
AIC	3114.69	57974.45
N	655	16,575

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 is through the 115th Congress, for 2 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law. Stop words have been removed from the law text for laws enacted between the 104th-114th Congresses. Lagged total authorization words in hundreds of thousands of words.

Table H3: The Conditional Effect of House Majority Time in Power on Appropriations and Authorizations Policymaking—Stop Words Removed

<i>Independent Variables</i>	Appropriations	Authorizations
	(1)	(2)
Session-Level Variables		
Distance from House to Senate Medians	15.73* (6.19)	0.01 (0.30)
House Maj. Time in Power	0.08 (0.15)	0.03* (0.01)
Gridlock x Time in Power	-1.16# (0.64)	-0.08* (0.04)
Lagged Deficit as Percentage of GDP	-0.19# (0.11)	0.00 (0.01)
Lagged Total Authorization Words (per 100,000 words)	-0.09# (0.06)	-0.01* (0.01)
Election Year	-0.19 (0.38)	0.03 (0.03)
Unified Government	-0.75 (1.42)	0.03 (0.07)
Unified Chambers	0.93 (0.92)	-0.02 (0.06)
Dem. House Majority	0.78 (1.23)	0.06 (0.06)
Dem. Senate Majority	-0.72 (1.52)	-0.01 (0.06)
Number of Regular Approp. Bills in Year	-0.29* (0.09)	
Number of Authorization Bills in Year (x 100)		-0.02 (0.02)
President Fixed Effects	Yes	Yes
Law-Level Variables		
Major Topic Policy Area Fixed Effects	Yes	Yes
Constant	0.90* (0.14)	0.33* (0.11)
AIC	3107.14	57964.08
N	655	16,575

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 is through the 115th Congress, for 2 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law. Stop words have been removed from the law text for laws enacted between the 104th-114th Congresses. Lagged total authorization words in hundreds of thousands of words.

Table H4: The Conditional Effect of Senate Majority Time in Power on Appropriations and Authorizations Policymaking—Stop Words Removed

<i>Independent Variables</i>	Appropriations	Authorizations
	(1)	(2)
Session-Level Variables		
Distance from House to Senate Medians	7.33 (6.24)	-0.70 (0.44)
Senate Maj. Time in Power	-0.25 (0.22)	-0.03 (0.02)
Gridlock x Time in Power	0.81 (1.26)	0.26* (0.09)
Lagged Deficit as Percentage of GDP	-0.21# (0.11)	-0.01 (0.01)
Lagged Total Authorization Words (per 100,000 words)	-0.08 (0.06)	-0.01* (0.005)
Election Year	-0.07 (0.38)	0.06 (0.04)
Unified Government	-0.41 (0.56)	0.19* (0.06)
Unified Chambers	1.13 (0.95)	-0.11# (0.06)
Dem. House Majority	0.36 (1.10)	0.08 (0.07)
Dem. Senate Majority	0.59 (0.94)	0.21* (0.05)
Number of Regular Approp. Bills in Year	-0.31* (0.10)	
Number of Authorization Bills in Year (x 100)		-0.03 (0.03)
President Fixed Effects	Yes	Yes
Law-Level Variables		
Major Topic Policy Area Fixed Effects	Yes	Yes
Constant 17.41	0.76* (10.73)	(0.29)
AIC	3113.30	57969.56
N	655	16,575

* $p < .05$, # $p < .1$; Mixed-effects maximum likelihood regression with random effects by Congress and clustered standard errors by Congress. The sample for models 1 is through the 115th Congress, for 2 through the 114th Congress. The unit of analysis is law, and the dependent variable is number of words (in tens of thousands of words) in a law. Stop words have been removed from the law text for laws enacted between the 104th-114th Congresses. Lagged total authorization words in hundreds of thousands of words.

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