

# Legislative Gridlock and Policymaking Through the Appropriations Process <sup>\*</sup>

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## Abstract

We demonstrate that appropriations laws are used to make substantive legislative changes when the authorizations process is gridlocked. Using an original dataset of appropriations laws, we measure the amount of new policy created given the distribution of preferences across the House, Senate, and president. The findings show that a larger gridlock interval promotes the use of appropriations bills as substantive policymaking vehicles because of the uniquely extreme reversion point of appropriations. Consistent with a regime change producing a new set of status quo policies which can be defeated, the effect of this relationship decreases when the preferences of the president shift. There is no evidence strong party cohesion within the chambers increases the use of appropriations. The results provide empirical support for the claim that diverging preferences among lawmaking institutions affects legislative productivity, and suggests that winning coalitions can often make substantive policy changes despite ideological disagreement among pivotal actors.

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Besides the “textbook” legislative process where policy change is achieved through the standing committees which hold hearings and markup bills, Congress uses the appropriations process to make important policy changes. Appropriations bills frequently incorporate new substantive legislative provisions, stipulations or conditions on funding, restrict the discretion of bureaucratic agencies and administrators, and make changes to particular programs and policy provisions. For example, in 1998 Congress passed the “Internet Tax Freedom Act,” which prohibited federal, state and local governments from imposing taxes on internet access and on certain types of interstate commerce as part of an omnibus appropriations bill. In that single appropriations bill, the Congressional Research Service counts 27 different substantive legislative provisions, dealing with issues ranging from children’s online privacy to fisheries. The recently enacted 2018 Consolidated Appropriations Bill included numerous substantive legislative provisions, including exemptions from labor laws for Major League Baseball’s minor league players, an increase in the number of H-2B visas, new laws concerning privacy and government access to cloud computing data, and increased access to mental health care for certain types of discharged veterans.<sup>1</sup> We demonstrate that the appropriations process is more than a means of exercising budgetary discretion; it is also an important policy tool frequently used to bypass legislative gridlock in the traditional authorization process.

This claim challenges the conventional wisdom that increasing ideological or preference differences *always* promote legislative gridlock by showing that appropriations become an alternative, supplemental policymaking venue when agreement is unlikely through authorizing legislation. The American separated system requires agreement for passage from the House median, Senate filibuster pivot (because of that chamber’s supermajoritarian rules), and the president or one of the two congressional members necessary to override a veto (Krehbiel 1998). When the status quo policy lies between the filibuster pivot and the president or veto override pivot (whichever is closer to the filibuster pivot), the status quo cannot be changed because any

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<sup>1</sup>See Axisa, Mike, “Congress’ ‘Save America’s Pastime Act’ would allow teams to pay minor-leaguers less than minimum wage,” CBSSports.com, March 22, 2018. Accessed at: <https://www.cbssports.com/mlb/news/congress-save-americas-pastime-act-would-allow-teams-to-pay-minor-leaguers-less-than-minimum-wage/> on May 17, 2018; Campoy, Ann, “The new US spending bill funds a tiny bit of border wallbut creates up to 60,000 new visas,” Quartz.com, March 23, 2018. Accessed at: <https://qz.com/1235773/us-omnibus-spending-bill-funds-donald-trumps-border-wall-and-60000-h-2b-visas/> on May 17, 2018; Shane III, Leo, “Budget omnibus includes new mental health care for other-than-honorable vets,” The Military Times, March 22, 2018. Accessed at: <https://www.militarytimes.com/veterans/2018/03/22/budget-omnibus-includes-new-mental-health-care-for-other-than-honorable-vets/> on May 17, 2018; Haultala, Laura, “CLOUD Act becomes law, increases government access to online info,” CNET.com. Accessed at: <https://www.cnet.com/news/cloud-act-becomes-law-increases-government-access-to-email-internet-microsoft/> on May 17, 2018.

new policy would leave at least one pivotal actor worse off than they would be under the status quo. As the ideological distance between these pivots expands, a greater set of policies is “gridlocked”. While previous research on legislative productivity has focused almost exclusively on authorizations legislation, appropriations and authorizations are imperfect substitutes because the reversion point for appropriations bills is not the current status quo, but an extreme outcome where funding is zero and the program or policy ceases to exist. As a result, appropriations bills are “must pass” legislation.

Our contribution is first, demonstrating that appropriations bills are more than budgetary tools and usually carry extensive substantive policy changes. Second, we theorize that appropriations are used to make substantive policy changes when the *authorizations* gridlock interval is large. In doing so, we recast the legislative productivity debate; even when Congress suffers from gridlock due to ideological differences between institutions, legislative procedures offer alternative methods of creating new policy. Though authorizing legislation is the “work horse” of congressional policy change (Adler & Wilkerson 2012), appropriations offer flexibility when the authorizations process is blocked by House, Senate, and presidential ideological divergence. Additionally, the theory and results here offer a possible explanation of recent brinkmanship over appropriations legislation (e.g., the government shutdown during the Obama administration over funding of the Affordable Health Care Act.)<sup>2</sup>. Finally, our results provide evidence for the pivotal politics model of legislative productivity, which, despite its theoretical appeal, has only limited empirical support (Gray & Jenkins 2017).

To properly consider the role of appropriations in policymaking, we create a new dataset of all laws from the 80th through 112th Congresses. We measure overall policymaking contained within each law (appropriations and authorizations) using a word count of each law’s text and find that appropriations laws become longer under gridlock conditions, while there is no effect for authorizations laws. Greater ideological differences between the filibuster pivot and the veto override pivot<sup>3</sup> produce more substantive policymaking through appropriations. Consistent with the notion that appropriations offer an alternative policymaking path

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<sup>2</sup>We do not claim that appropriations are always the preferred legislative avenue for policymaking as there are many well-documented reasons why the normal authorization process serves the needs of members under many circumstances. For example, using the authorization process allows the standing committees to provide more information on the likely effects of the proposed policy and allows members to more carefully consider the electoral implications of passage. Additionally, if the proposed change through appropriations is substantial, outweighing the benefits of avoiding the extreme reversion point, other pivotal actors will not acquiesce.

<sup>3</sup>Pivotal politics theory says that either the president or both House and Senate veto override pivots must agree to change policy. The binding constraint on policy change is the more extreme of the veto override pivots or the more moderate of that pivot and the president. Since the 80th Congress, where our sample begins, the more extreme veto override pivot is more moderate than the president, and hence sets the bound on the gridlock interval.

for a new “presidential regime,” we find that a switch in the party of the president decreases the conditional effect of ideological distance on appropriations word counts. There is no evidence that the use of appropriations to implement policy has fundamentally changed over time as a result of stronger, more ideologically cohesive parties. Rather, the sizes of the gridlock interval in recent congresses are much larger, sometimes more than double those observed in earlier congresses, and as a result the use of appropriations bills as policy vehicles is incentivized.

## **The Causes of Legislative Gridlock**

Standard spatial models assume a one-dimensional policy space and that political actors prefer the policy closest to their own ideal point (Black 1948). Using these basic assumptions, it can be shown that policy will collapse to the median member assuming open amending and majoritarian voting rules (Downs 1957). Extending this logic, Krehbiel (1998) posits that the American separated system requires agreement from three different pivotal actors within each of the three lawmaking institutions: the House median, because voting rules in the House are majoritarian, the Senate filibuster pivot in the ideological direction away from the president (or 60th member, under current Senate rules for ending debate on legislation), and the executive pivot, either the president or the more extreme of the two veto override pivots. For policy to change, the status quo must lie outside the “gridlock interval,” defined as the space between the ideal points of the two pivots farthest from each other (i.e., usually the Senate filibuster pivot and the more extreme of the two congressional veto override pivots). If the status quo or reversion point lies within the gridlock interval, any proposed policy will leave at least one pivotal actor worse off than under the status quo, and as a result, the proposed policy will be defeated. As the difference between the ideal points of the three pivotal actors increases, the larger the ideological space in which a status quo cannot be changed (the gridlock interval) and the greater number of existing policies which cannot be defeated by any alternative.

Empirical research on the causes of legislative productivity focuses on both partisan and ideological differences. Divided government and interchamber differences have both been shown, to varying extent, to reduce legislative productivity and prevent changes to the status quo (Binder 1999, Binder 2003, Edwards, Barrett & Peake 1997, Grant & Kelly 2008, Howell, Adler, Cameron & Riemann 2000, Rogers 2005), though Mayhew

(1991) is an exception.<sup>4</sup> These studies quantify legislative productivity and policy change by measuring the number of laws enacted during a congressional term, with importance or significance classified in some way (Clinton & Lapinski 2006). Controlling for other factors, counts of the number of “landmark” or significant legislation decrease during divided government or congressional terms with high interchamber distance. These results may be an artifact, however, of ideological differences rather than partisan influence. Additionally, measures for proposed and status quo policies do not exist (though see Peress 2013 and Richman 2011 for efforts to measure these) so distributions of status quo points are made by assumption. As explained below, appropriations bills offer an opportunity to leverage a situation in which, by rule, the reversion point is zero and highly likely to be outside the gridlock interval even when ideological differences between pivotal actors are large.

## **Appropriations and Budgetary Politics**

The power of the appropriations process originates from the Constitutional requirement that no federal expenditures occur without explicit congressional approval.<sup>5</sup> Only after a program has been authorized may Congress appropriate money (Streeter 1999, 28); this two-step process has been in place since at least the mid-19th Century (Kiewiet & McCubbins 1991, Schick 2000).<sup>6</sup> In the modern Congress, funding for *all* discretionary federal programs, policies, and agencies, along with the legislative language which details conditions for the spending, are grouped into a small number of appropriations bills (currently 12 under regular budgeting procedures)<sup>7</sup> or large omnibus (also called consolidated) funding bills frequently passed using unorthodox lawmaking procedures (Hanson 2014, Krutz 2000, Sinclair 1997). The authorization and appropriations processes have long been seen as separate and distinct, with Oleszek (42, 2007) saying “Authorizations establish, continue, or modify programs or policies; appropriations fund authorized programs or policies.”<sup>8</sup>

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<sup>4</sup>Most research attempts to screen out minor or trivial legislation, which is likely not affected by gridlock. Examples of these types of bills are items to name post-offices, recognize individuals, or commemorate events.

<sup>5</sup>Specifically, Article I, Section 9 of the Constitution says, “No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time.”

<sup>6</sup>See Schick (2000) for an exhaustive and illuminating description of the federal budgeting process. In practice, the authorization process is not as clean as this description would suggest. Temporary authorizations or waivers are used to circumvent authorization requirements.

<sup>7</sup>See Saturno 2017, Congressional Research Service report, “Appropriations Subcommittee Structure: History of Changes from 1970 to 2017.”

<sup>8</sup>It should also be noted that authorizing committees do not see themselves as wholly independent of the appropriations process. Indeed, authorizing legislation often includes language that recommends or caps the amount at which programs should be funded.

## Reconsidering the Role of Appropriations

Scholars have observed that appropriations can be a powerful policy implementation mechanism rather than just a budgetary tool, though there have been few systematic empirical tests of this claim. For example, Aldrich & Rohde (2000*b*) claim that House Republicans used the Appropriations Committee to enact major policy changes after taking control from Democrats in 1994 for the first time in 40 years. According to Aldrich & Rohde (2000*b*, 9), “The decision was made not only to use the committee to slash spending on programs the GOP majority did not support, but also to enact substantive legislative changes that could, under regular procedures, only be considered by standing legislative committees.” Their argument is supported by data which show increasing partisanship on roll call votes in the Committee, an increase in partisan rules, and more partisan voting behavior on the bills themselves, evidence consistent with partisan cleavages rather than diverging budgetary preferences. Appropriations bills are taking longer to pass in the modern Congress, driven by both ideological differences between Congress and the president, and differences between the chamber majority parties and the committees (Woon & Anderson 2012). Other research suggests the party leadership exerts a heavy-hand over the process, sometimes over the objections of committee members (Buhl, Frisch & Kelly 2013).

Additional qualitative evidence from interviews and case studies suggests that the appropriations process has become an important tool of majority coalitions seeking to make policy changes in the short-term (Ginieczki 2010) and that the authorization-appropriation sequence has become muddled. Despite the fact that congressional rules prohibit language that makes substantive policy changes in appropriations bills, especially in the House, in practice Congress has a number of ways of circumventing or outright ignoring these rules (Champoux & Sullivan 2006), including the use of bureaucratic riders to limit executive power within a policy area (MacDonald 2010),<sup>9</sup> and members of Congress commonly attach legislative “hitchhikers” to larger bills (Casas, Denny & Wilkerson 2020).

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<sup>9</sup>As Champoux & Sullivan (2006) note, Congress frequently includes language that repeals or amends existing law, or restricts how money should be spent. Congressional procedures to do this include not raising a point of order against the legislation, waiving the rules, or attaching a “special rule” to the bill. Or, as a Congressional Research Service Reports states, “Although House and Senate rules and practices over the decades have promoted the separate consideration of legislation and appropriations, the separation has not been ironclad. In many instances, during the routine operation of the annual appropriations process, minor provisions are included in appropriations acts that technically may be regarded under the rules as legislative in nature, but do not significantly undermine the dichotomy between legislation and appropriations. At other times, however, the legislative provisions included in annual appropriations acts have been much more substantial and have represented a deliberate suspension of the usual procedural boundaries.” See Keith (2008).

## Appropriations as an Alternative Legislative Process

Existing research, which claims that the degree of divergent preferences between lawmaking institutions reduces the quantity of legislation enacted, does not differentiate between authorizations and appropriations bills. We draw a distinction between these two types of legislation, defining authorizing legislation as all public, non-commemorative bills, most of which are processed by the jurisdiction-specific standing committees. Appropriations are only those bills which specifically appropriate money and are processed through the Appropriations Committees in the House and Senate. We expand upon the traditional budgetary view of appropriations, theorizing that these bills constitute an important policymaking tool when ideological preferences promote legislative gridlock in the authorizations process. The appropriations process is an attractive option for policy change because of its yearly, mandatory nature which produces a reversion point that is not the current status quo, but instead zero funding for a set of programs or policies. This reversion point lies outside the gridlock interval (in most situations, described below) making the pivotal actors unwilling to oppose some types of policy changes incorporated into appropriations bills.

For authorization bills, when a new policy is proposed, the reversion point is the existing policy (the status quo). Assume the three relevant actors are the pivots in each chamber and either the president or the more extreme of the veto override pivot, whichever is interior to the other (see Krehbiel 1998). Basic spatial models of American lawmaking assume that each pivotal member vote for the closer of the proposed or current policy closer to their own ideal point, and that policy change requires unanimity among each of the three pivots. Any status quo that lies interior to the most extreme pivots is gridlocked and there is no possible proposal which can defeat the existing policy. In this situation, any proposal makes at least one pivotal actor worse off than they would be with the status quo, and as a result, that actor will refuse to support the proposed policy.

Appropriations bills are different because they are “must-pass” legislation with extreme reversion points.<sup>10</sup> Appropriations for a policy, program, or agency constitute what Adler & Wilkerson (2007) call “compulsory legislation”; they must be completed for each program each year. If they are not, the reversion point is a future funding of zero, resulting in an extreme status quo (Krehbiel 1998), and a partial or full government shutdown, producing electoral, policy and political uncertainty that members fear (Klarner, Phillips &

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<sup>10</sup>For example, the use of changes in mandatory program spending, though not authorized by formal rules, are a way of incentivizing the passage of must-pass appropriations bills (Clarke & Lowande 2016).

Muckler 2012, Meyers 1997).<sup>11</sup> The only situation in which this is not true is when one of the pivotal actors also has an ideal point that is equal to cessation of the set of programs contained within the appropriations bill. While this preference for a pivotal actor is possible, it is unlikely given that pivotal actors are defined by the institutional rules and lie near the middle of the distribution of member preferences. For example, for the House median to prefer zero appropriations for a set of programs, half of the chamber would also have to prefer that outcome. There is little historical or empirical evidence that winning coalitions prefer full or partial government shutdowns, while there is substantial empirical evidence that members are unwilling to oppose appropriations bills because of the consequences of failure, even when they are otherwise opposed to specific provisions of the bill (Cox 2000, Finocchiaro & Jenkins 2008, Wilkerson 1999). The must-pass nature of appropriations is also demonstrated by the willingness of the chambers to use unorthodox lawmaking procedures when traditional paths to passage are blocked by minority coalitions (Hanson 2014).

### **Appropriations Bills as Legislative Vehicles**

To understand when legislative productivity through appropriations is likely to increase, we first consider the incentives for pivotal actors generated by gridlock in the authorizations process. A pivotal actor is always able to attach a substantive policy change to an appropriations bill within their own lawmaking institution because by definition, they represent a winning coalition. That is, a winning coalition within each chamber can pass their version of the appropriations bill which serves as a legislative vehicle for the substantive policy.

Pivotal actors are not always willing to attach a policy change to an appropriations bill however, and these proposals will not always be successful. Even though the reversion point for the overall appropriations bill is extreme, the other pivotal actors may not agree to pass the legislation if they view the attached policy provision as too costly to justify passing the overall appropriations package. For example, the attached policy provision might be particularly salient to their constituents, and legislators worry that a vote to approve the overall package will lead to electoral punishment (Jenkins & Munger 2003) When deciding whether to accept or reject an appropriations bill with an attached substantive policy change, the non-proposing pivotal actors must weigh the benefits of agreeing to enact the appropriations component of the bill with the costs of also

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<sup>11</sup>Though Kiewiet & McCubbins (1988) argue that the reversion point for appropriations is the previous funding level because Congress will likely pass a continuing resolution, it is not *certain* that this will occur, and as Woon & Anderson (2012) note in their bargaining model on appropriations timing, this represents an equilibrium outcome. Thus, as they argue, the relevant reversion point for appropriations bills is zero spending.



enacting the substantive policy change component, which because it is gridlocked, is otherwise opposed by at least one pivotal actor considering the bill.<sup>12</sup>

These dynamics played out during the 2013 government shutdown. One pivotal actor, the House median, included various provisions related to the Affordable Care Act (ACA), notably defunding it and delaying its start date. While defunding the ACA is arguably a spending related provision, delaying the effective date is a substantive one, though as this example demonstrates, cleanly separating policy decisions and funding decisions is imprecise. As Wildavsky (1988, 18) notes, “A decision not to fund an activity, or fund it under certain circumstances...looks much like a policy decision.” Because the ACA was highly salient to both the Senate Democratic majority and the president (and there was not a 2/3 majority in both chambers to override a veto) neither of the other two pivotal actors accepted the ACA changes attached to the appropriations legislation. As a result, the bill was rejected by the Senate and a shutdown occurred (Oleszek 2016).

### **Gridlock Interval Size and Appropriations Policymaking**

If individual pivotal actors have the ability to propose a substantive policy change by attaching it to an appropriations bill, when is overall legislative productivity through appropriations likely to increase? We claim that appropriations will be used to supplement the normal legislative process when a greater set of status quo policies lie within the gridlock interval and policy change cannot be achieved through the authorization process. As the preferences of the pivotal actors diverge, a greater set of status quo policies are gridlocked (Krehbiel 1998). This frustrates winning coalitions’ attempts to make policy change and satisfy voter demand to avoid electoral consequences from the failure to produce substantive policy changes (Aldrich 1995, Cox & McCubbins 2005, Jacobson 2007, Sinclair 1998, Sinclair 2006). Thus, for pivotal actors seeking policy change they would not otherwise be able to achieve, appropriations legislation becomes an increasingly attractive vehicle for substantive issues.

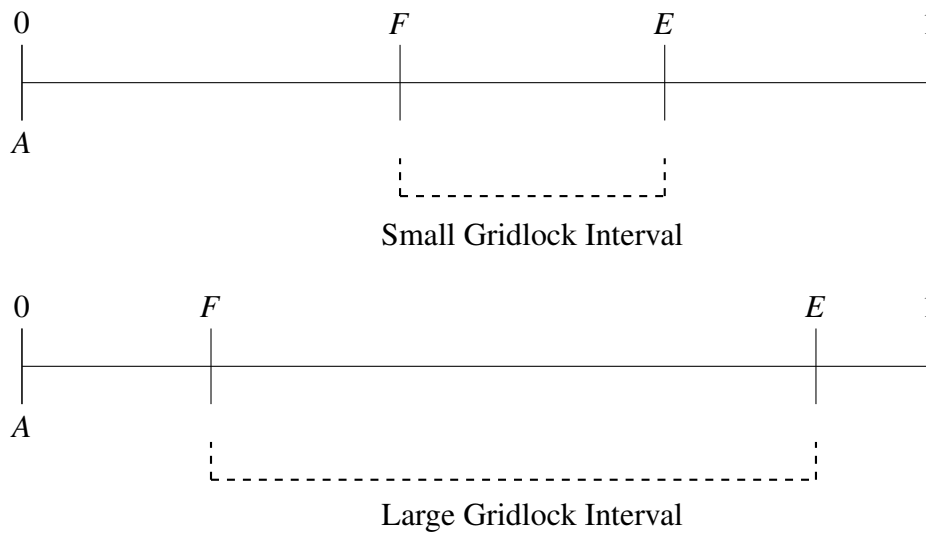
As Figure 1 shows, when the gridlock interval is small within the policy space, a large set of status quo policies are vulnerable to change (top panel), but as the size of the interval increases, a fewer policies can

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<sup>12</sup>It is also likely that attaching such proposals is costly, such as the time and energy a pivotal actor spends crafting the proposal and pushing it through their chamber (Cox 2006). Further, members likely prefer to use the authorization process whenever possible as it allows for greater deliberation and reduces uncertainty about the policy outcomes produced by the bill (Krehbiel 1991). If making attaching substantive policy changes was not costly, these proposals would be made as a matter of course, and appropriations bills would continually be delayed as various pivotal actors try to enact their substantive policy over the objections of the other institutions.

be changed and more are gridlocked. These claims assume only that there exists some distribution of status quo policies in which more policies lie within the gridlock interval as it increases in size (i.e., status quos are not grouped at the extremes of the policy space). Additionally, because the reversion point for appropriations bills is extreme ( $A$  in Figure 1), it always lies outside the gridlock interval, regardless of how large the interval becomes (except when a pivotal actor also has a preference for zero funding, expected to be exceedingly rare). The pivotal actors know that the appropriations legislation will be moved into the gridlock interval, and that they can use it as a vehicle to make changes to substantive policies as well, which are otherwise gridlocked.

Figure 1: Legislative Productivity through Authorizations and Appropriations Varying Gridlock Interval Size



## Empirical Expectations

Empirically, we expect that as ideological differences between the pivots in the House, Senate, and executive (or veto override pivots) increase, policymaking through appropriations will also *increase*.<sup>13</sup> This contrasts with typical predictions made about legislative productivity in which large differences in the preferences of the House, Senate and president are hypothesized to *reduce* the quantity of new policymaking (Binder 2003, Coleman 1999, Edwards, Barrett & Peake 1997, Grant & Kelly 2008, Howell et al. 2000).

Measuring the level of policy agreement among different pivotal actors within Congress is typically done using chamber-level ideology scores based on roll-call voting patterns, and that is the approach taken here

<sup>13</sup>Note that we do not make predictions about the *type* of policy change which occur; here we are only interested in the quantity of policy change as a function of institutional conditions. Indeed, our theory cannot make predictions about the location of the appropriations bill or the changed status quo.

(Binder 1999, Chiou & Rothenberg 2003, Grant & Kelly 2008). Specifically, we use “common space” DW-NOMINATE scores to determine how ideologically distant each pivotal actor is from other pivotal actors as a measure of the size of the gridlock interval (Poole & Rosenthal 1997).<sup>14</sup> As described above, the pivotal actor in the House is the median member, because of that chamber’s majoritarian rules, while in the Senate, it is the member needed to overcome a potential filibuster. Prior to 1974, Senate rules required two-thirds of members voting to invoke cloture, while since 1974 it is 60 votes regardless of the number of voting members. The pivotal member needed to gain acceptance from the executive branch is either the president, or the more extreme of the House or Senate’s veto override pivot. Because only either the president or *both* veto override pivots is needed to approve the proposed legislation, the interior of the president or both veto override pivots defines the gridlock interval. If the president is exterior to both veto override pivots, then the more extreme of the two defines the gridlock interval because they must acquiesce to policy change.

Since the 80th Congress the president is always more extreme than the two veto override pivots as measured by “common space” NOMINATE scores.<sup>15</sup> Thus, we code the gridlock interval, consistent with Krehbiel and other work, as extending from the ideal point of the filibuster pivot away from the president to the ideal point of the more extreme veto override pivot.<sup>16</sup>

*Gridlock Interval Hypothesis: As the size of the gridlock interval increases, policymaking enacted through appropriations bills increases.*

## **Regime Changes and Appropriations Policymaking**

The distribution of status quo policies that are ripe for action depends on the location of the pivotal actors and previous lawmaking (Krehbiel 1998). When elections change the relative location of pivotal actors’ ideal

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<sup>14</sup>“Common space” scores are comparable across chambers.

<sup>15</sup>The use of DW-NOMINATE scores to measure the ideological location of the president is unsatisfactory because the president’s score is calculated only for bills on which they took a position on, which is strategic. We recognize this, but note that these scores are widely used and are, at present, the best measure of presidential ideology scaled with Congress.

<sup>16</sup>Krehbiel assumed the president was exterior to the veto override pivot, and DW-NOMINATE scores of the president are consistent with that assumption. Determining which members constitute the sample from which the gridlock interval should be constructed is not straightforward as members enter and leave Congress during the term. We use the same approach as Gray & Jenkins (2017) ordering members by number of votes then iteratively removing the members with the fewest votes until the appropriate number of members within the chamber is obtained.

points, the gridlock interval changes, opening up some status quo policies to reform or repeal and closing off others (Woon & Cook 2015). Over time, pivotal actors move old status quos into the gridlock interval through the standard lawmaking process, reducing the number of policies vulnerable to change. Berry, Burden & Howell (2010, 3) call this the “full history of policymaking that preceded it.” In particular, they find that new partisan regimes frequently modify, terminate, and adjust spending for enactments made by the previous Congress. Similarly, Mayhew (1991) finds that important laws are most likely to be enacted in the first year of a congressional term.

This logic can be extended to understanding how pivotal actors will use the appropriations process to enact favored legislation. We have argued that using the appropriations process for substantive policy change becomes most attractive for a pivotal actor when the policy is otherwise difficult to change because of the distribution of preferences across the House, Senate, and executive because of the extreme reversion point inherent in appropriations legislation. This effect is mediated after a change in the president’s party (as a proxy for change in the gridlock interval, what Krehbiel (1998) calls a “regime change”) when the gridlock interval dramatically shifts, opening up more status quos to possible changes. That is, because the gridlock interval is defined in relation to the president’s ideology, a shift in the president’s party produces a dramatic switch in the location and size of the gridlock interval, allowing more policymaking to occur through the authorizations process rather than the appropriations process. The result should be that a presidential regime change negatively conditions the relationship between gridlock interval size and appropriations policymaking. This analysis is similar to Krehbiel’s (1998) in which he tracked changes to the median and focused on inferred changes to the median’s preferences. Here, our focus on regime change tracks the gridlock interval, focusing on the boundary pivots to infer changes in legislative productivity through appropriations.

*Regime Change Hypothesis: A change in the president’s party has a negative conditional effect on the relationship between the size of the gridlock interval and appropriations policymaking.*

Both the ‘Gridlock Interval Hypothesis’ and the ‘Regime Change Hypothesis’ are probabilistic empirical statements in that we predict, at the macro-level, the inclusion of legislative provisions in appropriations legislation as a function of a larger gridlock interval because individual pivotal actors seek successful policy

changes to satisfy constituent demand. We are not attempting to predict micro-level phenomena such as the passage of individual bills or the inclusion of individual legislative provisions in appropriations bills. We also note that the inclusion of policy within individual bills is subject to complex bargaining processes (Hassell & Kernell 2016), but our focus here is on predicting overall policymaking in the appropriations process, in line with previous research on legislative productivity.

### **Party Strength and Changes Over Time in the Use of Appropriations**

The theory developed above depends on the preferences of each of the ideological actors and does not account for the strength of the parties or the party leadership, despite substantial evidence that the leadership exerts a stronger hand in setting the agenda and using inducements to encourage members to support the party agenda (Aldrich & Rohde 2000a, McCarty, Poole & Rosenthal 2006, Theriault 2008). The preferences of pivotal actors may be increasingly derived from partisan influences as members use their position to extract benefits from the party leadership (Jenkins & Monroe 2012). Similarly, members have become more partisan on procedural votes regardless of policy preferences, such as being unwilling to vote for cloture, making it more difficult to overcome the 60 vote requirement in the Senate (Koger 2010, Theriault 2008).

This alternative theoretical story suggests these within-chamber factors based on party strength and discipline, rather than the inter-institutional differences cited above, are driving appropriations policymaking. Given that the conditions for strong parties have increased dramatically over the last 40 years, this may be an additional explanation for the apparent increase in the use of appropriations as a policymaking avenue. For example, Aldrich and Rohde (2000a) contend that strong parties have been more willing to use the appropriations process to achieve specific policy goals, saying, “the relatively homogeneous preferences of the Republican contingent in the House led them to adopt new institutional arrangements to enhance the powers of their leaders, which in turn were used to advance the party’s policy goals. [1]” Our empirical tests investigate this alternative story to better identify causal mechanisms behind the use of appropriations to advance substantive policy goals.

## Defining Policy Change

The outcome of interest is the quantity of policy change or lawmaking achieved through the appropriations process, measured here using word counts for all appropriations bills enacted in a given congressional term. Appropriations establish funding amounts, but they also stipulate various directions and limitations attached to that funding.<sup>17</sup> And, as noted above, though the rules generally prevent Congress from inserting substantive legislative provisions into appropriations bills, the chambers frequently do so by a variety of means (see footnote 9.) A Congressional Research Service report from 2008 lists a number of examples of substantive legislative provisions in appropriations bills (Keith 2008). Just from the 110th Congress, provisions in appropriations bills included the, “Fair and Minimum Wage Act of 2007,” “Small Business and Work Opportunity Act of 2007,” “Close the Contractor Fraud Loophole of 2008,” “Medicaid Provisions,” and “Emergency Unemployment Compensation.”

Word counts have been used previously as a measure of statutory control of the bureaucracy (Huber, Shipan & Pfahler 2001, Huber & Shipan 2002, McGrath 2013, Taratoot & Nixon 2011), and to measure the extent to which Congress constrains courts at both the state and federal level (Randazzo, Waterman & Fine 2006, Randazzo, Waterman & Fix 2011), both of which are closely related concepts to that of overall policymaking. As Huber, Shipan & Pfahler (2001, 337) note about state-passed Medicaid language, “Long bills with lots of words tend to specify these details, while short bills do not.”<sup>18</sup> The logic used here is much the same as measuring statutory control over courts and bureaucracy: the more words contained within a law, the more details, limitations, conditions, qualifications, or exceptions that discretionary spending is subject to when a bureaucratic agency implements a policy or program. Fundamentally, we claim this detail is the essence of lawmaking, and represents an extension of the purpose of appropriations from simply “writing the check” to stipulating the conditions under which money must be spent. Changing the implementation of laws fundamentally affects the ways in which a program is carried out, or the ability of an agency or program to function.

For many appropriations bills, much of the congressional debate surrounding the bills focuses on legisla-

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<sup>17</sup>See Champoux & Sullivan (2006) for details on when Congress can over-appropriate.

<sup>18</sup>Taratoot & Nixon (2011) use the example of the laws which created the National Highway Safety Agency (NHSA) in 1966 and the National Highway Traffic Safety Administration (NHTSA) in 1970. They note that the NHTSA law was much longer, and as a result was “both broader and more specific than the NHSA statute (639).”

tive provisions contained within the proposed law, rather than amount of money appropriated. Public Law 105-277, the longest appropriations law in the dataset with 409,709 words, contained language prohibiting two gun-related enforcement actions by the FBI, one of which prohibited the FBI from charging a fee to process requests submitted to the newly created “National Instant Check System,” which was a major policy goal of Republicans. The omnibus appropriations bill also included the “American Competitiveness and Workforce Improvement Act” which made drastic changes to the U.S. immigration system. Senator Abraham (R-MI) spoke in favor of the legislation during the consideration of the appropriations bill, and detailed how earlier legislation faced a veto threat from the president and opposition in the House. This stand-alone bill, inserted in its entirety into the appropriations legislation, exemplifies exactly the dynamics at work in the use of appropriations legislation as an alternative to the authorization process.

We are sensitive to the claim that word counts may not be a measure of the concept of policy change if short word counts are used to make dramatic policy changes. First, if this occurred, it would mitigate the relationship between the two, and produce a more conservative test of the hypotheses. Additionally, while the concern that short provisions make drastic changes is common, there is so systematic evidence for this in previous research and it does not square with the reality of congressional legislating occurs. We generated word counts of repeal bills using examples contained in Ragusa and Birkhead (2015). These bills show that even when their purpose is to repeal existing laws, legislative language tend to be long, complex, and detailed. For example, in 1999 Congress passed the Gramm-Leach-Bliley Act, which largely repealed the Glass-Steagall act, and contained approximately 58,000 words.

The sample consists of all laws passed between the 80th and 112th Congresses (1947-2013). To identify appropriations bills, we conducted a modified word search within law titles and short descriptions searching for “appropriations,” or “appropriate” and separated these bills from authorization legislation. Additional language was used to exclude other uses of appropriate or other word variants.<sup>19</sup> (Reviewers: Please see Appendix A for more details on identifying appropriations bills.) Emergency appropriations, used when a program has run out of money or exhausted its funding for the year, are identified separately and excluded from the empirical models because they tend to be very short and are used almost exclusively for a different purpose: to provide short-term funding for a program(s) until a regular appropriations bill is passed. Con-

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<sup>19</sup>See Appendix A for more details on identifying appropriations bills.

tinuing appropriations laws present several complications that we discuss in Appendix A, and some types of continuing appropriations are included, while others are not.<sup>20</sup> Supplemental appropriations are also excluded from the empirical models because they are passed when additional money is needed to continue funding a program until the next regular appropriations bill can be passed, or frequently, to appropriate money to assist with a natural disaster or other emergency situation.

We do not classify appropriations as important or not, as they are assumed to be non-trivial legislation and the extant research treats them as such. We are not able to classify the “importance” of individual provisions systematically, but there is no evidence that these provisions are trivial in nature. That is, a substantive reading of a sample of authorization provisions in appropriations bills reveals that they not items such as commemorations, 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 (see Footnote 9). More importantly, 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, as the extant literature demonstrates.

All other public laws which are not identified as an appropriations bill are classified as an (re)authorization; these constitute the vast majority of legislation passed within a given Congress. We perform a word count on the text of authorization bills as well and show empirical results using authorization word counts as the dependent variable to draw comparisons with the appropriations results. Commemorative and private bills, as identified by the Congressional Bills Project (Adler & Wilkerson 2008), are excluded.

## **Possible Alternative Measures of Policy Change**

While word counts provide a proxy for total policy change contained within legislation, most existing approaches of legislative activity use different measures. Typically, studies of the effects of preferences on legislative productivity quantify the number of important bills passed through counts of enactments. This method is clearly inappropriate for our purposes; all appropriations bills are “must pass” legislation and the annual number of regular appropriations bills is twelve. A few additional bills are passed as emergency

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<sup>20</sup>The empirical models are insensitive to their inclusion or exclusion, largely because there are so few of these bills.



or supplemental appropriations and recently, regular appropriations bills have had a harder time passing, resulting in consolidated or omnibus bills, but there is minimal variation in the number enacted from year-to-year.

A second possible measure would be to use changes in spending for various programs or policy areas, as one could argue that these changes represent shifts in policy. There are two major problems with this approach. First, it is extremely difficult to disentangle spending changes in authorization bills from those independently made in appropriations bills, and second, measuring funding changes alone does not capture the particulars of policy changes within a particular program or area, or the insertion of legislative provisions. For example, the same amount may be appropriated to a particular program within a department, but the requirements attached to the money may substantially shift. And as described above with the “American Competitiveness and Workforce Improvement Act,” new programs may be wholly created through appropriations, while the agency in question may receive the same amount of money. It is certainly the case that funding or defunding a program can constitute a dramatic policy change, but word counts are a more comprehensive (and quantifiable) measure of policy change supported by previous theoretical and empirical work.

## **Variation in Appropriations Word Counts Across Time**

Before exploring the use of the appropriations process to make policy changes, we first demonstrate that there is substantial variation in the year-to-year policy content of appropriations legislation. Our contention is that appropriations are not just a budgetary tool but a policymaking one as well, so we look for evidence that indicates use of the process by majority coalitions to enact their policy preferences through language included in the bills. (Appendix B contains summary statistics for word counts and other variables used in the analysis.)

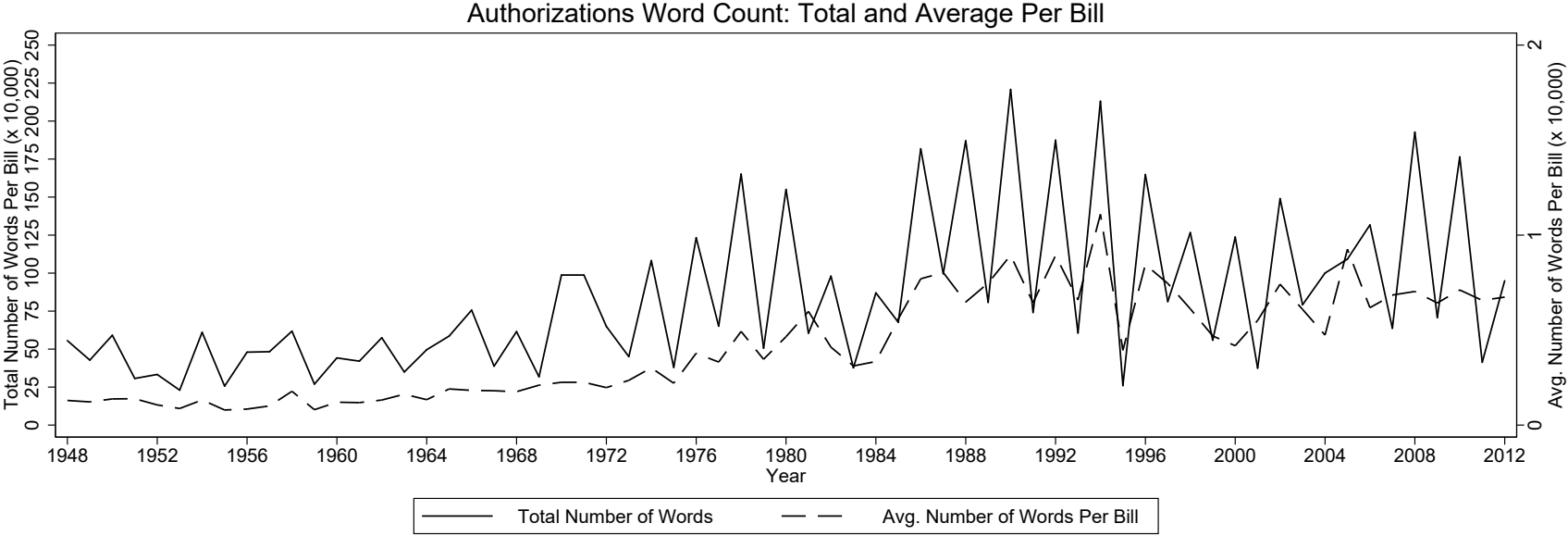
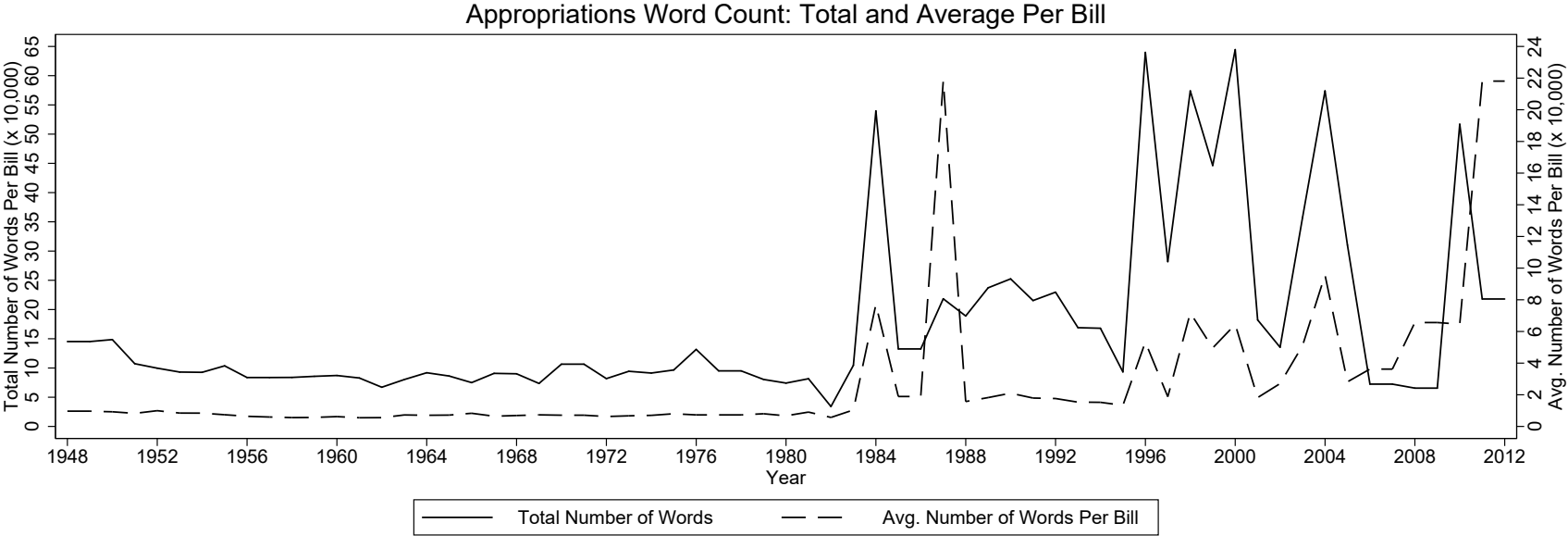
Figure 2 plots the total number of words per year (solid lines) and the average number of words per bill per year (dashed lines) in each of our two categories (appropriations, and non-appropriations or authorizations). As the top panel demonstrates, there is substantial variation in the total number of words and the average number of words included in appropriations bills per year, especially after the 1970s. The average number of words tracks very closely with the total number of words because the number of appropriations bills passed per year is relatively constant, ranging from a low of one (2010, 2012, 110th and 111th Congresses) to a high

of 18 (1976, 94th Congress).<sup>21</sup> (Only regular appropriations bills are included in the figure, while emergency, supplemental, and most continuing resolutions are excluded.) The average word count of authorizations per year is much lower than for appropriations (the right y-axis in the top panel ranges from zero to 24, while the right y-axis for authorizations in the bottom panel ranges from zero to two, measured in tens of thousands of words), but the total word count is much higher (the left y-axis ranges from 0 to 65 in the top panel and 0 to 250 in the bottom panel, again in tens of thousands of words.) There are far more authorization bills passed in any given Congress, but the average length of those bills tends to be low as compared to appropriations bills.

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<sup>21</sup>For some Congresses, there are more than 12 regular appropriations bills because appropriations are split up into different bills, or because Congress passed appropriations bills for both the current and future fiscal year.

Figure 2: Word Counts for Authorization and Appropriations Bills, 1948-2012



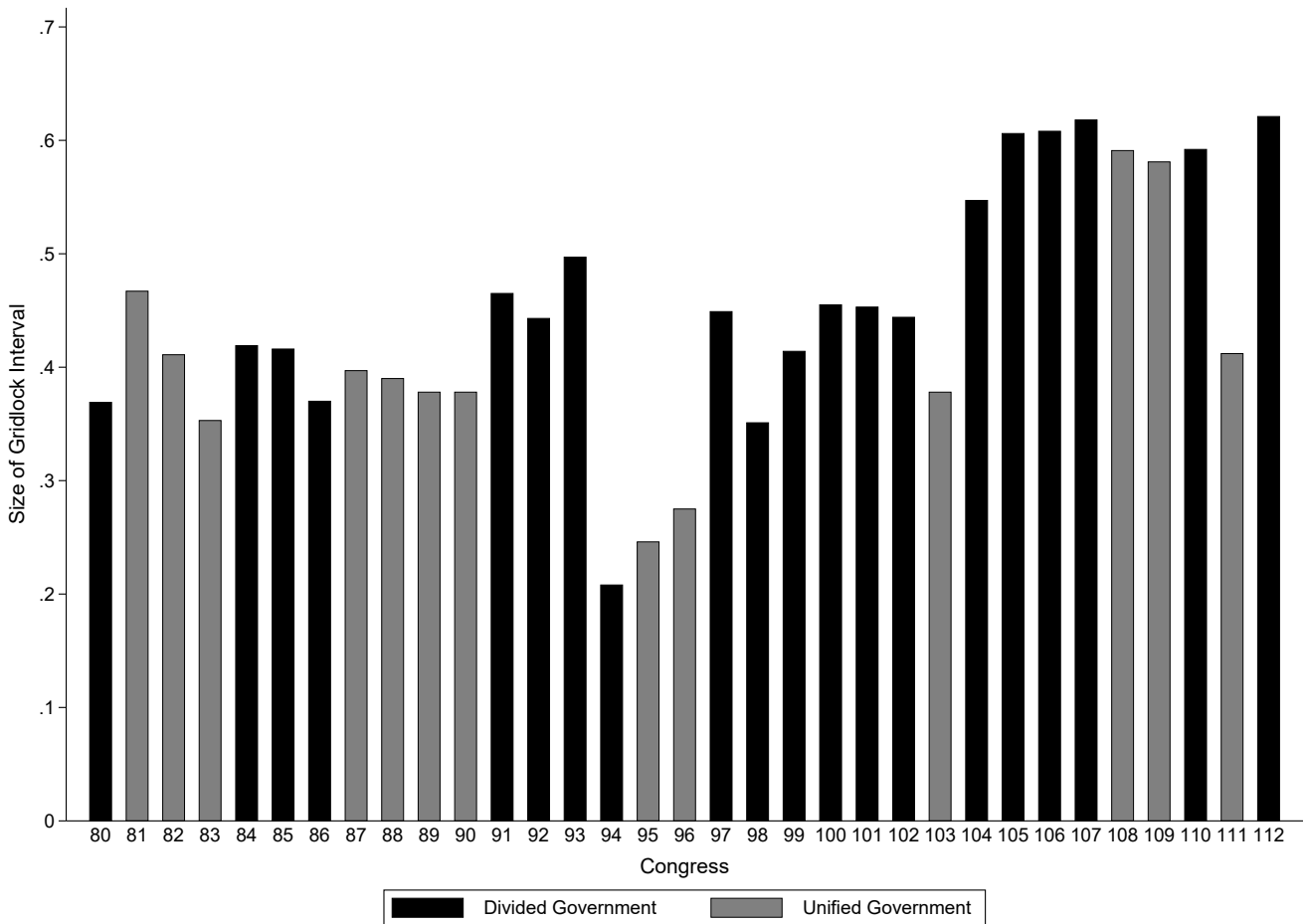
If appropriations bills were used simply to increase or decrease funding, or distribute pork, we would expect the number of words to be relatively stable across years. Instead, there are dramatic year-to-year differences, indicating appropriations bills substantively differ as large quantities of text are added and subtracted. It is unlikely changes this dramatic can be attributed solely to changes in funding or reauthorizations because both increases and decreases occur, and the authorizing process does not change programs or policies as quickly as the appropriations word count changes would indicate. Additionally, the word counts for non-appropriations bills spike in election years, consistent with congressional activity.

## **The Gridlock Interval and Policy Agenda/Budgetary Control Variables**

The key independent variable is the size of the gridlock interval. Using “common space” DW-NOMINATE scores, we found the absolute value of the gridlock interval for the 80th through 112th Congresses, as shown in Figure 3. Periods of unified and divided government are highlighted for reference. Notably, the gridlock interval has gotten much larger in the more recent congresses in the dataset, with one exception that featured unified party control and a 60 vote majority in the Senate (111th Congress)—President Obama’s first two years in office. Comparing Figure 3 with Figure 2 shows how both the size of the gridlock interval and the number of words in appropriations bills have increased in recent congresses. Despite the peak in 1984 (98th Congress), appropriations word counts remained relatively steady, then increased dramatically beginning with the 104th Congress in 1995. Congresses in the 90s and 2000s featured gridlock intervals which were 50% to 200% larger than gridlock intervals prior to that (also see Appendix E for the average size of the gridlock interval across presidential administrations). This dramatic increase, we argue below, is the driving force behind the use of appropriations to make substantive policy.

To better discern causal links between institutional preferences and the use of the appropriations process as a policy tool, we control for a number of other factors likely to influence the word counts of appropriations bills. First, we expect appropriations to be responsive to public demand or agenda attention (Burstein 2003, Page & Shapiro 1983, Uscinski 2009). Our measures of macro-level agenda items come from the Comparative Agendas Project (CAP), which defines separate substantive policy areas commonly dealt with by Congress and codes a number of variables which capture various aspects of the public agenda (Baumgartner & Jones 2013).

Figure 3: The Growth of the Size of the Gridlock Interval Over Time



For each law in the sample, we use the Policy Agendas major topic area to identify the number of articles about the major topic in the *New York Times* and a one year lagged measure of the number of days of congressional committee hearings held within the law's major topic area. There is significant variation on the major topic codes of appropriations bills, with 16 of the 20 major topic codes represented within the appropriations dataset. Though appropriations bills contain many different policies (and we are interested in these additional policies), coding reflects the funding for the particular department or agency targeted by the appropriations, or if more than one agency is targeted, are coded as general government operations. Additionally, codes are assigned to bills as introduced, minimizing the extent to which additional substantive policy added to bills affects the policy coding. Appropriations that span multiple topic codes, as omnibus or consolidated appropriations might, are coded as general government operations. Our dataset contains 641 observations, of which

about 1/3 are classified as general government operations. The variables measuring attention account for the extent to which a law's length is a function of latent demand for legislation within a particular jurisdiction, rather than a function of substantive policies added to the law to change existing status quos, as we claim.

The major topic articles in the *New York Times* measures the complex relationship between latent public demand for an issue, agenda-setting by the media, and congressional action. The use of newspaper attention from a national paper such as the *Times* is commonly used to measure public demand and congressional action, both before and after the passage of legislation (Binder 2003, Mayhew 1991). The lagged hearing days capture congressional attention that is less costly than bill passage, causally prior to the passage of legislation (Talbert, Jones & Baumgartner 1995, Wilson 1885), and captures the most salient topics on the congressional agenda. We expect a positive relationship between the number of days of lagged committee hearings within a major topic area and changes made to appropriations given our claim that appropriations constitute an alternative to the traditional legislative process.

We also control for the lagged number of words contained in all non-appropriations (authorization or reauthorization) laws passed the previous year. The congressional business cycle has an important relationship to policy change by focusing congressional attention on specific issues at specific times (Adler & Wilkerson 2009, Adler & Wilkerson 2012). Any changes that occur in appropriations may be the direct result of the authorization process in the previous year as changes in the length of authorizations indicate greater legislative activity in the subsequent Congress (authorizations must occur before an appropriation is made). In short, more authorizations work (in the previous year) suggest there are potentially more programs, more line items, or more provisions that need to be addressed in the next appropriations bill. A separate dichotomous variable captures whether the law was enacted in an election year because Congress seeks accomplishments to take to voters and spends the first year writing bills for passage in the second year (see Figure 2 for evidence of this) (Baumgartner, Brouard, Grossman, Lazardeux & Moody 2013). Another variable, the size of the deficit as a percentage of GDP, controls for budgetary constraints and other issues related to the annual budget cycle. As the budgetary deficit increases, spending becomes more constrained and changes to policy using appropriations may become more difficult (Kiewiet & McCubbins 1985).

The models also include two variables meant to ensure the results are not driven by the number of laws enacted. As described above, the dependent variables in the models are either word counts in appropriations

laws or word counts in authorization laws. Congress has been passing fewer appropriations bills, and as a result there has been an increase in the number of consolidated or omnibus appropriations bills enacted. These bills are longer and the analysis would show an increase in words simply because Congress is passing fewer, but longer, appropriations bills. To account for this, we include a year-level variable for the number of appropriations enactments, and a law-level variable which measures the number of separate titles within a law. The number of titles is a continuous measure of whether an appropriations law is omnibus or consolidated and along with the count of appropriations enactments per year, effectively controls for the number and nature of appropriations laws per year. An alternative strategy might be to count only appropriations titles, but legislating occurs in both types of titles and counting all titles is a more conservative strategy (i.e., increases the relationship between titles and the dependent variables and biases against significant results). We employ similar variables, the number of authorizations enacted per year, and the number of titles within an authorization law, for the models of authorizations word counts. An indicator for unified government evaluates the extent to which party power matters independently of the size of the gridlock interval. Finally, the models are multi-level regressions with varying intercepts for Congress to account for the interdependency of appropriations bills within a congressional term. Fixed effects for year or Congress are not appropriate because a number of other variables, including gridlock interval, are measured at this level.

## **Empirical Results**

The coefficients in the empirical models can be interpreted as the change in appropriations words, holding constant the number of appropriations laws enacted, and whether those enacted were consolidated or omnibus. And, because the unit of analysis is the law, it is irrelevant for our purposes whether the law makes appropriations for the current fiscal year or the following fiscal year.

The first set of empirical tests in Table 1, examine how the size of the gridlock interval affects the number of words included in appropriations legislation (the *Gridlock Interval Hypothesis*) and in all other (authorizations) legislation. In the first results column, there is a positive and statistically significant relationship between the size of the gridlock interval and the quantity of policymaking passed through the appropriations process, as measured by the number of words within appropriations bills. The coefficient shows that moving from the minimum ideological distance between the legislative pivots to the maximum produces an increase

of about 337,000 words, or about 2.3 standard deviations (95% CI: 148,170 words to 527,000 words). This is a substantively large effect and demonstrates, contrary to the usual effect of large gridlock intervals, appropriations bills become *longer* when the House, Senate, and president are ideologically distant, evidence in support of the major theoretical claim.

Table 1: Determinants of Policy Activity as Measured by Word Counts

<i>Independent Variables</i>	<i>Type of Legislation</i>			
	Appropriations		Authorizations	
<b>Year-Level Variables</b>				
Size of Gridlock Interval	81.74* (23.40)	85.62* (24.52)	-0.19 (0.25)	-0.21 (0.26)
Lagged Deficit as Percentage of GDP	-0.32 (0.31)	-0.33 (0.31)	-0.01 (0.01)	-0.01 (0.01)
Lagged Total Number of Authorization Words	-0.12* (0.01)	-0.12* (0.01)		
Election Year	-2.15* (0.81)	-2.14* (0.81)	0.03 (0.03)	0.03 (0.03)
Number of Regular Approp. Bills in Year	0.10 (0.15)	0.10 (0.15)		
Unified Government		2.66 (5.23)		-0.01 (0.05)
Number of Authorization Bills in Year (x 100)			-0.002 (0.01)	-0.002 (0.01)
<b>Law-Level Variables</b>				
Titles In Law	0.08* (0.03)	0.08* (0.03)	0.37* (0.00)	0.37* (0.00)
New York Times Major Policy Area Article Count (x 100)	0.81 (0.79)	0.80 (0.79)	-0.40 (0.03)	-0.40 (0.03)
Lagged Major Policy Hearing Days (x 100)	-0.21 (0.15)	-0.21 (0.15)	-0.01 <sup>#</sup> (0.005)	-0.01 <sup>#</sup> (0.005)
Constant	-8.30 (11.05)	-11.16 (12.36)	-0.15 (0.13)	-0.14 (0.14)
Random Effects Parameters				
Var(Congress)	189.43 (49.04)	187.73 (48.65)	0.015 (0.005)	0.015 (0.005)
N	641	641	15,301	15,301
AIC	4256.09	4257.83	47218.34	47220.29

\*p<.05, #p<.1; Mixed-effects OLS regression with clustered standard errors by Congress. The unit of analysis is law, and the dependent variable is number of appropriations words (in tens of thousands of words) in a law. Lagged total authorization words are also in tens of thousands of words.

The second model controls for unified party control of government to ensure that the results are not driven by partisan power rather than ideological distance. As the results show, unified government is insignificant, while the size of the gridlock interval remains positive and significant. This model indicates that even when



holding partisan control of lawmaking institutions constant, the distance between pivotal actors' ideal points produces longer appropriations laws. The last two models predict average authorization words per year, controlling for total number of authorizations passed. The size of the gridlock interval has no significant effect on average authorization words within a law (though the coefficients are negative), controlling for the number enacted. This result is expected because Congress passes different types of bills (i.e., substantive vs. non-substantive, ideological vs. non-ideological) as the gridlock interval changes (Gray & Jenkins 2017, Howell et al. 2000). These results offer a comparison to those predicting average appropriations words and demonstrate the results are not an artifact of the modeling strategy or of the construction of the dependent variable.

Other results from Table 1 are consistent with expectations. Importantly, an increase in lagged authorizations words decreases the length of appropriations bills on average, providing more evidence that lawmaking shifts from authorizations to appropriations, and a decline in lawmaking through one venue promotes more lawmaking in the other. Substantively, model 1 shows that each additional 10,000 lagged authorization words reduces the length of appropriations bills by about 1,173 words (90% CI: -965 to -1,382). An increase in the number of titles in the law increases the length of appropriations, as expected as this variable controls for whether the bill is an omnibus or consolidated appropriations act. Finally, appropriations bills are shorter during a federal election year.

### **The Effect of Pivotal Actor Changes on Appropriations**

The second hypothesis generated from the theory, *Regime Change*, claims that when there is a dramatic shift in the preferences of the president, the gridlock interval changes and more status quo points are opened up to possible change, which will decrease incentives to use the appropriations process. The hypothesis relies on the fact that the gridlock interval is constructed relative to the president's preferences. If more status quo points open up to change, then appropriations are unnecessary as the policy vehicle, conditional on the size of the gridlock interval. We operationalize shifts in the gridlock interval using party changes in a congressional term immediately following an election where a switch in the party of the president occurs (as Krehbiel does), indicating a large switch in the preferences of the pivotal members relative to the president. Table 2 shows two models where a switch in the party of the president in a congress is interacted with the size of the gridlock

interval. Partisan changes in the House and Senate are also held constant to ensure the effect is not driven by changes in the party composition of Congress.

As the first results column shows, there is a negative conditional effect of presidential regime change on the relationship between gridlock distance and appropriations laws word counts. That is, when the party of the president changes, the relationship between a larger gridlock interval and policy change through appropriations is reduced, exactly as the *Regime Change Hypothesis* predicts. The size of the gridlock interval component term is also statistically significant and positive, indicating that when a change in presidential regime does not occur, there is still a large, non-zero effect on appropriations word counts as the size of the gridlock interval increases.<sup>22</sup>

To better understand the substantive effects of the interaction term, Figure 4 shows the marginal effect of the size of the gridlock interval on appropriations word counts. The left panel shows the effect for congresses in which a presidential regime change has occurred and the right panel shows the effect for congresses when there is not a presidential regime change. As the left panel shows, there is a positive slope of increasing gridlock interval size on word counts, but the substantive effect is very small. This indicates that when a presidential regime change occurs, policymaking does not dramatically shift to appropriations bills because a set of status quos are open to change through the authorizations process. Conversely, as the right panel shows, when there is not a presidential regime change, an increase in the size of the gridlock interval dramatically increases word counts through appropriations, exactly as the pivotal politics model would predict. We note that despite the statistically significant coefficient (at the .1 level), the confidence intervals for the marginal effects in the two graphs overlap at the 95% level, though as more congresses with larger gridlock intervals are observed in the future, we expect the differences between these conditional effects to become more pronounced.

The second model in Table 2 interacts the size of the gridlock interval with a presidential regime change for authorizations word counts. Authorization word counts do not increase as the gridlock interval increases, nor is there a conditional effect of regime change, again suggesting that appropriations becomes the preferred lawmaking strategy when a large set of status quo policies are not able to be moved.

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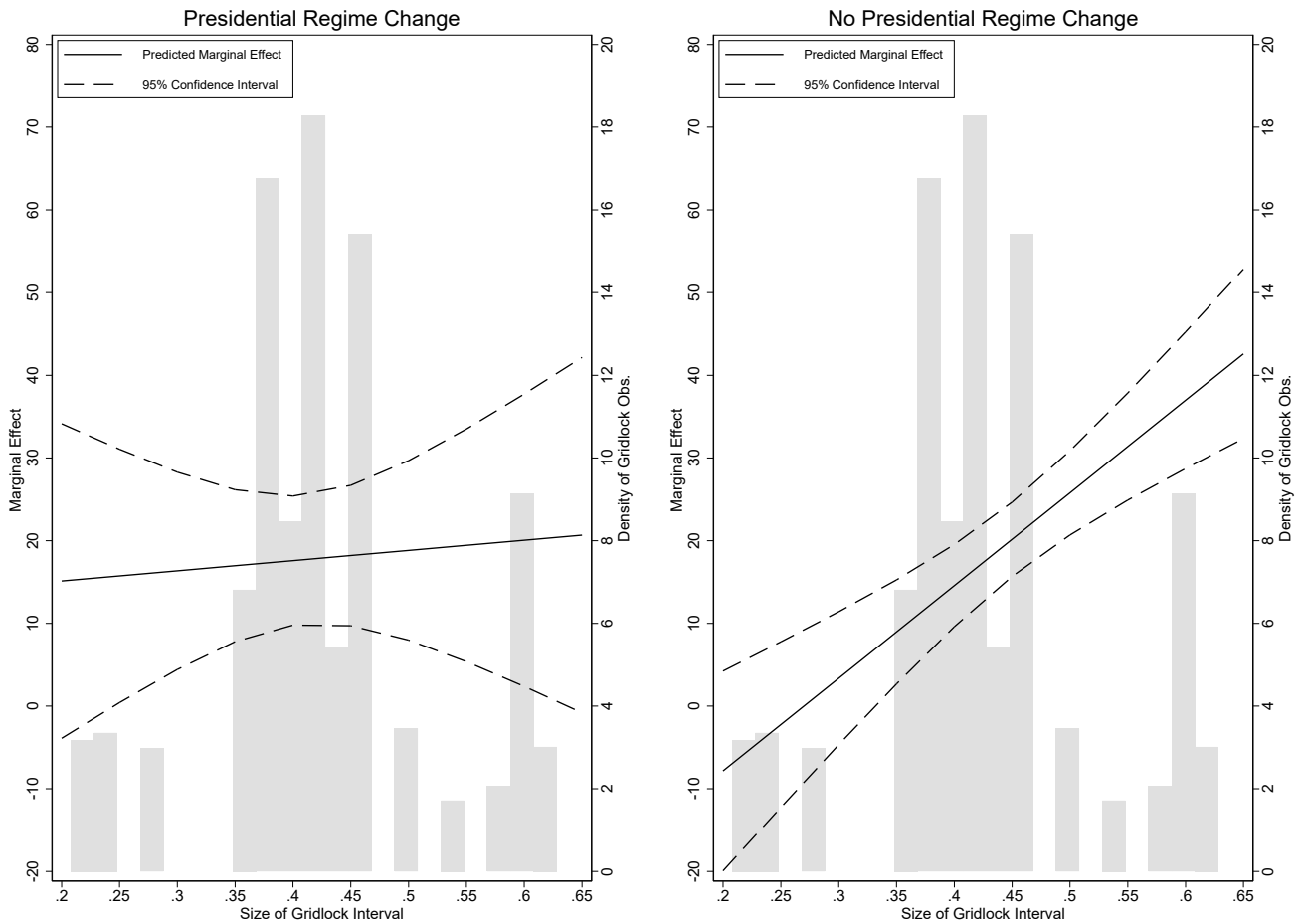
<sup>22</sup>The presidential regime change variable should not be substantively interpreted as it is the effect of a regime change on appropriations word counts when the gridlock interval equals zero, a situation which is not observed in the data.

Table 2: The Conditional Effect of Presidential Regime Change on Appropriations and Authorizations Policymaking

<i>Independent Variables</i>	<i>Type of Legislation</i>	
	<u>Appropriations</u>	<u>Authorizations</u>
<b>Year-Level Variables</b>		
Size of Gridlock Interval	112.08* (27.59)	0.01 (0.29)
Change in Presidential Regime	42.92# (24.77)	0.33 (0.25)
Regime Change x Gridlock Interval	-99.75# (57.75)	-0.66 (0.59)
Change in House Party	-6.81 (8.27)	0.00 (0.09)
Change in Senate Party	-0.69 (6.57)	-0.02 (0.07)
Lagged Deficit as Percentage of GDP	-0.29 (0.31)	-0.01 (0.01)
Lagged Total Number of Authorization Words	-0.12* (0.01)	
Election Year	-2.16* (0.81)	0.03 (0.03)
Number of Regular Approp. Bills in Year	0.09 (0.15)	
Number of Authorization Bills in Year (x 100)		-0.005 (0.01)
<b>Law-Level Variables</b>		
Titles In Law	0.08* (0.03)	0.37* (0.00)
Lagged Major Policy Hearing Days (x 100)	-0.21 (0.15)	-0.01* (0.01)
New York Times Major Policy Area Article Count (x 100)	0.81 (0.79)	-0.04 (0.03)
Constant	-20.72 (12.65)	-0.25# (0.15)
<b>Random Effects Parameters</b>		
Var(Congress)	170.40 (44.04)	0.014 (0.005)
AIC	4260.64	47223.95
N	641	15,301

\*p<.05, #p<.1; Mixed-effects OLS regression with clustered standard errors by Congress. The unit of analysis is law, and the dependent variable is number of appropriations words (in tens of thousands of words) in a law (model 1) or number of authorization words (in tens of thousands of words) in a law (model 2). Lagged total authorization words are also in tens of thousands of words.

Figure 4: The Marginal Effect of the Gridlock Interval Conditional on Presidential Regime Change



## Changes in Appropriations Over Time

The last set of empirical tests examine whether the use of appropriations as a policy implementation mechanism has changed over time. The theory developed here claims that an increase in the size of the gridlock interval incentivizes the use of appropriations because these bills must be passed, making it difficult for other pivotal actors to oppose specific provisions added to the legislation. But, an alternative theory suggests that given increasing polarization in Congress, strong parties and leaders are exerting additional influence on member voting behavior, exaggerating the effects of gridlock as members respond to partisan incentives rather than institutional and electoral ones.

To examine this alternative causal story, we use the multilevel model estimated in Table 1 to estimate the average effect of the regression intercepts across congresses, looking for evidence that later congresses are

systematically under-predicted by the models. 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. We find no evidence of this (see Appendix C for an explanation and plot of estimated intercepts), noting that while the 111th and 108th are substantially under-predicted by the model, the 109th, 110th, and 112th Congresses are over-predicted. Further, the 111th is easy to explain in that for much of the Congress, it was characterized by a very small gridlock interval because the Democrats had unified government and a 60 seat majority in the Senate.

For a more direct estimate of whether party strength within chambers has encouraged the use of appropriations, we estimate models that include an interaction with two measures of party strength or cohesion within chambers as suggested by conditional party government (CPG) theory: the level of *interparty* differences and the level of *intraparty* homogeneity. The level of interparty differences is measured by taking the difference in DW-NOMINATE scores for the two party medians in the House and Senate (separately), while the level of intraparty differences is found by taking the standard deviation of each chamber's majority party (Aldrich & Rohde 1998). 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.

The results for each of models predicting both appropriations words and authorizations words for the House and Senate are shown in Table 4 in Appendix D. In neither case is the interaction term statistically significant. Both measures, the ideological distance between the chambers and the standard deviation of the majority party in both chambers, are highly correlated with the size of the gridlock interval and individually have a positive and statistically significant effect on appropriations words as each of these measures captures the spread of preferences within the chambers.<sup>23</sup> For example, in the Senate, because the filibuster pivot is almost always a member of the minority party, an increase in interchamber differences means the filibuster pivot is relatively distant from the ideal points of the other pivotal actors. But, the appropriate proxy for party

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<sup>23</sup>Interparty distance correlates with the size of the gridlock interval at .68 in the House and .48 in the Senate, while majority party standard deviation correlates with the size of the gridlock interval at -.31 in the House, and -.02 in the Senate.

strength is a situation in which *both* partisan conditions are met. The null results for these interaction terms are additional evidence that strong and cohesive parties are not driving the use of appropriations bills as a policymaking mechanism. Instead, we argue that the gridlock distance between the pivotal actors promotes the use of appropriations as a way of getting around gridlock.<sup>24</sup>

Why then, does it seem that the use of appropriations laws to make policy is becoming more common? Consider that in congresses prior to the Reagan administration, the average gridlock interval size is .381. After the Reagan administration, it is .51, and since the start of the W. Bush administration it is .56, a nearly 50% increase since pre-1981 congresses. (See Appendix E for more details on the growth of the gridlock interval over time.) Our results suggest that its more frequent use is the result of an extremely large ideological differences between the House, Senate, and executive pivotal actors in recent congresses.

## Conclusion and Discussion

The gridlock interval is now much larger than it has been at any time in the last 65 years. This underappreciated fact has led to a dramatic reduction in the number of policies that can be changed through the authorization process. Yet, members of Congress still manage to produce policy change through the appropriations process. The theory and results here have two important implications. First, standard theories of congressional gridlock predict that divergent preferences between pivotal actors decreases legislative productivity. However, predictions about the quantity of policymaking are conditional on the process used: as opposed to authorization legislation, appropriations contain more policymaking during periods of ideological opposition. This relationship is less pronounced when a regime shift occurs because new status quo points are opened up and Congress and the president can use the standard authorization process to produce policy change. These two results offer new insights about legislative productivity and help clarify some of the confusing findings on gridlock and legislative productivity while supporting much of the recent literature on apparent partisan bickering in the appropriations process. The passage process for appropriations bills is slowed as chamber majorities use the bills as vehicles for the enactment of substantive policy changes. Including these additional provisions requires language from committees, ensuring co-partisans will support

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<sup>24</sup>We recognize that the large interchamber distance observed in Congress today may be at least partially due to the influence of parties. But, the argument we evaluate here is more specific: not whether parties are influencing ideological positions, but instead are influencing voting behavior on appropriations laws.

the language, and waiving rules or points of order on the floor.

There are, however, important limitations on the use of appropriations legislation to make policy, and we view the appropriations process as a supplement, rather than a replacement, of the normal authorizations process. Congress likely prefers to use authorizations because it allows for the in-depth study of issues and because congressional rules are oriented toward making substantive changes via standard authorizing legislation. Moreover, the evidence shows that—current appearances notwithstanding—most of what Congress does is non-partisan (Curry & Lee 2019). As such, Congress has strong incentives to get it right and legislating in an ad hoc manner via the appropriations process may work against this goal. Further, each of the other pivotal actors will only tolerate a certain threshold of policy changes within appropriations bills; when the benefits of passing appropriations are outweighed by the policy loss from allowing other legislative changes, the appropriations bill will be rejected. These insights offer a possible explanation of why the parties have engaged in power struggles over appropriations bills as one pivotal actor adds substantive legislative provisions to bills that other pivotal actors oppose. Future research should address this point by examining in greater detail the types of provisions that are added to appropriations and how much other pivotal actors will accept before rejecting the entirety of the bill.

## References

- Adler, E. Scott & John Wilkerson. 2007. "A Governing Theory of Legislative Organization." Prepared for the annual meetings of the American Political Science Association, August 29th-Sept. 2nd, 2007, Chicago, IL.
- Adler, E. Scott & John Wilkerson. 2008. "Congressional Bills Project: (1973-2008), NSF 00880066 and 00880061.".
- Adler, E. Scott & John Wilkerson. 2009. "The Evolution of Policy." *Prepared for the 2009 Annual Meeting of the American Political Science Association* . [http://congressionalbills.org/Adler%20and%20Wilkerson\\_The%20Evolution%20of%20Policy.pdf](http://congressionalbills.org/Adler%20and%20Wilkerson_The%20Evolution%20of%20Policy.pdf).
- Adler, E. Scott & John Wilkerson. 2012. *Congress and the Politics of Problem Solving*. New York, NY: Cambridge University Press.
- Aldrich, John H. 1995. *Why Parties?* Chicago, IL: University of Chicago Press.
- Aldrich, John H. & David W. Rohde. 1998. "Measuring Conditional Party Government." Prepared for delivery at the Annual Meeting of the Midwest Political Science Association.
- Aldrich, John H. & David W. Rohde. 2000a. The Consequences of Party Organization in the House: The Role of the Majority and Minority Parties in Conditional Party Government. In *Polarized Politics: Congress and the President in a Partisan Era*, ed. Jon R. Bond & Richard Fleisher. Washington D. C.: CQ Press pp. 31–72.
- Aldrich, John H. & David W. Rohde. 2000b. "The Republican Revolution and the House Appropriations Committee." *Journal of Politics* 62(1):1–33.
- Baumgartner, Frank R. & Bryan D. Jones. 2013. "Policy Agendas Project." <http://www.policyagendas.org/>.
- Baumgartner, Frank, Sylvain Brouard, Emiliano Grossman, Sebastien Lazardeux & Jonathan Moody. 2013. "Divided Government, Legislative Productivity, and Policy Change in the USA and France." *Governance* 26(4):423–447.



- Berry, Christopher R., Barry C. Burden & William G. Howell. 2010. "After Enactment: The Lives and Deaths of Federal Programs." *American Journal of Political Science* 54(1):1–17.
- Binder, Sarah. 1999. "The Dynamics of Legislative Gridlock, 1947-96." *The American Political Science Review* 93(3):519–533.
- Binder, Sarah. 2003. *Stalemate: Causes and Consequences of Legislative Gridlock*. Washington DC.: Brookings Institution Press.
- Black, Duncan. 1948. "On the rationale of group decision-making." *The Journal of Political Economy* 56(1):23–34.
- Buhl, Geoffrey W., Scott A. Frisch & Sean Q. Kelly. 2013. Appropriations to the Extreme: Partisanship and the Power of the Purse. In *Politics to the Extreme*, ed. Scott A. Frisch & Sean Q. Kelly. New York, NY: Palgrave Macmillan pp. 3–21.
- Burstein, Paul. 2003. "The Impact of Public Opinion on Public Policy: A Review and an Agenda." *Political Research Quarterly* 56(1):29–40.
- Casas, Andreu, Matthew Denny & John Wilkerson. 2020. "More Effective Than We Thought: Accounting for Legislative Hitchhikers Reveals a More Inclusive and Productive Lawmaking Process." *American Journal of Political Science* 64(1):5–18.
- Champoux, Mark & Dan Sullivan. 2006. "Authorizations and Appropriations: A Distinction Without a Difference?" *Harvard Law School Federal Budget Policy Seminar Briefing Paper No. 15*:1–33.
- Chiou, Fang-Yi & Lawrence S. Rothenberg. 2003. "When Pivotal Politics Meets Party Politics." *American Journal of Political Science* 47(3):503–522.
- Clarke, Andrew J. & Kenneth S. Lowande. 2016. "Informal Consequences of Budget Institutions in the US Congress." *Legislative Studies Quarterly* 41(4):965–996.
- Clinton, Joshua D. & John S. Lapinski. 2006. "Measuring Legislative Accomplishment, 1877-1994." *American Journal of Political Science* 50(1):232–249.

- Coleman, John J. 1999. "Unified Government, Divided Government, and Party Responsiveness." *American Political Science Review* 93(4):821–835.
- Cox, Gary W. 2000. "On the Effects of Legislative Rules." *Legislative Studies Quarterly* 25(2):169–192.
- Cox, Gary W. 2006. The Organization of Democratic Legislatures. In *The Oxford Handbook of Political Economy*, ed. Barry R. Weingast & Donald Wittman. Oxford, UK: Oxford University Press pp. 141–161.
- Cox, Gary W. & Matthew D. McCubbins. 2005. *Setting the Agenda: Responsible Party Government in the US House of Representatives*. Cambridge, UK: University of Cambridge Press.
- Curry, James M. & Frances E. Lee. 2019. "Non-Party Government: Bipartisan Lawmaking and Party Power in Congress." *Perspectives on Politics* 17(1):47–65.
- Downs, Anthony. 1957. *An economic theory of democracy*. New York, NY: Harper Collins.
- Edwards, III, George C., Andrew Barrett & Jeffrey Peake. 1997. "The Legislative Impact of Divided Government." *American Journal of Political Science* 41(2):545–563.
- Finocchiaro, Charles J. & Jeffrey A. Jenkins. 2008. "In Search of Killer Amendments in the Modern U.S. Congress." *Legislative Studies Quarterly* .
- Gelman, Andrew & Jennifer Hill. 2006. *Data Analysis Using Regression and Multilevel/Hierarchical Models*. New York: Cambridge University Press.
- Ginieczki, M. Boyce. 2010. Are Appropriators Actually Authorizers in Sheeps Clothing? A Case Study of the Policymaking Role of the House and Senate Appropriations Subcommittees on Labor, Health and Human Services, Education, and Related Agencies PhD thesis Virginia Polytechnic Institute and State University.
- Grant, J. Tobin & Nathan J. Kelly. 2008. "Legislative Productivity of the U.S. Congress, 1789-2004." *Political Analysis* 16(3):303–323.

- Gray, Thomas R. & Jeffrey A. Jenkins. 2017. "Pivotal Politics and the ideological content of Landmark Laws." *Journal of Public Policy* pp. 1–28.
- Groseclose, Tim & Nolan McCarty. 2001. "The Politics of Blame: Bargaining Before an Audience." *American Journal of Political Science* 45(1):100–119.
- Hanson, Peter. 2014. *Too Weak to Govern: Majority Party Power and Appropriations in the US Senate*. New York, NY: Cambridge University Press.
- Hassell, Hans J.G. & Samuel Kernell. 2016. "Veto Rhetoric and Legislative Riders." *American Journal of Political Science* 60(4):845–859.
- Howell, William, E. Scott Adler, Charles Cameron & Charles Riemann. 2000. "Divided Government and the Legislative Productivity of Congress 1945-1994." *Legislative Studies Quarterly* 25(2):285–312.
- Huber, John D. & Charles R. Shipan. 2002. *Deliberate discretion?* New York, NY: Cambridge University Press.
- Huber, John D., Charles R. Shipan & Madelaine Pfahler. 2001. "Legislatures and Statutory Control of Bureaucracy." *American Journal of Political Science* 45(2):330–345.
- Jacobson, Gary. 2007. "Referendum: The 2006 Midterm Elections." *Political Science Quarterly* 122(1):1–24.
- Jenkins, Jeffery A. & Michael C. Munger. 2003. "Investigating the Incidence of Killer Amendments in Congress." *Journal of Politics* 65(2):498–517.
- Jenkins, Jeffrey A. & Nathan W. Monroe. 2012. "Buying Negative Agenda Control in the U.S. House." *American Journal of Political Science* 56(4):897–912.
- Keith, Robert. 2008. "Congressional Research Report: Examples of Legislative Provisions in Appropriations Act.".
- Kiewiet, D. Roderick & Mathew D. McCubbins. 1985. "Congressional appropriations and the electoral connection." *Journal of Politics* 47(1):59–82.

- Kiewiet, D. Roderick & Mathew D. McCubbins. 1988. "Presidential Influence on Congressional Appropriations Decisions." *American Journal of Political Science* 32(3):713–736.
- Kiewiet, D. Roderick & Mathew D. McCubbins. 1991. *The Logic of Delegation: Congressional Parties and the Appropriations Process*. Chicago, IL: University of Chicago Press.
- Klarner, Carl E., Justin H. Phillips & Matt Muckler. 2012. "Overcoming Fiscal Gridlock: Institutions and Budget Bargaining." *Journal of Politics* 74(4):992–1009.
- Koger, Gregory. 2010. *Filibustering: A Political History of Obstruction in the House and Senate*. Chicago: University of Chicago Press.
- Krehbiel, Keith. 1991. *Information and Legislative Organization*. Ann Arbor, MI: University of Michigan Press.
- Krehbiel, Keith. 1998. *Pivotal Politics*. Chicago, IL: University of Chicago Press.
- Krutz, Glen S. 2000. "Getting around Gridlock: The Effect of Omnibus Utilization on Legislative Productivity." *Legislative Studies Quarterly* 25(4):533–549.
- MacDonald, Jason. 2010. "Limitation Riders and Congressional Influence over Bureaucratic Policy Decisions." *American Political Science Review* 104(4):766–782.
- Madonna, Anthony. 2011. "Winning Coalition Formation in the U.S. Senate: The Effects of Legislative Decision Rules and Agenda Change." *American Journal of Political Science* 55(2):276–288.
- Mayhew, David. 1991. *Divided We Govern: Party Control, Lawmaking, and Investigations 1946-1990*. New Haven: Yale University Press.
- McCarty, Nolan, Keith T. Poole & Howard Rosenthal. 2006. *Polarized America: The Dance of Ideology and Unequal Riches*. Cambridge, MA: The MIT Press.
- McCubbins, Mathew D. 1991. Government on Lay-Away: Federal Spending and Deficits Under Divided Party Control. In *The Politics of Divided Government*, ed. Gary W. Cox & Samuel Kernell. Boulder, CO: Westview Press pp. 113–153.

- McGrath, Robert J. 2013. "Legislatures, Courts, and Statutory Control of the Bureaucracy across the U.S. States." *State Politics and Policy Quarterly* 13(3):373–397.
- Meyers, Roy T. 1997. "Late Appropriations and Government Shutdowns: Frequency, Causes, Consequences, and Remedies." *Public Budgeting & Finance* 17(3):25–38.
- Oleszek, Walter J. 2007. *Congressional procedures and the policy process, Seventh Edition*. Washington DC: CQ Press.
- Oleszek, Walter J. 2016. *Party and Procedure in the United States Congress*. New York, NY: Rowmand & Littlefield chapter The Government Shutdown of 2013: A Perspective, pp. 301–324.
- Page, Benjamin I. & Robert Y. Shapiro. 1983. "Effects of Public Opinion on Policy." *The American Political Science Review* 77(1):175–190.
- Peress, Michael. 2013. "Estimating Proposal and Status Quo Locations Using Voting and Cosponsorship Data." *Journal of Politics* 75(3):613–631.
- Poole, Keith & Howard Rosenthal. 1997. *Congress: A Political-Economic History of Roll Call Voting*. New York, NY: Oxford University Press.
- Ragusa, Jordan M. & Nathaniel A. Birkhead. 2015. "Parties, Preferences, and Congressional Organization: Explaining Repeals in Congress from 1877 to 2012." *Political Research Quarterly* 68(4):745–759.
- Randazzo, Kirk A., Richard W. Waterman & Jeffrey A. Fine. 2006. "Checking the Federal Courts: The Impact of Congressional Statutes on Judicial Behavior." *Journal of Politics* 68(4):1006–1017.
- Randazzo, Kirk A., Richard W. Waterman & Michael P. Fix. 2011. "State Supreme Courts and The Effects of Statutory Constraint: A Test of the Model of Contingent Discretion." *Political Research Quarterly* 64(4):790–802.
- Richman, Jesse. 2011. "Parties, Pivots, and Policy: The Status Quo Test." *American Political Science Review* 105(1):151–164.

- Rogers, James R. 2005. "The Impact of Divided Government on Legislative Production." *Public Choice* 123(1/2):217–233.
- Saturno, James V. 2017. "Congressional Research Service Report: Appropriations Subcommittee Structure: History of Changes from 1920 to 2017." Accessed at <https://fas.org/sgp/crs/misc/RL31572.pdf> on November 20, 2017.
- Saturno, James V. & Jessica Tollestrup. 2016. "Congressional Research Service Report: Continuing Resolutions: Overview of Components and Recent Practices.".
- Schick, Allen. 2000. *The Federal Budget: Politics, Policy and Process*. Washington D.C.: The Brookings Institution Press.
- Sinclair, Barbara. 1997. *Unorthodox lawmaking: New legislative processes in the US Congress*. Washington, DC: CQ Press.
- Sinclair, Barbara. 1998. *Legislators, Leaders and Lawmaking: The U.S. House of Representatives in the Postreform Era*. Baltimore, MD: The Johns Hopkins University Press.
- Sinclair, Barbara. 2006. *Party Wars: Polarization and the Politics of National Policy Making*. Norman, OK: University of Oklahoma Press.
- Streeter, Sandy. 1999. "The Congressional Appropriations Process: An Introduction." *CRS Report for Congress* pp. 1–39.
- Talbert, Jeffrey C., Bryan D. Jones & Frank R. Baumgartner. 1995. "Nonlegislative Hearings and Policy Change in Congress." *American Journal of Political Science* 39(2):383–406.
- Taratoot, Cole D. & David C. Nixon. 2011. "With Strings Attached: Statutory Delegations of Authority to the Executive Branch." *Public Administration Review* 71(4):637–644.
- Theriault, Sean M. 2008. *Party Polarization in Congress*. New York, NY: Cambridge University Press.
- Uscinski, Joseph E. 2009. "When Does the Publics Issue Agenda Affect the Medias Issue Agenda (and Vice-Versa)? Developing a Framework for Media-Public Influence." *Social Science Quarterly* 90(4):796–815.

- Wawro, Gregory J. & Eric Schickler. 2004. "Where's the Pivot? Obstruction and Lawmaking in the Pre-Cloture Senate." *American Journal of Political Science* 48(4):758–774.
- Wildavsky, Aaron. 1988. *The New Politics of the Budgetary Process*. Glenview, IL: Scott, Foreman and Company.
- Wilkerson, John D. 1999. "'Killer' Amendments in Congress." *American Political Science Review* 93(3):535–552.
- Wilson, Woodrow. 1885. *Congressional Government*. Cleveland, OH: Meridian.
- Woon, Jonathan & Ian P. Cook. 2015. "Competing Gridlock Models and Status Quo Policies." *Political Analysis* 23(3):385–399.
- Woon, Jonathan & Sarah Anderson. 2012. "Political Bargaining and the Timing of Congressional Appropriations." *Legislative Studies Quarterly* 37(4):409–436.

## Tables and Figures

## Appendices

### 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.

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 years 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.

## Appendix B: Summary Statistics

Table 3: Summary Statistics for Variables Used in Analysis

	Mean	Std. Dev.	Minimum	Maximum
<b>Year-Level Variables</b>				
Congress	NA	NA	80	112
Gridlock Interval Size	.442	.108	.208	.621
Deficit as Percentage of GDP	-1.53	2.35	-9.8	4.5
Number of Regular Appropriations Bills in Year	12.1	2.9	1	18
Number of Authorization Bills in Year	303.0	116.64	63	569
<b>Law-Level Variables</b>				
Regular Appropriations Word Count (10,000 Words)	16.62	14.31	3.42	64.46
Authorizations Word Count (10,000 Words)	0.34	1.60	0.002	39.87
Titles In Law	1.80	3.74	1	130
New York Times Major Policy Area Article Count	35.56	40.39	0	252
Major Policy Hearing Days	257.79	185.19	0	936

## **Appendix C: Average Effect of Regression Intercepts Across Congresses**

The multilevel model can be used to estimate the “average effect” of the regression intercepts across Congresses. Figure 5 plots the relationship between the predicted intercepts in each Congress (y-axis) and interchamber distance (x-axis) from model 1 in Table 1. 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. In fact, the 109th, 110th, and 111th Congresses all have lower levels of appropriations words than expected given their level of interchamber distance, while among recent Congresses, only the 106th and 111th outperform their baseline expectation. This is evidence that the relationship between interchamber distance 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.

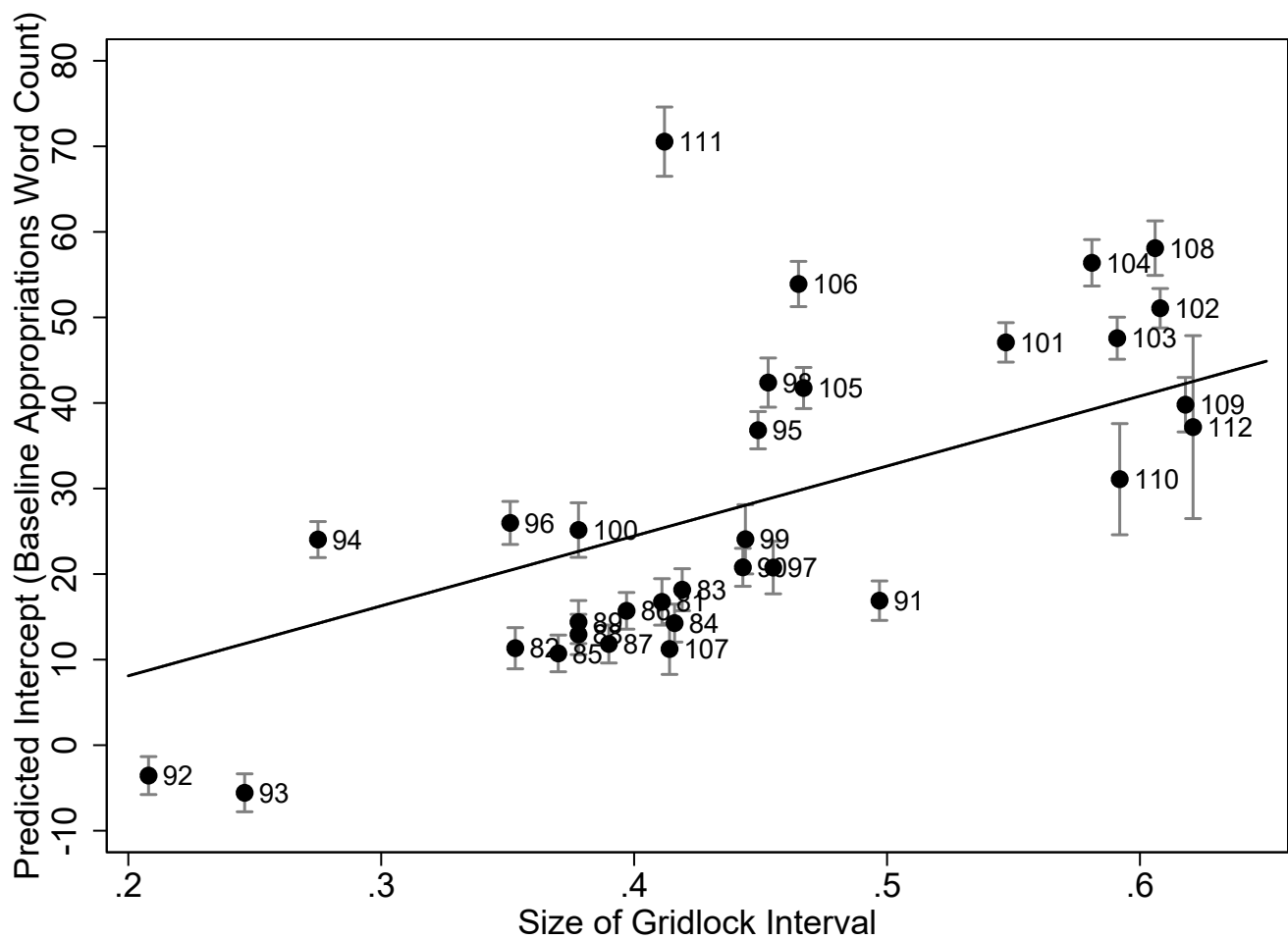


Figure 5: Predicted Congress Intercepts and Gridlock Distance

## Appendix D: Empirical Tests of Party Effects on Appropriations Policymaking

Table 4: The Effect of Majority Party Cohesion on Appropriations Policymaking

<i>Independent Variables</i>	<i>Type of Legislation</i>			
	Appropriations		Authorizations	
	House	Senate	House	Senate
<b>Year-Level Variables</b>				
Party Median Distance	-27.69 (91.75)	85.02 (67.21)	-1.26 (1.39)	0.52 (0.87)
Majority Party Standard Deviation	-392.93 (326.68)	-45.24 (219.35)	-4.15 (4.97)	0.93 (2.79)
Median Distance x Party Standard Deviation	563.21 (564.23)	-8.31 (363.08)	7.90 (8.70)	-2.72 (4.66)
Lagged Deficit as Percentage of GDP	-0.12 (0.30)	-0.04 (0.31)	-0.01 (0.01)	-0.01 (0.01)
Lagged Total Number of Authorization Words	-0.12* (0.01)	-0.12* (0.01)		
Election Year	-2.13* (0.80)	-2.34* (0.81)	0.02 (0.03)	0.02 (0.03)
Number of Regular Approp. Bills in Year	0.16 (0.14)	0.10 (0.14)		
Number of Authorization Bills in Year (x 100)			0.00 (0.00)	0.00 (0.00)
<b>Law-Level Variables</b>				
Titles In Law	0.07* (0.03)	0.07* (0.03)	0.37* (0.00)	0.37* (0.00)
New York Times Major Policy Area Article Count (x 100)	0.83 (0.79)	0.85 (0.79)	-0.04 (0.03)	-0.04 (0.03)
Lagged Major Policy Hearing Days (x 100)	-0.21 (0.15)	-0.21 (0.15)	-0.01* (0.01)	-0.01* (0.01)
Constant	52.80 (56.63)	-11.16 (42.05)	0.42 (0.84)	-0.45 (0.53)
<b>Random Effects Parameters</b>				
Var(Congress)	80.52 (21.91)	119.44 (31.01)	.015 (0.005)	.015 (0.005)
N	641	641	15,301	15,301
AIC	4234.54	4245.49	47222.08	47221.05

\*p<.05, #p<.1; Mixed-effects OLS regression. The unit of analysis is law, and the dependent variable in the first two columns is number of appropriations words (in tens of thousands of words) in a law, while in the last two columns it is number of authorization words (in tens of thousands of words) in a law. Lagged total authorization words are also in tens of thousands of words. Distance between party medians and majority party standard deviation measured using DW-NOMINATE scores.

## Appendix E: Gridlock Interval Size Across Administrations

Table 5: The Size of the Gridlock Interval Across Administrations, 1945-2011

Presidential Administration	Gridlock Interval Size	Change from Previous Administration
Mean Across Sample	.442	NA
Truman	.416	NA
Eisenhower	.390	-6.7%
Kennedy	.393	.77%
Johnson	.382	-2.8%
Nixon	.468	22.5%
Ford	.208	-25%
Carter	.251	-20.7%
Reagan	.417	66.1%
H. W. Bush	.449	7.7%
Clinton	.535	19.2%
W. Bush	.596	11.4%
Obama	.517	-15.3%

Note that the sample only extends through Obama's first two congresses, the 111th and 112th. Because of the period in which Democrats had a filibuster-proof majority in the Senate, the average gridlock interval for his term is slightly smaller than for Clinton or Bush.