Abstract

It is widely argued that a primary source of legislative deadlock in America is the combination of a secular increase in polarization, combined with constitutional provisions that divide law-making power across branches. However, empirical tests have yielded mixed results. Our premise is that polarization affects productivity, but only given a particular pattern of divided government. We distinguish between split branches, where a President from one party faces a Congress controlled by the other, and split chambers, where each party controls one house of Congress. We show that enactments of major legislation are less likely given split chambers compared to the other options – and that polarization has no impact after controlling for these factors. These results redefine the conditions under which polarization drives deadlock. They also explain why the increase in polarization over the last two decades has until recently had little impact on major enactments.
For most Congress scholars, descriptions of recent congressional terms as “the least productive body in a generation,” “the most ineffectual in history,” and “the laziest Congress ever,” (Steinhauer 2012, Klein and Soltas 2013, Halperin 2014) are no surprise. It is widely argued that a primary source of legislative deadlock is the combination of a secular increase in the polarization of American political parties, combined with constitutional provisions that divide power between the legislative and executive branches, and establish a system of elections that allows divided partisan control. Despite this argument’s acceptance, however, empirical tests have yielded mixed results, as exemplified by the titles of two well-cited works on divided government, Binder’s (2003) Stalemate and Mayhew’s (2005) Divided We Govern.

The central premise of this paper is that polarization affects productivity in the modern Congress, but only given a particular pattern of divided government. We distinguish between split branches, where a President from one party faces a Congress controlled by the other, and split chambers, where each party controls one house of Congress. While this distinction has been noted in previous work, these two configurations have been analyzed as though they have the same implications for legislative productivity. They do not.

Our Deadlock Hypothesis draws on a theory of majority rule decision-making to predict that enactments of major legislation are less likely given split chambers compared to split branches or unified government – and that after controlling for the type of divided government, the varying levels of polarization observed in post-war Congresses have no impact on enactments. We test our hypothesis using an updated version of Mayhew’s (2005) data on landmark enactments and a variety of control variables, alternate dependent variables measures, model specifications, and estimation techniques.

The significance of our results is that they redefine the conditions under which congressional inaction can be attributed to polarization and divided government – or,
equivalently, what would have to change to break the logjam. Given the conventional wisdom, barring a partisan realignment that reduces polarization, or the election of representatives who support compromise for its own sake, the only way to eliminate deadlock is an election that creates unified government, or a sea change in public and elite opinion that engenders consensus on heretofore controversial policy questions.

In contrast, our results indicate that the crucial institutional factor shaping legislative productivity is whether one party controls both houses of Congress. Given split branches, we find that productivity is no lower than it is under unified government. And while that split chambers have lower productivity, such deadlock could be broken by an election that preserves divided government, but transforms the status quo from split chambers to split branches (such as if Republicans capture the Senate in 2014.)

Our results also explain why the increase in polarization over the last two decades has until recently had little impact on major enactments – up to 2011, the increase was unaccompanied by split control of Congress. Moreover, our results imply that deadlock is unlikely to be broken by many proposed remedies, including presidential leadership, fast-tracking legislative proposals, or eliminating Senate filibusters. Rather, enactments of major bills will increase only after an election that eliminates the split chamber status quo.

**Polarization, Divided Government, and Deadlock**

Congressional Republicans and Democrats are polarized and polarization levels have been increasing for the last generation (Brady and Han 2014, McCarty et al 2008; Poole 2012a, 2012b, 2013; Hare, Poole, and Rosenthal 2014). Figure 1 plots polarization in the House of Representatives from 1945-2013 using the distance between the Democratic and Republican party medians (measured using first-dimension DW-Nominate scores, 1945=100), and the distance between Democratic and Republican party uncovered sets
Regardless of the measure, polarization has been gradually increasing since the 1960s with larger increases after 1990.

Our focus here is on the claim that increased polarization has combined with divided government to produce deadlock in American politics, particularly in high-salience policy areas such as immigration reform, climate change, gun control, domestic surveillance, and entitlement spending (e.g., Binder 2014, Draper 2012, Lee 2014, Mann and Ornstein 2012, Nixon 2014, Orszag 2011, Sides 2011, Sherman 2013, Stolberg et al 2010 Stonecash 2014. The conventional wisdom is that passage of major legislation is more likely under unified government – that political parties are the “indispensable instrument that [brings] cohesion and unity, and hence effectiveness to the government as a whole by linking the executive and legislative branches in a bond of common interest” (Sundquist, quoted in Mayhew 2005, 1-2). Without unified control, enacting major legislation requires a cross-party coalition – somewhere in the process, Democrats must accede to a Republican initiative, or vice versa.

Put another way, the claim is that America’s constitutional structure, particularly the principle of checks and balances, creates veto points (Cameron 2000, Tsebelis and Money 1997, Tesbelis 2002, Krehbiel 1996) – situations where one party has the power to stop the other from enacting its preferred proposals. The expectation is that a party’s incentive to take advantage of these opportunities increases with polarization (Binder 2014):

Once we take account of bicameral and inter-branch differences, as well as the degree of polarization, variation in legislative gridlock becomes quite predictable. The Great Society’s unified Democratic majorities in a period of ideological moderation yielded remarkably productive congresses in the 1960s. In contrast, frequent deadlock in 2011 and 2012 — on immigration reform, tax reform,

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1 The latter measure will be used in the multivariate analysis, and is included here to show its correlation with the more familiar measure.
climate change, and entitlement reform to name a few — stemmed directly from split party control of the chambers and branches, as well as historic levels of partisan polarization.

Arguments along these lines drive concerns about the upward march in congressional polarization: as inter-party differences increase, cross-party coalitions must bridge a wider ideological gap, making compromise ever-harder to achieve.2

There are three problems with this logic. First, the fact that parties are polarized does not in principle preclude an “ideological sweet spot” (Binder and Lee 2013), a compromise that a majority of House members and Senators prefer to the status quo. The idea that polarization breeds stalemate requires auxiliary assumptions, such as if increased polarization increases the position-taking cost (Mayhew 1974, Bianco 1989) of voting for a compromise. However, such costs might arise even under unified government. A legislator might be sanctioned for supporting a compromise offered by his or her party, if its contents were sufficiently different from constituent demands (e.g., if a Democrat with a hard-left district voted for the Affordable Care Act rather than fighting for a single-payer system).3 As Binder (2003, 79) notes, "unified party control of government cannot guarantee the compromise necessary for breaking deadlock in American politics."

Second, it is not clear whether the polarization itself drives deadlock, or if cross-party differences must manifest as cross-chamber disagreements (Binder 2003, 81):

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2 The measure of productivity used in this literature has no policy content – the focus is on the number of major proposals enacted, not whether these outputs favor Democratic or Republican interests, or as Mayhew (1991, 4) puts it, "the basic concern...is not with direction but with motion - whether much gets done at all." The implicit expectation is that legislators will attempt to respond to societal demands by preparing a wide range of policy proposals, but the question of which of these proposals (if any) is enacted depends on the distribution of preferences in the House and the Senate. See Fiorina (2014) for a dissenting view.

3 Polarization could also drive partisan warfare, where legislators reject compromise to perpetuate conflict and thereby mobilize their supporters (Theriault 2014). Here again, this mechanism could work under unified government within the majority party.
...the policy consequences of divided government, not bicameralism, feature prominently in theoretical and empirical treatments of legislative gridlock. But treating bicameral bodies as if they were unicameral risks overlooking important differences. House-Senate differences, not simply legislative-executive conflicts, have structured patterns of gridlock in postwar American politics.

This line of argument mirrors the distinction we make here between two types of divided government: in general, cross-chamber differences will be much larger given split chambers compared to split branches. However, it does not address a critical question: what is the connection between preferences and bicameralism that makes cross-chamber differences so important? Moreover, after we control for cross-chamber differences, does cross-party polarization have an independent impact on productivity? This question cuts to the core of concerns about the steady rise in congressional polarization: the problem may not be the level of disagreement so much as how it is expressed – across branches or across chambers. In fact, as we show later in the paper, split chambers may reduce productivity even at relatively modest levels of party polarization.

The third gap in theories that link divided government and polarization with deadlock is that empirical analyses of this hypothesis have yielded contradictory results, with findings that vary with the coding of the dependent variable (a wide or narrow specification of accomplishments), the years and legislatures included in the analysis, and the inclusion of various independent variables, particularly those that describe citizen demands (Binder 2003, Edwards et al 1997, Howell et al 2000, Mayhew 2005, Rogers 2005; Fiorina 1996). The essential problem is evident in figure 2's scatterplot of major congressional enactments.4

***Figure 2 here***

There is little evidence in figure 2 of a decline in productivity over the same time period that figure 1 shows sharp increases in polarization. As noted by others (Howell et al. 2000) there

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4 The data consist of Mayhew’s “Sweep One” and “Sweep Two” categories.
is a spike of enactments during the 1960s, corresponding to the Great Society era of Lyndon Johnson – although enactments were similarly high in the first term of Johnson’s successor, Republican Richard Nixon, who faced divided government. Moreover, there does not appear to be a systematize difference in enactments between divided and unified government.

In sum, the combination of underspecified micro-foundations and conflicting empirical findings leaves us unable to distinguish between fundamentally different explanations of policy deadlock in American politics. It is possible, for example, that divided government is the primary culprit -- that the potential for deadlock is baked into the constitutional cake, and would arise even given lower polarization. Alternatively, the deadlock-inducing effects of divided government may only arise when polarization is sufficiently high, or only when disagreement is manifest across chambers. Current theories do not allow us to adjudicate between these hypotheses.

Without knowing how deadlock arises given divided government and polarization (or whether these factors affect deadlock at all), it is also difficult to assess hypotheses that link deadlock to indirect consequences of polarization. Increased polarization may reflect the election of a different type of legislator, one who is less willing to compromise across party lines, added costs of position-taking, or the elimination of ideological moderates who are natural leaders in the compromise process. But without knowing whether, how, and why polarization shapes deadlock, it is difficult to assess these indirect effects.

Divided Government and Deadlock

Congress is a bicameral institution: enacting legislation requires majority or supermajority support in both the House and the Senate. It is this structure, we argue, that

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5 The apparent weak relationship between productivity and polarization is further illustrated by the fact that the correlation between inter-chamber polarization and landmark enactments is only .25. Other measures of productivity, such as those used in analysis presented later, have similarly low correlations.
creates the potential for deadlock given split chambers. Our argument relies on a concept known as the uncovered set (UCS). Over the last decade, a combination of theoretic work and analyses of real-world data (see Bianco et al 2014 for a review) has shown that when legislators’ preferences are measured using ideal points in a two-dimensional policy space, the UCS defines the set of policy outcomes that can emerge when legislators vote on proposals using majority rule given endogenous agendas.

We use the UCS to find the set of enactable outcomes for the bicameral Congress: outcomes that command majority support in both houses – that is, outcomes that are in the intersection of the two chamber UCS. To foreshadow our findings, the analysis show that given current levels of congressional polarization, this intersection is empty given split chambers, meaning that under these conditions, no outcomes are enactable. Given split branches or unified government, however, some outcomes are enactable. Moreover, the same pattern holds given substantiality lower polarization, such as existed in the early 1980s. Thus, the generation-long increase in polarization is not to blame for the current legislative

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6 One concern is Senate filibusters, suggesting that this chamber must be modeled in terms of a 60-vote supermajority to enact legislation, as this is the number of votes currently needed to invoke cloture and end debate. Using the uncovered set to model Senate proceedings in effect assumes the Senate is at its core a majority-rule institution. This logic follows from the fact that filibusters can be avoided using the budget reconciliation procedure, as used during the 2010 enactment of health care reform, or, in extreme cases, by invoking the “nuclear option” to eliminate filibusters entirely. The health care example suggests that on important issues (such as cases of landmark legislation), threats to filibuster are taken seriously only if they signal the absence of majority support for a proposal – that is, if the proposal lies outside the Senate’s uncovered set. Under these conditions, the Senate’s uncovered set describes the set of outcomes that are enactable given members’ preferences. That said, we discuss the implications of a supermajority Senate throughout the paper.

7 The UCS also allows us to move beyond one-dimensional specifications of legislators’ preferences to a richer two-dimensional specification. While differences along the left-right dimension divide Democrats and Republicans in Congress, it is equally true that other factors shape legislators’ vote decisions, at least on some votes. In particular, analyses of vote decisions have identified a distinct second ideological dimension, one that captures legislators’ evaluations of issues such as abortion, gun control, and civil rights (Aldrich et al 2007). While a legislator’s position on this dimension affects only a fraction of their votes, the issues captured by the second dimension are clearly salient. For example, during the enactment of health care reforms in 2010, Democratic House leaders had to change the proposal to gain the support of a crucial bloc of Democratic backbenchers who were opposed to provisions related to federal funding of abortions (Stolberg et al. 2010).
stalemate, as deadlock would result given substantially lower levels of polarization. Rather, the problem is the configuration of partisan control across branches.

**Unified Government and Legislative Productivity: The 111th Congress**

Figure 3 shows ideal points and uncovered sets for the 111th (2009-10) House and Senate, a case of unified Democratic control.

***Figure 3 Here***

Positions on the horizontal dimension give a legislator’s preferences regarding the size and scope of government, while the vertical dimension gives their position on a cluster of social issues, including gun control, abortion, and civil rights (Poole and Rosenthal 2007). House and Senate Democrats are on the left side, with House and Senate Republicans on the right. Both groups are also spread out along the vertical (social issues) dimension. The positions of President Obama and his 2008 challenger, John McCain, are also labeled. The two overlapping shapes on the left side of the plot (closer to the majority-party Democrats) are the House and Senate UCSs – the overlap reflects the fact that the distributions of preferences in the two chambers are very similar.

The overlap of uncovered sets in the 111th Congress, and the relative proximity of the two uncovered sets to the ideal points of Senate Democrats, is consistent with descriptions of legislative action in this Congress. For example, during negotiations over President Obama’s health care proposals, various accounts suggested that the legislation ultimately enacted reflected the consensus among Senate Democrats and, in particular, the preferences held by moderate Democratic Senators (Stolberg et al. 2010). Figure 3 suggests that these Democrats were able to enact their preferred health care plan not because of their superior bargaining skills or procedural acumen, but because the outcomes that could pass both chambers were close to their ideal points.
The configuration of ideal points and uncovered sets in for the 111th Congress in Figure 3 is typical for cases of unified government. The configuration implies favorable prospects for the passage of landmark legislation, as overlap of the House and Senate UCS means that many policy outcomes are enactable in both chambers. Once negotiations between Congressional leaders and the President settle on one of these outcomes, majority-party leaders can devise procedures to shepherd these proposals through consideration in the House and Senate.8

Split Chambers

While unified government offers good prospects for enacting legislation, the situation is different given split chambers. Figure 4 shows the 112th Congress, with a Democratic President, Republican House and Democratic Senate.

As in the previous analysis, Democrats are shown on the left and Republicans on the right, with Democrats holding the majority in the Senate and Republicans controlling the House. The Senate UCS is on the left-hand side of the figure and the House UCS on the right. Notably, the two chamber uncovered sets do not overlap.9 Under these conditions, enacting legislation requires some way to force some legislators in one or both chambers to support proposals that they oppose on their merits. Presidential approval is also needed, but even

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8 Previous work (Bianco et al. 2004) suggests that moving from majority to supermajority reduces the size of the chamber UCS, which in this case would reduce the number of proposals that were enactable in both chambers. However, given the overlap of chamber UCSs in figure 3, a smaller Senate UCS would still overlap with the House UCS, implying that some outcomes would still be enactable and deadlock would not exist.

9 This situation is not the result of extreme preferences held by members of the Congressional Tea Party To test this hypothesis, we conducted an analysis where we subtracted members of the Tea Party Caucus (TPC) from the 112th Congress, testing whether this change would shift the House UCS enough to eliminate deadlock. One version eliminated the Republican House members of the TPC, and randomly eliminated enough Democrats to restore the party ratio to its actual value. The other replaced TPC ideal points with the ideal points of their predecessors. Neither of the two hypothetical 112th House UCSs is significantly different from the actual UCS. In other words, even if we could remove the TPC from Congress, the remaining members would still face deadlock under split chambers.
after negotiations secure his or her consent to a proposal that is enactable in one chamber, the problem remains to build majority support for the proposal in the other.\textsuperscript{10}

It is important to note that we are not claiming that enactments of landmark legislation is impossible under split chambers – indeed, Mayhew’s data shows that some major proposals do become law under these conditions. Our argument is that the configuration of chamber UCS given split chambers raises a significant barrier to enactment that these proposals must somehow overcome in order to become law, barrier that does not exist given split branches or unified government. We explore the conditions under which such enactments are realized below.

The 112\textsuperscript{th} Congress is not unique. The other cases of split chamber control since 1945 all look the same as the 112\textsuperscript{th} Congress, with non-overlapping chamber UCS.\textsuperscript{11} In particular, this finding holds for the 97\textsuperscript{th} and 98\textsuperscript{th} Congresses (1981-2, 1983-4) despite much lower levels of polarization compared to more recent Congresses.

**Split Branches**

The other pattern of divided government is split branches, in which one party controls both houses of Congress but the other party elects a President. Consider a hypothetical version of the 111\textsuperscript{th} Congress depicted in figure 3 where John McCain rather

\textsuperscript{10} The impact of a supermajority Senate in the case of split chambers would be to increase the degree of deadlock – since the supermajority UCS would be smaller than the majority version shown in figure 4, the distance between the two chamber UCSs would increase. Put another way, for scholars who argue that the possibility of filibusters means supermajorities are required to enact legislation in the contemporary Senate, figure 4 shows that Senate filibustering is not to blame for congressional deadlock. Even if the Senate rules could be changed to match the House, making the Senate into a pure majority rule chamber, congressional deadlock would still exist given split chambers.

\textsuperscript{11} The difference in mean productivity between split chambers and split branches (or unified government) is statistically significant at better than .05; the difference between split branches and unified government is not. Given low enough levels of polarization – in the extreme, a situation where ideal points for the two parties were distributed identically – House and Senate uncovered sets would overlap regardless of whether chamber control was split or unified. Moreover, this overlap would continue to exist given small increases in polarization. However, even modest levels of polarization, such as existed in the early 1980s, are sufficient to eliminate this overlap and create the conditions for deadlock. Moreover, once preferences are polarized enough to create deadlock, further increases should have no impact on the prospects for deadlock.
than Barack Obama had won the 2008 presidential election – a Republican President facing a Democratic Congress. In this case, many proposals are enactable in Congress, but all lie at some distance from McCain’s ideal point. Thus, the problem is to secure McCain’s approval of one of these proposals – once this happens, procedures can be devised to secure their enactment in the House and the Senate.

This comparison confirms that the two types of divided government, split branches and split chambers, represent fundamentally different situations. Given split chambers, the problem is that no proposal attracts enough support on its merits to be enactable in both chambers. Given passage of a proposal in one chamber (or assurances that passage will be forthcoming), the problem for party leaders in the other chamber is to find some mechanism to transform this unenactable proposal into one that has majority support for the procedural and substantive votes needed to secure passage.

In contrast, under split branches, many proposals are enactable in both chambers. The problem facing party leaders and the President is arrive at a bargain over which of these proposals will be enacted – by definition, the result will be a bipartisan compromise, although given the location of the chamber UCSs, it will favor the party that controls Congress. While such outcomes may be at some remove from the President’s ideal, he or she has a strong incentive to compromise given that voters’ evaluations of presidential performance are likely to focus on accomplishments rather than position-taking.

There are many examples in recent years of bipartisan negotiations given split branches leading to major legislative accomplishments, from the passage of welfare reform in 1996 during the Clinton administration to economic stimulus and stabilization legislation in 2008 under George W. Bush. These cases suggest that while divisions between the
President and Congress under split branches may require extensive negotiations to bridge, they present a lower barrier to legislative action compared to split chambers.

**The Deadlock Hypothesis**

We frame our argument about divided government, split chamber control, and legislative productivity in terms of a hypothesis:

**The Deadlock Hypothesis.** Holding other factors constant, the number of landmark proposals enacted in a congressional term should be lower given split chambers compared to unified government or split branches.

This hypothesis implies that the chances for enactments of major legislation depend on the distribution of legislators’ preferences mediated by congressional institutions, including majority rule, bicameralism, and the various rules that limit the influence that party leaders have over backbenchers. It implies, moreover, after controlling for the type of divided government, the magnitude of cross-chamber or inter-chamber differences should have no impact on landmark enactments – at least not given levels seen in recent Congresses.

As noted earlier, we do not claim that it is impossible to enact landmark legislation given split chambers or that enactment is guaranteed given other scenarios, simply that there should be a lower level of enactments given split chambers. Whether enactments are lower given split branches compared to unified government is an empirical question, although as our discussion of the 111th Congress illustrates, both cases face the same roadblock: the need

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12 The difference between this prediction and the conventional wisdom illustrates the value of moving to a two-dimensional specification of legislators’ preferences. In a one-dimensional model, the chamber uncovered set equals the ideal point of the median legislator in that chamber – and the set of enactable outcomes across the two chambers is empty except in the special case where the two chamber medians are identical. Faced with this result, it is natural to think that legislators can escape deadlock with side payments or other agreement insofar as the difference between the medians is small. The problem is, there is no way to determine how large cross-chamber differences can grow before the distance becomes too large to surmount. Moving to the more accurate two-dimensional specification of preferences removes this anomaly, and using the UCS to characterize enactability provides a crisp prediction of the necessary condition for deadlock: when the chamber UCSs do not intersect.
for presidential acquiescence to an enactable outcome, suggesting that productivity in the two cases may not differ.13

Analyzing Congressional Accomplishments

Our unit of analysis is a congressional term, beginning with the 79th Congress (elected 1944, served 1945-6) and ending with the most-recent completed Congress, the 112th (elected 2010, served 2011-2). For each term, the dependent variable is Mayhew’s coding of the number of pieces of landmark legislation enacted during the term.

***Table 1 Here***

Table 1 describes the four independent variables and our expectations about sign and significance. Two dummy variables describe whether a condition of divided government existed in a given term – thus, unified government is the underlying category. If the Deadlock Hypothesis is correct, the parameter for split branches should be insignificant, while the parameter for split chambers should be negative and significant. We also include Stimson’s policy mood measure (averaged across the two years of the term) to capture public demand for legislation. At the margin, the policy mood should be positive and significant; increased support for government activism should yield increased enactment of landmark legislation.14 We include a measure of party polarization, defined as the average distance between House Republican and Democratic UCS.

Specification Concerns

Our analysis embodies a number of critical decisions regarding model specification and case selection. First, while our preferred specification includes a measure of cross-party polarization, some analyses highlight the role of inter-chamber polarization. Accordingly, we

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13 It is important to note that our prediction concerns the level of enactments not their content --- it is plausible that outcomes would be closer to the President’s ideal point given unified government compared to split branches, although threats of presidential vetoes could narrow these differences (Cameron 2000).

14 Using lagged versions of this variable does not alter any of our conclusions.
will replicate our analysis using this measure. We also replicate our analysis using a unitary divided government variable – one that combines split branch and split chamber cases.

A second question is whether our test of the Deadlock Hypothesis should focus on landmark legislation – the dozen or so truly important measures enacted each year – or a broader measure of productivity, particularly one that accounts for the size of the congressional agenda (Binder 2003; Howell et al 2000). Mayhew’s measure makes sense given the argument that the impact of split chambers is more likely to be observed on major proposals. Our decision is also consistent with Howell et al.’s (2000, p. 292) argument that the Mayhew data is the most-appropriate variable for analyzing divided government.

In addition, while Mayhew’s dependent variable allows analysis to take advantage of the full range of cases from 1947 - 2012, we replicate our analysis using Howell et al’s (2000) “A + B” measure, which is slightly broader than Mayhew’s but constructed using news reports, as well as with their “C” measure (a broader measure of legislative activity), and with Binder’s (2003) variable that captures the percentage of important proposals enacted, where the numerator and denominator are constructed using media reports. In addition, the 107th Congress raises two other dependent variable issues, which are discussed in Appendix 1.

Finally, previous time-series analyses of legislative accomplishment (Howell et al. 2000) argue that the dependent variable might be non-stationary, meaning that there is a trend or some other pattern in the data. Without an appropriate correction, regression analysis of non-stationary data can lead to spurious findings – in our case, biased analyses of how different kinds of divided government shape rates of legislative accomplishment, along with biases in the estimated impact of polarization (DeBoef and Granato 1997). We used a Dickey-Fuller test to assess whether the dependent variable in our data is unit root, and ran the same test on the residuals. Both of these tests fail to reject the null (p < .01) that the
dependent variable is unit root. Out of an abundance of caution, we implement the standard correction, using a negative binomial regression to estimate parameters, and adding two trend variables (time and time squared).

**Parameters**

The parameters for the estimations are shown in table 2, along with robust standard errors and model fit statistics.

**Table Two Here**

These results confirm the Deadlock Hypothesis: compared to unified government, split chambers lower the level of legislative accomplishment, while split branches do not. Moreover, productivity given split branches is no lower compared to unified government. The other parameters are consistent with our predictions: holding the type of government (divided v. unified) constant, changes in party polarization have no impact on productivity. However, increased public demands for an activist government as measured by policy mood have a positive impact on productivity.

The other columns in table 2 provide additional support for our findings by exploring various alternate specifications. The first set of alternates use different dependent variables. The second column uses Howell’s et al (2000) coding from press summaries of accomplishments, while the third uses Binder’s (2003) press-based percentage measure – in both cases, the distinction between split chambers and split branches remains, although the split branch parameter is marginally significant (note, however, that the analysis n is substantially lower than our default model). The forth column uses a broader measure of enactments from Howell et al (2000), producing nonsignificant parameters for the split

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15 These results are different from those in Howell et al. (2000), which likely reflects that we have over a decade’s worth of additional data on legislative accomplishments.

16 As the Binder dependent variable is a percentage measure, parameters are estimated using OLS and we report the $R^2$. 

chamber and split branch variables, confirming our suspicion that the impact of split chambers will be apparent only for enactments of major proposals.

The second group of alternate estimations addresses case selection. Column 5 replicates Mayhew’s (1991) set of cases, while column 6 uses the actual number of accomplishments for 2000-1 rather than excluding measured related to the 9/11 attacks. Both cases replicate the signs, relative magnitudes, and significance of our default model, with the minor exception that the policy mood variable is not significant using the Mayhew cases – here, the lower analysis n may be to blame.

Finally, the third set of alternate estimations assesses the impact of alternate independent variables. Column 7 removes the party polarization variable and substitutes inter-chamber polarization, defined as the difference between House and Senate 1D medians. This substitution does not introduce any substantive changes in sign, magnitude, or significance. Finally, column 8 combines the split branch and split chamber variables into a single indicator, whose magnitude is in between the split chamber and split branch parameters in our preferred specification.

**Interpretation**

Figure 5 shows how the expected level of congressional productivity changes as a function of the type of government and the policy mood.17

***Figure 5 Here***

The vertical axis measures the predicted number of pieces of landmark legislation enacted in a term. The horizontal axis gives the level of policy mood, ranging from -2 to +2 sample

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17 This figure assumes that the level of policy mood is not a function of institutional arrangements, which is plausible given the low correlation between these variables (<.25), as well as the fact that the average level of policy mood is almost identical across split chamber, split branch, and unified government cases.
standard deviations. Other variables are set at their sample means. The three lines give predicted enactments for the type of government (split chambers, split branches, or unified).

The plots in figure five highlight the substantive impact of split chambers on productivity. For low values of policy mood, corresponding to anti-liberalism or a lack of public support for increased government action, moving from unified government or split branches to split chambers reduces congressional productivity by over 40 percent. This gap grows larger as the policy mood becomes more favorable to expanded government. Moreover, while productivity is shaped by policy mood, these effects are smaller than the differences between split chambers and the other two institutional arrangements. The difference in relative impact is particularly striking inasmuch as policy mood changes relatively slowly over time, while the type of government can shift abruptly after an election.

Enacting Legislation Given Split Chambers: Side Payments, Omnibus Proposals, and Jamming

Our analysis shows that the rate of landmark enactments given split congressional chambers is lower than for split branches or unified government. Even so, some landmark enactments are enacted when chambers are split, raising the question of how majority support is built and maintained for these proposals.

One possibility is that congressional party leaders could use rewards (minor changes in a proposal, electoral resources, committee assignments, or promises of support for other proposals) or threats (withholding or withdrawing these enticements) to motivate backbenchers to join a majority coalition. In this way, legislation might be enacted even when chamber UCSs do not intersect, perhaps even at the same rates observed for split branches or unified government. Indeed, the deficit reduction compromise ultimately enacted in late 2012 incorporated side payments in the form of tax breaks and farm price supports (Khimm 2012). Similarly, the 2013 continuing resolution that raised the federal
debt limit included a variety of pork-barrel spending, regulatory changes, and a 1% pay raise for federal employees (Almasy 2013). However, the literature on congressional caucuses (for a review, see Aldrich, Perry, and Rohde 2013) suggests that side payments are in short supply, and that the power of party leaders lies in their control over the congressional agenda. Moreover, this literature suggests that threats are only rarely used to cajole members into supporting a proposal.

The Fall 2013 congressional battle over a continuing resolution (CR) and raising the federal debt limit illustrates a second path to enactment given split chambers, where one chamber “jams” the other by setting up a choice between a proposal and an undesirable reversion point (Sherman et al 2013). In the case of the debt limit, because the Senate proposal was sent to the House with a looming default on federal obligations, some House Republicans apparently voted for the measure despite strong misgivings, because of the negative consequences of voting it down.

Jamming is essentially a chicken game: in the case of the CR, the two sides (House Republicans and Senate Democrats, who each control their chamber’s agenda) both wanted to avoid the consequences of inaction (the outcome where the government defaults on its debt), but disagreed on what should be done instead. Specifically, House Republicans wanted a CR that increased the debt limit, modified provisions of Obamacare, and cut federal spending, while Senate Democrats preferred a “clean: CR that only raised the debt limit. Given this setup, each side has two strategies: agree to the other side’s proposal, or demand enactment of their preferred measure, with two equilibria: one where the House moves first and jams the Senate, forcing Senators to concede and vote for the House
Republican proposal, and one where the Senate moves first and jams the House, forcing House members to vote for the Senate Democrats’ proposal.18

Given this characterization, the question is why the House caved – why repeated House attempts to jam the Senate failed, and why the last-minute Senate jam of the House succeeded. Our speculation is that this outcome was the result of the relatively extreme preferences held by some members of the House Republican Conference. For these members, the problem was not only they did not like whatever might pass the Senate – the outcome created by the House’s jam proposal was almost as bad. Faced with the choice of accepting a Senate jam or taking a gamble on default, some of these members were willing to concede earlier than their more moderate colleagues.

**Predictions about Deadlock**

Table 3 applies our Deadlock Hypothesis to predict the persistence of deadlock given some possible scenarios for the 2014 and 2016 elections.

***Table 3 Here***

The first columns gives three possible outcomes for Senate elections (we assume the Republican majority in the House is a constant): Republican gain the majority in 2014 and hold it in 2016, Democrats retain the majority in both elections, or Democrats lose the majority in 2014 and regain it in 2016. The other two columns give the results of the 2016 Presidential election.

As the table shows, in the short-term, the prospects for ending deadlock hinge on a Republican takeover of the Senate in 2014 – while their victory would not create unified government, it would move the country from split chambers to split branches for the last

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18 A third possibility is that one side offers concessions in order to enact a compromise proposal. This possibility is unlikely: insofar as uncovered sets do not overlap, neither side has an incentive to move off their preferred outcome.
two years of President Obama’s term, a change which our results suggest would improve legislative productivity. Moreover, assuming Republicans hold the Senate in 2016, higher productivity would persist regardless of the outcome of the 2016 Presidential election: a Republican victory in 2016 would produce unified government, while a Democratic victory would continue split branches. In contrast, as the bottom row shows, a combination of Senate elections that produce a Republican majority in 2015 but a Democratic comeback in 2017 yields a break in deadlock that only continues through 2016 – once Democrats regain the majority in the Senate, deadlock resumes regardless of whether a Republican or a Democrat wins in 2016.

In substantive terms, given a unified Congress in 2015, Republican leaders could negotiate with President Obama on Republican priorities such as tax reform, with the overlapping and Republican-leaning House and Senate uncovered sets providing firm boundaries on acceptable bargains. While successful negotiations would not be guaranteed, our data suggest that a move to split branches would substantially increase productivity.

On the other hand, if Democrats manage to hold the Senate in 2014 and 2016, preserving the current situation of split chambers, deadlock will continue regardless of who wins the presidency in 2016. Under these conditions, we would expect each house to continue to enact proposals that are non-starters in the other chamber, such as Republican attempts to repeal the Affordable Care Act, or Democratic efforts to enact immigration reform – and that enactments of landmark proposals are likely to be rare.

Discussion

The conventional wisdom is that congressional polarization breeds deadlock, and that the only way to break the logjam is to elect a different Congress, one with lower polarization. Our analysis confirms that congressional polarization has increased, but shows
that this change is not to blame for reduced productivity. The crucial factor appears to be split chamber control. Controlling for other factors, Congresses with split chambers have lower productivity compared to unified government or split branches – and that once we control for these factors, variation in polarization, at least to levels observed over the last 70 years, has no effect.

While these findings do not contradict claims that the contemporary Congress is deadlocked, they offer a different explanation for this outcome. The problem is not that differences between Democrats and Republicans have grown too large to bridge. Rather, the problem is that these differences currently divide the House and Senate. Anything that gets enacted under split chambers does so because some House members or Senators have been persuaded to vote for something that they or their constituents oppose, or because one chamber has exploited the parliamentary situation to jam the other. Under these conditions, many of the proposed remedies to deadlock, such as additional presidential leadership, fast-tracking legislative proposals, or eliminating Senate filibusters, are unlikely to have much effect, for the reason that they do not eliminate the barriers created by a bicameral legislature, majority rule, and electoral institutions that make split chambers possible.

Our analysis also highlights flaws in our understanding of divided government and its impact on policymaking. While there is evidence that some voters split tickets with the goal of achieving moderate outcomes, this strategy has been critiqued on grounds that it is likely to produce deadlock rather than moderation (Burden and Kimball 2009). Our results suggest that divided branches does not reduce legislative productivity. However, the constitutional provision that puts only a third of Senate seats up for election at a time makes ticket splitting problematic, as it can yield split chambers rather than split branches – and having split chambers does increase the chances of deadlock.
These results also suggest that parties have a clear preference across different kinds of divided government. Clearly, the members of a relatively homogenous party in government would prefer unified government, where they control both Congress and the Presidency and can implement the party’s agenda, as in the case of Democrats in 2009. But from the standpoint of enacting legislation, split branches are preferable to split chambers, even if the split has the party controlling the presidency as well as one House. In the former case, enacting legislation requires a unified Congress to negotiate with a President from another party – but as our data show, enactments of landmark legislation under these conditions are comparable to rates under unified government.\(^{19}\) In contrast, under split chambers, it is far more difficult to enact landmark legislation. Such a situation may seem attractive in theory to small-government conservatives, but it practice the attractiveness will depend on which proposals are being bottled up by inter-chamber conflict.\(^{20}\)

These results also highlight the obstacles facing legislative bargaining between congressional chambers. Inside each house of Congress, there are many venues where bargaining can occur, including the party caucuses, standing and special committees, task forces, regional and ideological working groups, or even bargaining between the party leaders. Cross-chamber bargains are much more difficult, as aside from conference committees, there are no similar venues for bargaining. These institutional features, we suggest, exacerbate the difficulties of enacting legislation given split chambers.

\(^{19}\) Of course, the content of whatever proposal gets enacted will likely vary between split chambers and unified government.

\(^{20}\) For a purely conservative party whose members prefer the status quo over all else, our results confirm that controlling one House of Congress is enough to stop the legislative process in its tracks
Figure 2.
Congressional Accomplishments Over Time

- Diamond: Divided Government
- Circle: Unified Government

N Landmark Enactments (Mayhew Coding)

First Year of Congressional Term

Figure 3.
The 111th Congress

Social Issues

House UCS

Obama

Senate UCS

McCain

Size and Scope of Government
Figure 4.
The 112th Congress

Social Issues

House UCS

Senate UCS

Size and Scope of Government

House D
House R
Senate D
Senate R
<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Prediction</th>
</tr>
</thead>
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<tr>
<td>Split Branch</td>
<td>1 if term had split branches, 0 otherwise</td>
<td>No Effect</td>
</tr>
<tr>
<td>Split Chamber</td>
<td>1 if term had split chambers, 0 otherwise</td>
<td>Negative</td>
</tr>
<tr>
<td>Policy Mood</td>
<td>Stimson Policy Mood</td>
<td>Positive</td>
</tr>
<tr>
<td>Polarization</td>
<td>Distance between House Party Uncovered Sets</td>
<td>No Effect</td>
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Table 2. Results of Multivariate Analysis

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<tr>
<th>Independent Variables</th>
<th>Model</th>
<th>Howell et al A+B Coding</th>
<th>Binder Agenda</th>
<th>Howell et al C Coding</th>
<th>Mayhew Cases</th>
<th>Without 9/11 Correction</th>
<th>Interchamber Polarization</th>
<th>Unitary Divided Government Var</th>
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<tbody>
<tr>
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<td>-0.16***</td>
<td>0.006</td>
<td>-0.50***</td>
<td>-0.33*</td>
<td>-0.58***</td>
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<tr>
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<td>-0.07*</td>
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<td>-0.66</td>
<td>-0.16</td>
<td>-0.19</td>
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<td>Divided Government</td>
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<td></td>
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<td>-0.23*</td>
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<td>0.22***</td>
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<td>(Trend)$^2$</td>
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<td>72.6***</td>
<td>33.8***</td>
<td>80.6***</td>
<td>47.0***</td>
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<td>31</td>
<td>22</td>
<td>25</td>
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<td>20</td>
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Table 3. Predictions about Continued Deadlock

<table>
<thead>
<tr>
<th>Congressional Election Results (assuming Republicans hold House)</th>
<th>Winner of 2016 Presidential Election</th>
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<tbody>
<tr>
<td>Republicans capture Senate in 2014 and retain in 2016</td>
<td>Democrat</td>
</tr>
<tr>
<td></td>
<td>2015-18: Split Branches (Productive)</td>
</tr>
<tr>
<td></td>
<td>2015-16: Split Branches (Productive)</td>
</tr>
<tr>
<td></td>
<td>2017-18: Unified Govt (Productive)</td>
</tr>
<tr>
<td></td>
<td>Republican</td>
</tr>
<tr>
<td></td>
<td>2015-16: Split Branches (Productive)</td>
</tr>
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<td>2017-18: Split Chambers (Deadlock)</td>
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<tr>
<td>Democrats hold Senate in 2014 and retain in 2016</td>
<td>Democrat</td>
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<td>2015-18: Split Chambers (Deadlock)</td>
</tr>
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<td>2015-19: Split Chambers (Deadlock)</td>
</tr>
<tr>
<td>Republicans capture Senate in 2014 but Democrats capture Senate in 2016</td>
<td>Democrat</td>
</tr>
<tr>
<td></td>
<td>Republican</td>
</tr>
<tr>
<td></td>
<td>2015-16: Split Chambers (Deadlock)</td>
</tr>
</tbody>
</table>
Appendix 1: Coding the 107th Congress

In this term, Congress moved from unified government to split chambers in June 2001, following Senator James Jeffords’ move from Republican to Independent caucusing with Democrats. (Only one piece of landmark legislation, the Bush tax cuts, was enacted before the switch.) Even if we code this Congress as a case of split chambers and count accomplishments as of Jeffords’ switch, there is an additional complication: shown in Table 3, nearly 2/3rds (9 out of 15) of Mayhew’s landmark laws enacted after the move to split chambers were related to the 9/111 attacks. We argue that these measures were a response to a unique set of circumstances, and do not reflect the factors described by the Deadlock Hypothesis.21 Therefore, we use a value of 6 rather than 15 as the value for the dependent variable for 2000-1 in our analysis. However, we also report parameters for alternate data that includes all of the 2000-1 enactments.

21 We are grateful to Professor Mayhew for discussions on this point.
Table 3. Coding of the 107th Congress

<table>
<thead>
<tr>
<th></th>
<th>Response to 9/11 Attacks</th>
<th>Unrelated to 9/11 Attacks</th>
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<tr>
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<tr>
<td><strong>Split Chambers</strong></td>
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<tr>
<td>(6/6/01 – 11/22/02)</td>
<td>Afghanistan Use of Force Resolution</td>
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<td>USA Patriot Act</td>
<td>McCain-Feingold Campaign Finance Reform</td>
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<td>Airline Bailout</td>
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<tr>
<td><strong>Totals (Split Chambers)</strong></td>
<td>9</td>
<td>6</td>
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</table>
References


Poole, Keith A. 2013. “An Update on Political Polarization through the 112th Congress.” http://voteview.com/blog/?p=726


Wildavsky, Aaron, and Joseph White. 1989. *The Deficit and the Public Interest.* Berkeley: University of California