# Legislative Effectiveness in the United States Senate[♠]

**Craig Volden**
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**March 2017**

## Abstract

Drawing on data from 1973-2014 (93rd-113th Congresses), we develop a new method for measuring the legislative effectiveness of members of the United States Senate that builds upon Volden and Wiseman's analysis of legislative effectiveness in the U.S. House. We compare the construction and analysis of our Senate Legislative Effectiveness Scores (LES) to those of the U. S. House over the same 40-year time-period; and we demonstrate that many of the factors that correlated with a Representative's legislative effectiveness hold true for U.S. Senators. We likewise demonstrate that Senators who were highly effective lawmakers in the U.S. House continue to be highly effective lawmakers in the U.S. Senate; and we illustrate how the direct impact of majority-party status on legislative effectiveness has vacillated substantially over the past 40 years in the United States Senate.

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The U.S. Senate often has been referred to as the "world's greatest deliberative body," and it has a long and storied history of tradition and extensive legislative debates.[1] While the formal lawmaking powers of the House and Senate are identical, the Senate and individual Senators have long been viewed as being more influential than the House and individual Representatives. As noted by Bryce (1893, 112) in his observations of the American Republic:

> It may be doubted whether the Senate has excelled the House in attachment to the public good; but it has certainly shown greater capacity for managing the public business, and has won the respect, if not the affections, of the people by its sustained intellectual power.

Several institutional features of the Senate might have contributed to Bryce's perceptions and comparisons across the chambers. First, and most obvious, Senators' longer legislative terms allow them to cultivate substantial policy portfolios that affect an entire state (if not entire regions of the nation), rather than focusing primarily on an individual congressional district. Second, the Senate has the formal ability to impose checks on the executive branch through its advice and consent power over presidential appointments to the executive and judicial branches. Third, the Senate has a constitutionally mandated role in foreign affairs, given that all international treaties are (technically) subject to Senate ratification. Finally, any individual Senator has various "prerogatives" (i.e., Sinclair 2017, 24) that she can, in principle, exercise during the lawmaking process to gum up the work, potentially leading to legislative gridlock.

Given the prominent role that the Senate and its members play in the lawmaking and governing process in the United States, it is not surprising that at numerous points in time, and through much of the 20th Century, in particular, the Senate has served as the springboard for many presidential aspirants. In the 2016 presidential election, for example, four of the five Democratic candidates who declared their candidacy were current or former members of the

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[1] MacNeil and Baker (2013) provide a recent treatment of the history of the Senate.

Senate; and five of the seventeen Republican candidates had served in the Senate. Even Senators who have not sought the highest office in the land have often leveraged their privileged positions in the American political system, as members of the Senate, to draw attention to their legislative agendas and accomplishments. The extent to which all Senators, including those who are vocal about their lawmaking achievements, are truly accomplished lawmakers is open for debate. The distinction between Senators who are "show horses" in contrast to "work horses" was a sentiment that was commonly invoked by Senators Carl Hayden (D-AZ) and Lyndon Johnson (D-TX). There are clearly distinctions to be drawn between Senators who actually engage the process of lawmaking (and make an impact while doing so), and those who simply *claim* to be influential wielders of legislative power.

While scholars and more casual observers of the Senate can quickly point to examples of Senators whom they believe to be effective lawmakers, such claims are often justified by drawing on extensive biographical materials, such as Caro's (e.g., Caro 2002) path-breaking books on Lyndon Johnson, or illustrative cases, such as Redman's (1973) portrayal of Warren Magnuson, in *The Dance of Legislation*. With the exception of Matthews' (1960) pioneering work on the internal workings of the Senate, however, we have very little data-driven analysis that can provide us with guidance about which Senators are effective lawmakers, what makes them effective, and how they became effective.[2] Such a scholarly omission is notable, particularly given that a wide range of scholars have taken advantage of various aspects of the Senate's rules and organizational structures to explore important questions in political science. Scholars (e.g., Binder and Smith 1997, Brady and Volden 1998, Koger 2010, Krehbiel 1998,

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[2] Other scholars (e.g., Price 1972) have, however, produced foundational scholarship that analyzed comparative case studies of the legislative journeys of different bills in the Senate, which have allowed them to offer tentative conclusions regarding the necessary conditions for legislative success.

Wawro and Schickler 2006) have investigated the evolution of the filibuster to explore the consequences dilatory action and parliamentary rules on lawmaking. Others (e.g., Lee and Oppenheimer 1999) have likewise exploited the fact that each state has two Senators to explore the distributional consequences of disproportional representation. In addition, the ratification of the 17th Amendment, which mandated the direct election of Senators, has provided scholars (e.g., Bernhard and Sala 2006, Gailmard and Jenkins 2009), with a lens through which to explore the relationship between electoral mechanisms and the nature of representation. However, on the more fundamental question of who is most successful at moving her legislative agenda items forward in the Senate, and why, we have few answers.

Building on Volden and Wiseman's (2014) explorations of legislative effectiveness in the United States House of Representatives, we seek engage these questions. Are some Senators more effective lawmakers than others? If so, what explains this variation in legislative effectiveness across Senators; and what are the implications of variance in individual Senators' lawmaking effectiveness for the ability of the chamber to collectively engage a wide range of policy problems in contemporary American politics? To answer these questions, we develop a new method for measuring the legislative effectiveness of members of the United States Senate, and construct Legislative Effectiveness Scores (LES) for every member of the U.S. Senate from 1973-2014 (93rd-113th Congresses).

We compare the construction and analysis of our Senate Legislative Effectiveness Scores to those of the U. S. House over the same 40-year time-period; and we demonstrate that many of the factors that are correlated with a Representative's legislative effectiveness also hold true for members of the U.S. Senate. Our analysis of the Senate Legislative Effectiveness Scores also reveals patterns that were not accessible in the House data. Specifically, we demonstrate that

Senators who were highly effective lawmakers when they served in the U.S. House continue to be highly effective lawmakers in the U.S. Senate, and that Senators appear to be changing their lawmaking activities in response to where they are in their electoral cycles (or whether they have decided to retire). We also illustrate how the benefit of majority-party status for legislative effectiveness has vacillated in substantial ways over the past 40 years in the United States Senate, deviating in significant ways from what is observed in the House.

Our paper proceeds as follows. In the next section, we explore the ways in which legislative effectiveness has been commonly conceptualized and measured in the extant literature. Next, we introduce our metric for Senate Legislative Effectiveness Scores, and demonstrate how most of the factors that are correlated with the legislative effectiveness of members of the U.S. House appear to be salient determinants of legislative effectiveness in the Senate. We then move beyond our replication analysis to reveal new relationships between Senators' legislative effectiveness and their past experience(s) in the House, as well as how electoral considerations influence individual lawmaking effectiveness. We likewise explore the varying impacts of party on legislative effectiveness, in comparison to other institutional factors, such as whether a Senator holds a committee chair, over a 40-year period.

**The Concept and Measurement of Legislative Effectiveness**

Our work builds upon the approaches of other scholars who have aimed to measure and study the incidence of legislative effectiveness broadly considered, and in the U.S. Senate in particular. The foundational approach in this literature was advanced by Matthews (1960) in his path-breaking study of the U.S. Senate, in which he calculated Senators' "hit rates," measuring

the percentage of bills that a Senator introduced that passed the Senate and/or became law.[3] Frantzich (1979) deviated from this approach somewhat in his study of the U.S. House, by measuring legislative success as the number, rather than the percentage, of bills that a member sponsored that subsequently passed the House and/or became law.  Both of these metrics have been employed by a wide range of scholars who have sought to explore the sources and consequences of legislative effectiveness in American national (e.g., Anderson et al. 2003, Cox and Terry 2008, Hasecke and Mycoff 2007) and state (e.g., Hamm, Harmel, and Thompson 1983; Saint-Germain 1989; Weissert 1991; Bratton and Haynie 1999; and Jeydel and Taylor 2003) legislatures.

Arguing that such approaches neglected several important aspects of the legislative process, Volden and Wiseman (2012, 2014) develop a new metric of legislative effectiveness that they denote as a Legislative Effectiveness Score (LES).  Parsimoniously stated, the Legislative Effectiveness Score is a summary metric of how successful an individual member of the U.S. House of Representatives is at moving her legislative agenda items through major stages in the legislative process, in comparison to all others, over a two-year Congress; where the score also takes into account variation in the substantive importance of each bill introduced.

Our approach in this paper builds directly on Volden and Wiseman's analysis of legislative effectiveness of members of the U.S. House of Representatives, and also on their definition of effectiveness.  Specifically, we define legislative effectiveness as the *proven ability to advance a Senator's agenda items through the legislative process and into law*.[4]  Consistent with Volden and Wiseman (2012, 2014), we note that this definition of effectiveness has four

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[3] Matthews' "hit rate" metric has also been referred to as legislators' "success rates" or "conversion rates" in the extant literature.

[4] Volden and Wiseman (2014, 18) employ an identical definition for the concept of legislative effectiveness in the House, though they substitute the word "member" for "Senator."

key components. First, we are considering the "proven ability" of Senators, rather than any Senator's potential to be an effective lawmaker, per se. Second, we seek to identify those Senators who are successful in "advancing" legislation, rather than being successful at blocking or diluting the legislative proposals of others. Third, we are considering the "Senator's agenda items," rather than the agenda items of the Senator's political party, the president, or even the Senator's constituents, which may not be captured by the bills that she sponsors. Fourth and finally, we focus on movement "through the legislative process and into law." Hence, we are arguing that effectiveness can be demonstrated at multiple stages of the lawmaking process, not simply in the passage of new laws. While such laws may be the ultimate goal, Senators may be effective at moving their proposed legislation through key committees and to the floor of the Senate. Yet, even if they fail to gain passage of their bills on the floor, these Senators would have demonstrated a level of effectiveness that will serve them well on other issues, or in later Congresses.

As was the case with Volden and Wiseman's analysis of the House, this definition necessarily does not account for a wide range of legislative activities and behaviors that demand Senators' time and energies. Most notably, Senators devote great efforts to raising campaign contributions for their future elections, engaging in other election-related campaign activities, interacting with the federal bureaucracy, and serving as an ombudsman between their constituents and different parts and levels of government. Almost all of these activities, by construction, do not clearly map onto our definition of legislative effectiveness. That said, we would argue that advancing legislation is so fundamental to a lawmaker's core purpose, that it merits a central place in the study of legislative politics.

With this definition in hand, the next step in developing and assessing a measure of legislative effectiveness is to identify a series of indicators that provide information about such effectiveness. We rely on fifteen such indicators, five for each major stage of the legislative process across each of three categories of legislation. More specifically, we first identify which Senator sponsored each bill in each Congress, and what happened to those bills at each potential stage in the legislative process. We wrote computer code to scrape the Library of Congress's Congress.gov website, to identify the sponsor of every public (S.) bill that was introduced into the U.S. Senate, and every step that the bill moved through in the legislative process, as documented in the "All Actions" section of the overview section of each bill. After collecting this information, we code the incidence of each major stage of each bill's progression through the legislative life cycle. Upon identifying the progress of every public Senate bill, we then identify how many bills each Senator sponsored as well as how many of those sponsored bills successfully completed subsequent steps in the legislative process in each Congress. Our specific indicators are thus: the number of bills that each Senator sponsored (BILL); and the number of those bills that received any action in committee (AIC), or action beyond committee (ABC) in the Senate. For those bills that received any action beyond committee, we also identify how many of those bills subsequently passed the Senate (PASS), and how many became law (LAW).

Drawing on these data, however, requires some sensitivity to variance in legislative content. More specifically, it could be argued (correctly in our view) that not all bills are of equal importance, and thus might not be equally indicative of a Senator's overall lawmaking effectiveness. Naming a post office can be achieved with considerably less legislative effort than passing financial services reform legislation. To account for such variation, we categorize all

bills as being either *commemorative/symbolic* (C), *substantive* (S), or *substantively significant* (SS).  Our categorization is based on the following coding protocol.  A bill is deemed *substantively significant* if it was mentioned in an end-of-the-year write-up in the *Congressional Quarterly Almanac*.[5]  A bill was deemed *commemorative/symbolic* if it satisfied any one of several criteria, such as providing for a renaming, commemoration, private relief of an individual, and the like.[6]  Finally, all other bills, and any erstwhile "commemorative/symbolic" bills that were also the subject of a *CQ Almanac* write-up were classified as *substantive*.  For each of these three categories of bills we relied on our five important stages of the legislative process to produce our final set of fifteen indicator variables.

As desired, these indicators match our definition of legislative effectiveness rather closely.  Remember that we define legislative effectiveness as "the proven ability to advance a Senators's agenda items through the legislative process and into law."  Because they are based on actual bills and their fates, these indicators meet the "proven ability" concept.  Moreover, different abilities may be revealed in advancing substantively significant legislation than commemorative bills, so that categorization is also relevant.  Because they focus on how far these bills move through the legislative process, the indicators match the "advancement" concept.  Because we link each bill to its sponsor, the indicators capture each "Senator's agenda items."  And the five stages capture movement "through the legislative process and into law."

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[5] In addition to being identical to the coding protocol employed by Volden and Wiseman (2012, 2014), this coding protocol is somewhat in line with the Anderson et al. (2003, 365) denotation of "hot" bills in the 103rd Congress— those that were the subject of a cover story in a 1993-94 issues of *Congressional Quarterly Weekly Report*.
[6] Based on a complete reading of all bill titles, the following terms from titles are used to label them commemorative/symbolic: commemoration, commemorate, for the private relief of, for the relief of, medal, mint coins, posthumous, public holiday, to designate, to encourage, to express the sense of Congress, to provide for correction of, to name, to redesignate, to remove any doubt, to rename, and retention of the name.  We then individually read each bill title containing these search terms, and removed it from the commemorative/symbolic list if the bill also sought substantive policy changes.

In relying upon these fifteen indicators, we are setting aside others that may at first glance be relevant to the defined concept of legislative effectiveness. Most notably, we are not accounting for the amendments that were proposed to the bills that are studied here. It goes without saying that many Senators may advance their agendas by embedding their legislative priorities in amendments offered in committee or on the Senate floor. Moreover, our current set of indicators may give a sponsor more credit for advancing her agenda if the final law actually does not reflect her initial vision well at all, due to significant amendments. This is a sufficiently serious concern to merit significant discussion and analysis; and as we note below, our analysis is robust to accounting for the potential impact of amendment activities on the progression of Senators' bills. Given that our results are generally robust to accounting for, in various ways, the impact of amendment activities, we choose to employ the simpler and more straightforward set of indicators that sets aside these bill amendment concerns.

## The Senate Legislative Effectiveness Score

Having defined the concept of legislative effectiveness and compiled fifteen indicators of effectiveness, we now combine these indicators into a single overall measure. Across the 93$^{rd}$ through the 113$^{th}$ Congresses, 69,398 S. bills were introduced, 4,989 of which were commemorative/symbolic, and 4,596 of which were substantively significant. After classifying each bill into one of these three categories, we calculated a Legislative Effectiveness Score (LES), for each Senator $i$ in each Congress $t$, as follows:

$$LES_{it} = \begin{bmatrix} (\dfrac{\alpha BILL_{it}^{C} + \beta BILL_{it}^{S} + \gamma BILL_{it}^{SS}}{\alpha \sum\limits_{j=1}^{N} BILL_{jt}^{C} + \beta \sum\limits_{j=1}^{N} BILL_{jt}^{S} + \gamma \sum\limits_{j=1}^{N} BILL_{jt}^{SS}}) \\[2em] + (\dfrac{\alpha AIC_{it}^{C} + \beta AIC_{it}^{S} + \gamma AIC_{it}^{SS}}{\alpha \sum\limits_{j=1}^{N} AIC_{jt}^{C} + \beta \sum\limits_{j=1}^{N} AIC_{jt}^{S} + \gamma \sum\limits_{j=1}^{N} AIC_{jt}^{SS}}) \\[2em] + (\dfrac{\alpha ABC_{it}^{C} + \beta ABC_{it}^{S} + \gamma ABC_{it}^{SS}}{\alpha \sum\limits_{j=1}^{N} ABC_{jt}^{C} + \beta \sum\limits_{j=1}^{N} ABC_{jt}^{S} + \gamma \sum\limits_{j=1}^{N} ABC_{jt}^{SS}}) \\[2em] + (\dfrac{\alpha PASS_{it}^{C} + \beta PASS_{it}^{S} + \gamma PASS_{it}^{SS}}{\alpha \sum\limits_{j=1}^{N} PASS_{jt}^{C} + \beta \sum\limits_{j=1}^{N} PASS_{jt}^{S} + \gamma \sum\limits_{j=1}^{N} PASS_{jt}^{SS}}) \\[2em] + (\dfrac{\alpha LAW_{it}^{C} + \beta LAW_{it}^{S} + \gamma LAW_{it}^{SS}}{\alpha \sum\limits_{j=1}^{N} LAW_{jt}^{C} + \beta \sum\limits_{j=1}^{N} LAW_{jt}^{S} + \gamma \sum\limits_{j=1}^{N} LAW_{jt}^{SS}}) \end{bmatrix} \left[\dfrac{N}{5}\right],$$

where the five large terms represent the Senator's fraction of bills (1) introduced, (2) receiving action in committee, (3) receiving action beyond committee, (4) passing the Senate, and (5) becoming law, relative to all $N$ Senators. Within each of these five terms, commemorative bills are weighted by $\alpha$, substantive bills by $\beta$, and substantively significant by $\gamma$. The overall weighting of $N/5$ normalizes the average LES to take a value of 1 in each Congress.

Several features of this construction are worth noting. First, because of the substantial differences in the number of bills that are introduced and the number of bills that advance to further stages (2,880 becoming law, for example), our operationalization necessarily gives greater weight to Senators who are more successful in later stages of the process (e.g., having a bill pass the Senate or become law) than earlier stages of the process (e.g., bill introduction or action in committee). Thus a Senator who introduces a large variety of bills mainly for symbolic

purposes, but with little interest in moving them through the legislative process, will receive a quite low LES. The LES measure also captures intermediate stages, in addition to the introductory and concluding stages in the legislative process standard in the hit-rate analyses discussed above.

Second, throughout our analysis as reported here, we assign $\alpha = 1$, $\beta = 5$, and $\gamma = 10$, signifying that substantively significant legislation exerts ten times the weight on the LES as commemorative legislation and twice as much as normal substantive legislation. These weights were chosen to reflect our view that advancing a substantively significant bill is more difficult than moving general substantive legislation; and likewise, that advancing substantive legislation is a stronger indicator of legislative effectiveness than moving commemorative/symbolic legislation. (These weights are identical to those employed by Volden and Wiseman 2012, 2014 to generate Legislative Effectiveness Scores for the House.)

Finally, the LES measure displays significant variation, ranging from the "most effective" Senator, Howard Cannon (D-NV), who had an LES of 10.2 in the 96th Congress, to the two instances in our dataset where Senators have an LES equal to zero (Harlan Mathews, D-TN, who served a caretaker role in the 103rd Congress in Vice President Al Gore's Senate seat; and Jeff Sessions, R-AL, in the 113th Congress). To give a sense of how Cannon attained such a high score, consider that the average Senator of the 96th Congress introduced 23 substantive bills, 3 significant bills, and 5 commemorative bills. Coming out of committee, the average member had only two substantive bills, two significant bills, and 1 commemorative bill left in the legislative process. Finally, less than half of the substantively significant bills and less than one third of all substantive bills became law after passing out of committee; while only about 17% of those commemorative bills that passed out of committee were ultimately signed into law.

By comparison, Cannon introduced one commemorative bill, which died in committee; but he sponsored 45 substantive bills, 13 of which found their way out of committee, 8 of which passed the Senate, and 4 of which became law. Moreover, for the far more selective substantively significant category, Cannon sponsored 33 bills, 13 of which reached the floor, 8 of which passed the Senate, and 4 of which became law. As a member of the majority Democratic Party and as Chair of the Committee on Commerce, Science, and Transportation, Cannon was well positioned to be effective. That he sponsored such measures as *Coastal Zone Management Improvement Act of 1980* (S. 2622), *The Staggers Rail Act of 1980* (S. 1946) and others that became law in the 96th Congress attests to his overall effectiveness.

The scores also reveal effective lawmakers who match conventional wisdom. For example, Sen. Edward Kennedy was long known as the "Lion of the Senate." When he unexpectedly fell ill in 2008, Sen. Hillary Clinton (D-NY) called him the "most effective" Senator ever, and Sen. John McCain (R-AZ) said, "I have described Ted Kennedy as the last lion in the Senate…. I have held that view because he remains the single most effective member of the Senate."[7] The Legislative Effectiveness Scores bear out that reputation. From the start of our measure in 1973 through his illness in 2008, whenever the Democrats were the majority party in the Senate, Ted Kennedy scored among the top five lawmakers *in every single Senate*. He was the most effective Senator in the 101st, 102nd, and 110th Congresses; and he was in the top three on five other occasions.

### Comparing Legislative Effectiveness in the U.S. House and Senate

Because the formula and measurement strategy that we employ here largely matches that employed by Volden and Wiseman (2012, 2014), we would refer readers to these earlier works

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[7] Quotations taken from CNN.com, May 20, 2008.

(especially Volden and Wiseman 2014, Chapter 2) for a discussion of the content and construct

validity of the LES. That said, it is worth noting certain aspects of the construction of the Senate

scores, and the qualitative similarities between the Senate LESs and House LESs.

First, while the formula for constructing the Senate and House LESs is essentially

identical, we made certain adjustments to account for substantive differences in parliamentary

procedures across the chambers. More specifically, in identifying the steps of progress that bills

took in the legislative process in the Senate, Senators only received credit for "action beyond

committee" if the bill was formally reported out of committee. Unlike the House, where bills

generally make their way onto legislative calendars and/or the floor only if they have been voted

(or discharged) out of legislative committees, Senators can invoke Senate Rule XIV, which

allows them to bypass the committee system altogether and have their bills placed on the

legislative calendar. Because such bills are not the focus on any sort of committee hearing,

markup, or vote, however, we did not want to give a Senator credit for his bill making its way

out of committee under these circumstances. For all intents and purposes, in the absence of

subsequent legislative activity (e.g., being the focus of floor debate), having a bill assigned to a

legislative calendar via Rule XIV is substantively identical to having a bill referred to a

committee, where it is never heard from again. Hence, a bill that was assigned to a calendar

directly following introduction is simply categorized as an introduction (i.e., BILL) for the

purposes of calculating a Senator's LES, unless the bill becomes the focus of subsequent

legislative activity.

Second, similar to the House LESs, large-sample analyses of the Senate LESs confirm

that they display several qualities that suggest that the scores capture the impacts that Senators'

innate abilities, their cultivation of skills, and their institutional positions have on their abilities to

move their bills through the legislative process. At the most fundamental level, consistent with the argument that Senators' LESs measure their innate abilities at advancing legislation, we see that a Senator's scores generally persevere across her career from one Congress to the next. More specifically, the correlation between a Senator's LES in the current Congress ($LES_t$) and the previous Congress ($LES_{t-1}$) is positive (correlation coefficient is 0.51) and significant (p-value < 0.001). In other words, Senators who are effective in the current Congress, continue to be effective in future Congresses.

Likewise, we argue that a clear picture of a Senator's raw latent effectiveness (not influenced by advanced seniority and various institutional positions) might be seen by looking at where Senators stood in their freshman cohort. To this end, Tables 1 and 2 identify the top freshmen Senators in the 93rd-113th Congresses for the majority and minority parties, respectively. As noted in the final column of each table, several of these top performing freshmen outperformed the average score for their entire party.

[Tables 1 & 2 about here]

In looking over these lists, certain salient points emerge. First, many of the Senators on these lists have held, or currently hold, formal positions of leadership and influence in the Senate, such as Mitch McConnell (current Senate Majority Leader) and Chuck Schumer (current Senate Minority Leader). Second, many of the Senators on these lists have sought, and/or obtained, higher offices, including former President Barack Obama, Hillary Clinton (Secretary of State, Presidential candidate, 2016), John McCain (Presidential Candidate 2000, 2008), Christopher Dodd (Presidential Candidate, 2008), and Ted Cruz (Presidential Candidate, 2016). Third, several of the Senators in these lists were identified by Volden and Wiseman (2014, 33-35) as being prominent members of their freshman classes when they served in the House,

including Chuck Schumer (97th Congress) and John McCain (98th Congress).  Finally, several of

these top freshman Senators were identified by Volden and Wiseman (2014, chapter 6) as being

among the twenty most effective rank-and-file lawmakers in the U.S. House between the years

1973-2010, including John Breaux (D-LA) and Mark Udall (D-CO).  These last two points are

consistent with the argument that a Senator's legislative effectiveness follows from her having a

set of skills that can be transferred across institutions, and that the Legislative Effectiveness

Score is a reasonable metric for whether a Senator possesses such skills (in addition to other

factors that influence Senators' effectiveness).

Finally, moving beyond Senators' freshman terms, it is also worth noting that many of

the substantive results, regarding the relationships between legislators' LESs and various

personal and institutional variables, which have been observed in the House, are also found in

the Senate.

[Table 3 about here]

More specifically, in Table 3 we present the analysis from a series of Ordinary Least

Squares regressions where the dependent variable is Representative $i$'s (for Models 3.1-3.3) or

Senator $i$'s (for Models 3.4-3.6) Legislative Effectiveness Score in Congress $t$ for the 93rd-113th

Congresses (1973-2014).  The descriptive statistics for all of the Senate variables analyzed in

Models 3.4-3.6 are presented in Appendix Table A1.

Consistent with the analysis in Volden and Wiseman (2014, Table 5.2, Model 1), Model

3.1 demonstrates that there is a strong positive correlation from Congress to Congress in

Representatives' Legislative Effectiveness Scores.  Likewise, consistent with Volden and

Wiseman (2014, Table 5.2, Model 2) the positive and statistically significant coefficients on

*Seniority*, *Committee Chair*, and *Subcommittee Chair* in Model 3.2 is consistent with the claim

that a Representative's effectiveness increases across time as she cultivates her skills, and that

her effectiveness is also enhanced as she comes to acquire positions of institutional influence.

Furthermore, consistent with the analysis of Volden, Wiseman, and Wittmer (2013), Model 3.3

demonstrates that minority-party women are notably more effective than their male (minority-

party) peers, whereas majority-party women are not substantively different from male majority-

party lawmakers in regards to their legislative effectiveness.[8]

Turning to the right-hand panel of Table 3, and comparing across the specifications on

the left-hand and right-hand panels of the table, it is striking that many of the factors that

correlate with Representatives' legislative effectiveness in the House also correlate with

Senators' legislative effectiveness. Similar to the House, we see (Model 3.4) that there is a

strong positive correlation between Senators' legislative effectiveness scores over time. Also

similar to the House, we see that more senior members of the Senate are more effective than

more junior members, and that Senators who chair committees or subcommittees are more

effective than rank-and-file Senators (Model 3.5). Taken together, these findings (once again)

support the argument that legislative effectiveness can be cultivated across time and is highly

responsive to institutional positions. Finally, similar to the House, we see (Model 3.6) that

minority-party female Senators are notably more effective than their male (minority-party) peers,

whereas majority-party female Senators are not substantively more or less effective than their

male majority-party counterparts. That these findings hold for both chambers, despite there

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[8] We also see that all of the other results that Volden and Wiseman (2014), and Volden, Wiseman, and Wittmer (2013) obtained for other variables of interest hold when expanding the dataset past 2008 to include data from the 111th-113th Congresses. To facilitate direct comparison with our Senate results, Models 1.2 and Model 1.3 do not include the size of the congressional delegation from Representative $i$'s state (as each state has the same number of Senators), and a dummy variable for whether Representative $i$ was Speaker of the House was combined with the *Majority Party Leadership* variable. Likewise, the *Seniority* and *Seniority²* variable for the Senate analysis is coded so that each unit is equivalent to one two-year Congress (e.g., a value of 2 means that a Senator has served in the Senate for two Congresses—four years).

being a notably lower number of women in the Senate than in the House, suggests that female lawmakers do, indeed, employ different legislative tactics and strategies than their male counterparts, which transcend institutions. As illustrated in Appendix Table A2, we see that these core findings hold, even when we alter the formula for calculating our Legislative Effectiveness Scores to account for amendment activity.[9]

Moving beyond these core variables, several other findings from the House hold true for the Senate, as well. First, majority-party Senators are, ceteris paribus, more effective than minority-party Senators. Second, Senators who sit on one of the Senate's power committees are less effective than Senators who do not sit on these committees.[10] Third, Senators who have served in more professional state legislatures, prior to being elected to Congress, appear to be more effective than Senators who have not served in such professional legislatures. (Moreover, the negative and statistically significant coefficient on *State Legislative Experience* in Models 3.5 and 3.6 suggests that those Senators who have served in a citizen state legislatures are actually *less* effective than Senators who have no state legislative experience whatsoever).

These similarities aside, there are also some differences across the chambers that are worth noting. First, given that the Legislative Effectiveness Scores are normalized to take an average value of "1" in each chamber (in each Congress), comparing the magnitudes of some of

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[9] More specifically, we alter our LES formula in the following ways. Models labeled "Amendment (1)" present analyses from OLS regressions where a sponsor receives 50% of the credit for any bill that he sponsors as it moves through the legislative process if it is subsequently amended; and every Senator who successfully amended the bill splits the remaining 50% of the credit for the bill equally (regardless of how many successful amendments a Senator proposed). In contrast, "Amendment (2)" Models present analyses from OLS regressions where a sponsor receives 50% of the credit for any bill that he sponsors that is subsequently amended; and every Senator who successfully amended the bill splits the remaining 50% of the credit in direct proportion to the fraction of successful amendments that he proposed.

[10] For the purposes of our analysis, a Senator is coded as sitting on a power committee if he/she sits on one of the top-four highest ranked committees, according to Groseclose-Stewart Scores (i.e., Stewart and Groseclose 1999, Edwards and Stewart 2006). For the 93rd-95th Congresses, the top four committees are Appropriations, Armed Services, Finance, and Foreign Relations. For the 96th-102nd Congresses, the top four committees are Appropriations, Finance, Foreign Relations, and Rules and Administration. Finally, for the 103rd-113th Congresses, the top four committees are Appropriations, Armed Services, Finance, and Rules and Administration.

the coefficients across chambers provides some insight regarding the relative impacts of certain variables in the House, in comparison to the Senate. More specifically, we see across specifications that the coefficients on *Majority Party*, *Committee Chair*, and *Subcommitee Chair* are all smaller in the Senate than in the House. Hence, while holding majority-party status, and serving as a committee or subcommittee chair is clearly correlated with increased effectiveness, the marginal benefit of being a member of the majority party, or holding these positions, is less substantial in the Senate, in comparison to the House. We also see that in the Senate, unlike in the House, party leaders (both majority and minority) are not significantly more (or less) effective than their rank-and-file members.

These findings are collectively consistent with the long-standing belief and extant scholarship (e.g., Sinclair 2017) that any individual Senator can wield considerable influence over the legislative process, that they derive their power from sources that extend beyond the majority party and committee structures. Whether this disparity in influence follows from parliamentary differences across the chambers (i.e., the need to obtain unanimous consent to facilitate the advancement of most legislative matters in the Senate), or simply because of differences in chamber size (where any individual Senator is more likely to be pivotal, in comparison to any individual Representative), is worthy of further study.

### Further Determinants of Legislative Effectiveness in the U.S. Senate

Having essentially replicated our earlier findings from the U.S. House on data from the Senate, and found substantively similar results, we now explore how additional factors might be related to Senators' legislative effectiveness. Given the differences in the electoral cycle across chambers (six years for the Senate versus two years for the House), and the fact that many

Senators began their legislative careers in the House, we can explore how these particular aspects of prior legislative experience and electoral considerations influence Senators' effectiveness.

[Table 4 about here]

We begin our analysis with estimation of Model 4.1 in Table 4, which essentially replicates the analysis in Model 3.6 of Table 3, while also controlling for whether a Senator is a Southern Democrat.  Given that Southern Democrats have been, historically, the more conservative members of their party (i.e., MacNeil and Baker 2013), we might expect them to be relatively more effective at advancing their legislative proposals, due to their potentially pivotal ideological locations in the Chamber (being relatively centrist in comparison to most Democrats).  However, Volden and Wiseman (2014, Chapter 4) find that Southern Democrats in the House were *less effective* than other Democrats, especially when Northern Democrats alone held a majority of seats in the chamber.  In line with this latter work, the coefficient on *Southern Democrat* is negative and statistically significant, implying that (controlling for other factors), Southern Democrats are actually less effective than non-Southern Democrats.

Turning to Model 4.2, we explore how, if at all, a Senator's previous service as a Representative in the U.S. House relates to her legislative effectiveness in the Senate.  More specifically, *House Service* is an indicator variable that takes on a value of "1" if the Senator has ever served as a U.S. Representative, and *House Service × Average LES* is an interaction variable with the *House Service* indicator and the Senator's average Legislative Effectiveness Score over all of the terms that she served in the House.  If, as suggested above, legislative effectiveness follows from legislators possessing skills that can be acquired and cultivated over time, then one would expect that possession of those skills should transcend any particular institution.  Hence, one would expect that lawmakers who were highly effective in the House

would continue to be highly effective in the Senate.  Indeed, this is precisely what we uncover in

Model 4.2.  The coefficient on *House Service* is negative, though statistically insignificant by

conventional standards,[11] which suggests that simply serving as a Representative does not

translate into greater legislative effectiveness in the Senate.  The coefficient on *House Service ×*

*Average LES*, however, is positive and statistically significant, suggesting that highly effective

Representatives become highly effective Senators.  Taken together, the coefficients on *House*

*Service* and *House Service × Average LES* imply that any Senator whose average LES during her

time in the House was greater than 0.84 is more effective than any Senator who never served in

the House.  Given that the average LES of Senators who served in the House ranges from 0 to

3.95, with an average value of 0.76, these findings suggest that House effectiveness may serve as

a helpful indicator of likely future Senate effectiveness.

Finally, Model 4.3 explores how the beginning, intermediate, and concluding stages of a

Senator's career correlate with her lawmaking effectiveness.  While Representatives and

Senators both have first terms (in which they are often denoted as *freshmen*), Senators' freshman

terms differ from those of their House counterparts, given that a Senator's first two years in

office represent only one-third of her first full term (whereas a Representative's first two years in

office generally comprise her entire first term).  Hence, it is interesting to identify whether

Senators are particularly effective or ineffective in these first two years (even when controlling

for other personal and institutional variables).

Moving past Senators' freshman terms, the length of Senate terms and the peculiar nature

of the electoral cycle also allows us to investigate the scope of variation that might emerge across

Senators at different points in their careers.  More specifically, unlike the House, where all

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[11] Analysis of the coefficient on *House Service* and its standard error yields a t-statistic of (1.51).

Representatives are up for election every two years, the Senate only elects a third of its membership every two years. Hence, we can explore whether Senators vary their lawmaking activities when they are seeking reelection (in comparison to other Senators) in a way that is not feasible in similar analyses of the House. Likewise, given the long duration of Senators' terms, they are often self-aware of their intention to retire well before they enter their last two years of office (whereas in the House, most Representatives likely do not make (or publicize) such decisions until they have started their last term). Hence, we can explore whether retiring Senators deviate from Senators who are not voluntarily retiring. To facilitate such analysis, we include indicator variables for *Reelection*, *Freshman*, and *Retiree* in Model 4.3.

As the analysis reveals, Senators' Legislative Effectiveness Scores are, indeed, correlated with where they are in their electoral cycles and their respective career stages. While the positive and statistically significant coefficient on *Seniority* implies that Senators' effectiveness increases across time, the negative and statistically significant coefficient on *Freshman* implies that Senators in the first two years are *particularly* ineffective, compared to more senior Senators. Moreover, the magnitudes of these coefficients imply that Senators in their second-two years in office are, on average, 0.34 LES points higher than Freshman Senators. This difference is nearly four times as large as the average increase in effectiveness due to *Seniority*, perhaps indicative of a steep learning curve for lawmaking in the Senate. Likewise, we see that Senators appear to be more effective when they are seeking reelection (as indicated by the positive and statistically significant coefficient on *Reelection*), and less effective when they have decided to retire from office (as indicated by the negative and statistically significant coefficient on *Retiree*).

Both of these findings might seem to be at odds with conventional wisdom. After all, one would think that in seeking reelection, Senators would devote more effort to election-related activities, which might naturally take away from their lawmaking efforts. Likewise, upon deciding to retire, one might expect Senators to be potentially more effective, as they no longer had to devote their efforts to electioneering activities or other matters that might take their attention and energies away from lawmaking.[12] Instead, these findings are consistent with the argument that in years that Senators are up for reelection they strive for legislative accomplishments that they can point to as a form of credit-claiming on the campaign trail (i.e., Mayhew 1974), and that upon deciding to retire, most outgoing Senators simply check out of the legislative process. Further research is necessary in order to identify the causal relationships that drive these findings; but this analysis is constructive in pointing out a tendency that is quite common among Senators.

### Assessing the Role and Impact of Majority Party in the Senate

Having demonstrated that many of the determinants of legislative effectiveness in the House hold true for the Senate (as well as uncovering additional new and interesting findings regarding Senators' legislative effectiveness), we now turn to explore the role and impact of one of the most (ostensibly) important institutions in legislative politics: parties, and the majority party, in particular. A robust finding that emerges across all model specifications in Tables 3 and 4 is that Senators who are members of the majority party are, on average, much more effective than their minority-party counterparts. On the one hand, such a finding seems entirely sensible:

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[12] Kaiser (2010, 229-230) writes that Senator Chris Dodd (D-CT) engaged in a similar thought process after deciding to retire in 2009. No longer having to devote energies to the campaign trail and fundraising, Dodd would be able to immerse himself fully in the process of lawmaking, which ultimately culminated in the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010.

being a member of the majority party means, by definition, that a Senator is likely to be part of a majority coalition that would likely be willing to support her legislative agenda. (This is especially true if the Senator's legislative agenda comports with the policy priorities of most of her fellow majority-party members.) On the other hand, as alluded to above, the Senate is long considered to be a legislative body wherein individual legislators exercise a substantial amount of influence, often independent of their collective party interests. Indeed, as noted by Monroe, Roberts, and Rohde (2008, 1) the dominant scholarly literature on the Senate "still largely treats parties as secondary considerations in a chamber dominated by individual Senators leveraging a decentralized procedural environment."[13]

That said, the results in Tables 3 and 4 suggest that, similar to the House, majority-party status is clearly helpful for legislators who seek to advance their legislative agendas. Why might this be? Where in the legislative process do majority-party members do better, in comparison to their minority-party peers, such that they obtain higher legislative effectiveness scores? To answer this question, most directly, we begin by conducting a set of five regressions where the dependent variables in each model correspond to each of the five components in a Senator's Legislative Effectiveness Score.

[Insert Table 5 about here]

More specifically, Table 5 presents the results from a series of regressions where the dependent variable in the first model is the total number of bills that Senator $i$ introduces in Congress $t$, the dependent variable in the second model is the Percent of Senator $i$'s bills that

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[13] In that same essay, Monroe, Roberts, and Rohde note that the state of the extant literature on the U.S. Senate suggests that "the subtitle of [their] volume (party effects in the Senate) is something of an oxymoron." But see Volden and Bergman (2006), Patty (2008), and Lee (2009) for evidence of strong party effects in the Senate.

receive Action in Committee in Congress $t$, and so on.[14] Each of the specifications controls for all of the variables in Model 4.3 of Table 4, with the exception of controlling only for whether a Senator is female, rather than the interaction variables of *Majority Party Female* and *Minority Party Female*. In considering the coefficient on *Majority* in each of the specifications, we begin to understand the source of the majority-party advantage in the Senate.

First, it is not the case that majority-party members generally introduce more legislation or that their bills receive much more attention in committee than those of minority-party members. The coefficients on *Majority* in Models 5.1 and 5.2, while positive, are of relatively modest magnitudes; and they are not statistically distinguishable from zero. Moving to Action Beyond Committee (Model 5.3), however, we see that majority-party members are definitely advantaged in comparison to the minority. Perhaps because majority-party members chair all committees and subcommittees, or because (by construction) they hold majorities on all committees and subcommittees, we see that, controlling for other factors, the average majority-party member has approximately 6.6% more of her bills reported out of committee and/or receiving some sort of attention on the Senate floor. Hence, consistent with Volden and Wiseman's (2014, Chapter 3) earlier analysis of the House, the answer to the question of "where's the party?" in the Senate appears to be: "in committee."

Also similar to Volden and Wiseman's earlier analysis, we see that upon getting their bills out of committee, it is not the case that majority-party members experience a significant advantage over minority-party members on the floor (Model 5.4). Indeed, we see that

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[14] For Model 5.3, the dependent variable is calculated as 100×(Number of Senator $i$'s Bills in Congress $t$ that Receive Action in Committee/Total number of bills that Senator $i$ introduces in Congress $t$). For Model 5.4, the dependent variable is calculated as 100×(Number of Senator $i$'s Bills in Congress $t$ that pass the Senate/Total number of bills that Senator $i$ introduces in Congress $t$ that receive Action Beyond Committee). Finally, for Model 5.5, the dependent variable is calculated as 100×(Number of Senator $i$'s Bills in Congress $t$ that become Law/Total number of bills that Senator $i$ introduces in Congress $t$ that pass the Senate).

conditional on getting their bills out of committee, the average majority-party member sees approximately 13.6% fewer of her bills pass the Senate than the average minority-party member. In contrast to certain strong party theories of legislative politics (e.g., Cox and McCubbins 1993, Aldrich 1995, Rohde 1991), it does not appear that majority-party leaders generically discipline rank-and-file party members to induce them to support their fellow members' agenda items. Rather, it appears that there is a difference in the types of bills sponsored by majority- and minority-party members that make it out of committee; and there is something systematically more appealing about minority-party-sponsored legislation that makes it more likely that it will pass the Senate upon overcoming the committee hurdle.[15]

Finally, we see in Model 5.5 that majority-party sponsors are more advantaged in seeing their bills signed into law (conditional on passing the Senate), in comparison to minority-party sponsors. Controlling for other factors, majority-party Senators see approximately 7.9% more of their bills that passed the Senate ultimately become law, in comparison to minority-party Senators. The fact that majority-party members are relatively less successful at getting their bills passed in the Senate (conditional on them being reported out of committee), yet relatively more successful at seeing them signed into law (conditional on passing the Senate), is quite interesting. These differences point to the possibility that members of the majority party are endowed with a different set of tools for inter-chamber negotiations than are minority-party Senators, producing a finding that merits further study.

While these results are instructive in helping us to identify the source of the majority-party advantage in legislative effectiveness, they are still incomplete, given that majority-party status comes with other advantages, such as power through being a committee or subcommittee

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[15] This finding is also consistent with Hitt, Volden, and Wiseman's (forthcoming) theoretical model of legislative effectiveness, and their empirical analysis of minority-party success in bill passage in the U.S. House.

chair. Hence, in trying to assess the impact of majority-party status on legislative effectiveness, it is important to account not only for the direct benefits that follow from being a member of the majority party, but also numerous indirect benefits accruing to majority-party members.

To engage this point more directly, Table 6 presents the results from a series of ordinary least squares regressions where the dependent variable is Senator $i$'s Legislative Effectiveness Score in Congress $t$.

[Table 6 about here]

In Model 6.1, the LES is regressed onto a simple indicator variable for whether the Senator is in the majority party. As we can see from the positive and highly statistically significant coefficient on *Majority Party*, being a member of the majority party does, indeed, correlate with much higher Legislative Effectiveness Scores. More specifically, majority-party Senators have, on average, Legislative Effectiveness Scores that are 0.834 points higher than minority-party Senators. That said, there are other variables that are likely related to majority-party effectiveness, which should be accounted for before we infer that majority-party Senators' increased effectiveness is simply a function of them holding majority-party status.

More specifically borrowing from parties-in-legislatures literature in the U.S. House, and building on Volden and Wiseman's earlier exploration of party effects in the House, we seek to explore three different hypotheses regarding the keys to majority-party effectiveness in the Senate.[16]

> *Partisan Preferences Hypothesis*: Senators near the majority party median will be more effective in advancing their proposals than members further away from the majority party median.

> *Party Leaders Hypothesis*: Majority-party Senators will endow their leaders with powers to enforce party discipline, making the leaders particularly effective.

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[16] Volden and Wiseman (2014, chapter 3) provide further explication for the motivation of these three hypotheses. See Lee (2009) for analyses separating ideology and partisanship in the Senate.

*Parties in Committees Hypothesis*: Majority-party Senators' proposals will be privileged in committees; and committee and subcommittee chairs will be particularly effective.

To test these hypotheses we begin by estimating Model 6.2, which replicates the analysis in Model 6.1, while controlling for a Senator's distance from the majority party median. Consistent with the *Partisan Preferences Hypothesis*, we see that those Senators who are located more closely to the majority party median are more effective than more-distant Senators. Moreover, we see that once we control for Senators' distances from the majority party median, the magnitude of the coefficient on *Majority Party* decreases by approximately 25% (though it is still positive and statistically significant). Moving onto Model 6.3, the coefficient on *Majority Party Leadership*, while positive, is not statistically distinguishable from zero; and the coefficients on *Majority Party* and *Distance from Majority Party Median* do not change appreciably between Models 6.2 and 6.3. Hence, we find little support for the *Party Leaders Hypothesis*. Whatever benefit follows from majority-party membership, the advantage is not being driven by whether Senators hold leadership positions.

In Model 6.4, we test the *Parties in Committees Hypothesis* by controlling for whether a Senator holds a committee or subcommittee chair. Consistent with the *Parties in Committees Hypothesis* (and the analyses in Tables 3 and 4), the coefficients on *Chair* and *Subcommittee Chair* variables are both positive, large in magnitude, and statistically significant. That said, we also see that the coefficient on *Majority Party* is no longer positive and/or statistically significant. One interpretation of this finding is that there is no inherent majority-party advantage in legislative effectiveness, per se; but rather any majority-party benefit is almost entirely attributable to whether (majority-party) Senators hold committee or subcommittee

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chairs, and whether Senators are closely aligned with the majority party median. To explore the

robustness of this finding, in Model 6.5 we control for all of the variables in Model 6.4, as well

as controlling for all of the variables in Table 2.[17] The analysis in Model 5 suggests that the

magnitude and statistical significance of the coefficient on *Majority Party* in Model 4 is likely an

artifact of omitted variable bias (such as due to excluding *Seniority* effects). After controlling for

a wide range of covariates, we see that the coefficient on *Majority Party* is, indeed, positive and

statistically significant (though the magnitude of the coefficient is about one-third of the size of

the coefficient in Model 6.1). Hence, the analysis suggests that Senators still experience a direct

benefit from majority-party affiliation, as they seek to advance their legislative agendas.

Given the magnitudes of the coefficients on *Chair* and *Subcommittee Chair*, it is

constructive to identify the relative weights that each of these variables contribute to the total

majority-party advantage in Senators' LESs. More specifically, turning back to Model 6.1, we

know that being a member of the majority party contributes, on average, an additional 0.834 to a

Senator's LES. This is the *total* effect of majority-party affiliation on a Senator's LES. That

said, the total effect of majority-party affiliation is comprised of a *direct* effect, meaning the

amount still evident in the *Majority Party* coefficient, after controlling for a variety of variables

in Model 6.5 (i.e., 0.268), and the *indirect* effects of holding a committee chair, subcommittee

chair, and the like. The nature of OLS regressions allows us to calculate the relative size of an

indirect effect for holding a committee chair, for example, by calculating the value $\beta_{committee} \times$

$b_{committee \times majority}$, where $\beta_{committee}$ is simply the coefficient on *Chair* in Model 6.5, and

$b_{committee \times majority}$ is the coefficient on *Majority Party* that is obtained from regressing *Chair* onto

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[17] For the purposes of analysis, we control for *Female*, rather than the *Majority Party Female* and *Minority Party Female* variables, and we also drop the *Distance from Median* variable, due to its high correlation with *Distance from Majority Party Median*.

*Majority Party*.  Engaging in such calculations reveals that the size of the indirect effects of

holding a committee or subcommittee chair on a Senator's majority-party advantage are

approximately 0.32 and 0.14 respectively.  To put some context on those values, the 0.268

coefficient on *Majority Party* in Model 6.5 implies that the direct effect of majority-party status

is approximately 32% of the total majority-party advantage in LES.[18]  In contrast, the

coefficients on *Chair* and *Subcommittee Chair* in Model 6.5 suggest that approximately 55% of

the majority-party advantage in effectiveness follows from the indirect benefits that majority-

party members receive from holding these positions of institutional influence.[19]

Because nearly every majority-party Senator holds a committee or subcommittee chair, it

is intriguing to assess whether the lawmaking advantages arise from these institutional positions

or from their majority-party status alone.  Moreover, the relative lawmaking powers of these

positions might change over time.  To explore this possibility, we re-estimate the regression

specifications in Models 6.1 and 6.5 separately for each Congress from 1973-2014 (93rd-113th

Congresses) to calculate the total effect of majority-party status on LES in each Congress, as

well as the relevant direct and indirect effects of majority party and of chairmanship,

respectively.  These different effects (where committee and subcommittee chairs are combined

into one effect—Chair), are plotted out in Figure 1.

[Figure 1 about here]

Consistent with our earlier analysis, we see that the total majority-party effect takes on an

average value of around 0.8 across the time series, with the lone outlier being the 107th Congress

(2001-2002), the Senate in which Jim Jeffords switched parties in early 2001, leading to the

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[18] Comparing the coefficient on *Majority Party* in Models 6.1 and 6.5 demonstrates that: 100×(0.268/0.834)=32.1.
[19] The magnitudes of the indirect effects of holding a Committee or Subcommittee Chair are 0.318 and 0.144, respectively.

Democrats taking control of the Senate.[20] The figure also reveals some interesting variation in regards to the relative impact of chairmanships for explaining enhanced legislative effectiveness of majority-party Senators. First, we see that for most of the time series, holding a committee or subcommittee chair clearly contributes more to a Senator's effectiveness than simply being a member of the majority party. For thirteen of the twenty-one Congresses, the size of the indirect committee chair effect is larger than that of the direct majority-party effect. Second, we see that there is not a clear pattern between which party controls the majority, and the relative values of holding a chair (i.e., the indirect committee chair effect) in comparison to being a member of the majority party (i.e., the direct majority-party effect). Third, there appears to be an overall diminution of the power of committee and subcommittee chairs, at least in accounting for majority-party effectiveness. With perhaps something of a resurgence in the 111th and 112th Senates (2009-12), there was a striking decline in the indirect committee chair effect between 1980 and 2005.

These findings comport reasonably well with Sinclair's (2017, 1) recent discussion of the evolution of the Senate, in which she suggests that the 1970s were an era in which a policy entrepreneur could pursue "his cause singly or with a few allies on the Senate floor, aggressively using non-germane amendments and extended debate as his weapons." In contrast, a Senator in the 1990s might have been viewed as a "partisan warrior, acting as a member of a party team." This evolution in the tactics of Senators might naturally account for the vacillating influence of holding a committee chair vis-à-vis majority-party membership. Furthermore, it is interesting to note that the recent high-water mark of the direct effect of majority-party influence in the 108th and 109th Congresses correspond with the rise of the "Gingrich Senators." This collection of

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[20] For the purposes of our analysis, we code the 107th Senate (2001-02) as being under Democratic Party control.

former House members who were elected to the Senate were ostensibly socialized into the lawmaking process under the tutelage of former-Speaker Newt Gingrich (R-GA), which (according to Theriault 2013) profoundly affected day-to-day operations in the Senate. Exploring the sources of this cross-time variation in majority-party effectiveness in a more systematic way will provide scholars with insights regarding the role and impact of the majority party on legislative organization and policy outcomes in the U.S. Senate.

## Conclusion

We develop Legislative Effectiveness Scores for each U.S. Senator from 1973-2014, based on the bills they sponsor, their importance, and their progress through the lawmaking process. These scores identify highly effective freshmen – from John McCain and Mitch McConnell to Barack Obama and Hillary Clinton – as well as abiding lawmaking giants such as Ted Kennedy. They also show that effectiveness is an enduring trait, such as through our illustration of effective House members carrying that lawmaking skill to the Senate. The scores account for well-understood lawmaking phenomena, such as enhanced effectiveness of senior lawmakers, those in the majority party, and those serving as committee chairs. But they also seem to detect more subtle patterns, such as the coalition-building strength of minority-party women in the Senate.

The lawmaking life-cycle of Senators also comes into sharper focus through this analysis. Freshmen on average have little lawmaking effectiveness, whereas their performance increases substantially across many subsequent terms in office. When up for reelection, Senators seem to dedicate more effort to enhancing their lawmaking effectiveness, perhaps to shore up their reputations with voters. Upon announcing their retirement, however, the average Senator seems to turn his efforts away from lawmaking.

More in-depth analysis of the enhanced effectiveness from being in the majority party reveals a variety of interesting patterns.  The majority-party effect seems most notable regarding success in advancing bills out of committee and in movement beyond the Senate, whereas minority-party Senators' bills outperform those of the majority on the floor of the Senate.  Moreover, majority-party effectiveness is most profound among committee chairs and those ideologically positioned near the center of the majority party.  That said, the influence of committee chairs (relative to other majority-party members) seems to have been in decline in the Senate across our time period, especially in recent Republican-controlled Senates.

Future research into many of these topics is warranted.  We hope that the availability of the Senate Legislative Effectiveness Scores produced here will open up numerous opportunities to better understand this important lawmaking body.

# References

Aldrich, John H. 1995. *Why Parties? The Origin and Transformation of Political Parties in America*. Chicago: University of Chicago Press.

Anderson, William D., Janet M. Box-Steffensmeier, and Valeria Sinclair-Chapman. 2003. "The Keys to Legislative Success in the U.S. House of Representatives." *Legislative Studies Quarterly* 28(3): 357-386.

Bernhard, William, and Brian R. Sala. 2006. "The Remaking of an American Senate: The 17th Amendment and Ideological Responsiveness." *Journal of Politics* 68(2): 345-357.

Binder, Sarah A., and Steven S. Smith. 1997. *Politics or Principle? Filibustering in the United States Senate*. Washington, DC: Brookings Institution Press.

Brady, David W., and Craig Volden. 1998. *Revolving Gridlock: Politics and Policy from Carter to Clinton.* Boulder: Westview Press.

Bratton, Kathleen A., and Kerry L. Haynie. 1999. "Agenda Setting and Legislative Success in State Legislatures: The Effects of Gender and Race." *Journal of Politics* 61(3): 658-679.

Bryce, James. 1893. *The American Commonwealth: Vol. 1, The National Government—The State Governments*. New York: Macmillan and Company.

Caro, Robert A. 2002. *Master of the Senate*. New York: Vintage Books.

Cox, Gary W. and Mathew D. McCubbins. 1993. *Legislative Leviathan: Party Government in the House*. Berkeley: University of California Press.

Cox, Gary W., and William C. Terry. 2008. "Legislative Productivity in the 93rd-105th Congresses." *Legislative Studies Quarterly* 33(4): 603-618.

Edwards, Keith M., and Charles Stewart III. 2006. "The Value of Committee Assignments in Congress since 1994." Paper presented at the 2006 Annual Meetings of the Southern Political Science Association.

Frantzich, Stephen. 1979. "Who Makes Our Laws? The Legislative Effectiveness of Members of the U.S. Congress." *Legislative Studies Quarterly* 4(3): 409-428.

Gailmard, Sean, and Jeffery A. Jenkins. 2009. "Agency Problems, the 17th Amendment, and Representation in the Senate." *American Journal of Political Science* 53(2): 324-342.

Hamm, Keith E., Robert Harmel, and Robert Thompson. 1983. "Ethnic and Partisan Minorities in Two Southern State Legislatures." *Legislative Studies Quarterly* 8(2): 177-189.

Hasecke, Edward B., and Jason D. Mycoff. 2007. "Party Loyalty and Legislative Success: Are Loyal Majority Party Members More Successful in the U.S. House of Representatives?" *Political Research Quarterly* 60(4): 607-17.

Hitt, Matthew P., Craig Volden, and Alan E. Wiseman. Forthcoming. "Spatial Models of Legislative Effectiveness." *American Journal of Political Science*.

Jeydel, Alana, and Andrew Taylor. 2003. "Are Women Legislators Less Effective? Evidence from the U. S. House in the 103rd-105th Congress." *Political Research Quarterly* 56(1): 19-27.

Kaiser, Robert G. 2013. *An Act of Congress: How America's Essential Institution Works, and How it Doesn't*. New York: Alfred A. Knopf.

Koger, Gregory. 2010. *Filibustering: A Political History of Obstruction in the House and Senate*. Chicago: University of Chicago Press.

Krehbiel, Keith. 1996. *Pivotal Politics: A Theory of U.S. Lawmaking.* Chicago: University of Chicago Press.

Lee, Frances E. 2009. *Beyond Ideology: Politics, Principles, and Partisanship in the U.S. Senate.* Chicago: University of Chicago Press.

Lee, Frances E., and Bruce I. Oppenheimer. 1999. *Sizing Up the Senate: The Unequal Consequences of Equal Representation*. Chicago: University of Chicago Press.

MacNeil, Neil, and Richard A. Baker. 2013. *The American Senate: An Insider's History*. New York: Oxford University Press.

Matthews, Donald R. 1960. *U.S. Senators and Their World*. Chapel Hill: University of North Carolina Press.

Mayhew, David R. 1974. *Congress: The Electoral Connection*. New Haven: Yale University Press.

Monroe, Nathan W., Jason W. Roberts, and David W. Rohde. 2008. "Introduction: Assessing the Impact of Parties in the U.S. Senate." In Nathan W. Monroe, Jason M. Roberts, and David W. Rohde (eds.) *Why Not Parties? Party Effects in the United States Senate*. Chicago: University of Chicago Press.

Patty, John W. 2008. "Equilibrium Party Government." *American Journal of Political Science* 52(3): 636-655.

Price, David. 1972. *Who Makes the Laws? Creativity and Power in Senate Committees*. Cambridge, MA: Schenkman Publishing Company.

Redman, Eric. 1973. *The Dance of Legislation*. New York: Touchstone.

Rohde, David W. 1991. *Parties and Leaders in the Postreform House*. Chicago: University of Chicago Press.

Saint-Germain, Michelle A. 1989. "Does Their Difference Make a Difference? The Impact of Women on Public Policy in the Arizona Legislature." *Social Science Quarterly* 70(4): 956-68.

Sinclair, Barbara. 2017. "Patterns and Dynamics of Congressional Change." In Lawrence C. Dodd & Bruce I. Oppenheimer (eds.), *Congress Reconsidered, 11th Ed*. Washington, DC: CQ Press.

Stewart, Charles III, and Tim Groseclose. 1999. "The Value of Committee Seats in the United States Senate, 1947-1991." *American Journal of Political Science* 43(3): 963-973.

Theriault, Sean M. 2013. *The Gingrich Senators: The Roots of Partisan Warfare in Congress*. New York: Oxford University Press.

Volden, Craig, and Elizabeth Bergman. 2006. "How Strong Should Our Party Be? Party Member Preferences over Party Cohesion." *Legislative Studies Quarterly* 31(7): 71-104.

Volden, Craig, and Alan E. Wiseman. 2012. "Legislative Effectiveness and Representation" in Dodd, Lawrence C., and Bruce I. Oppenheimer. *Congress Reconsidered, 10th Ed*. Washington, DC: CQ Press.

Volden Craig and Alan E. Wiseman. 2014. *Legislative Effectiveness in the United States Congress: The Lawmakers*. New York: Cambridge University Press.

Volden, Craig, Alan E. Wiseman, and Dana E. Wittmer. 2013. "When are Women More Effective Lawmakers than Men?" *American Journal of Political Science* 57(2): 326-341.

Wawro, Gregory J., and Eric Schickler. 2006. *Filibuster: Obstruction and Lawmaking in the U.S. Senate*.

Weissert, Carol S. 1991. "Issue Salience and State Legislative Effectiveness." *Legislative Studies Quarterly* 16(4): 509-520.

**Table 1: Top Freshman Senators in Majority Party, 1973-2014**

| Congress (Years) | Name | State | Party | LES | Relative to Average Majority Party Member |
|---|---|---|---|---|---|
| 93 (1973-74) | J. Johnston | LA | Democrat | 0.69 | 49.9% |
| 94 (1975-76) | Robert Morgan | NC | Democrat | 1.21 | 96.2 |
| 95 (1977-78) | Dennis DeConcini | AZ | Democrat | 3.56 | 273.7 |
| 96 (1979-80) | Howell Heflin | AL | Democrat | 0.69 | 49.5 |
| 97 (1981-82) | Slade Gorton | WA | Republican | 2.11 | 147.1 |
| 98 (1983-84) | Paul Trible | VA | Republican | 0.97 | 67.5 |
| 99 (1985-86) | Mitch McConnell | KY | Republican | 0.20 | 14.3 |
| 100 (1987-88) | John Breaux | LA | Democrat | 0.98 | 70.1 |
| 101 (1989-90) | Richard Bryan | NV | Democrat | 1.19 | 88.5 |
| 102 (1991-92) | Quentin Burdick | ND | Democrat | 0.45 | 32.9 |
| 103 (1993-94) | Carol Moseley-Braun | IL | Democrat | 0.86 | 64.0 |
| 104 (1995-96) | Spencer Abraham | MI | Republican | 0.91 | 62.9 |
| 105 (1997-98) | Michael Enzi | WY | Republican | 1.12 | 77.9 |
| 106 ('99-'00) | George Voinovich | OH | Republican | 1.19 | 87.1 |
| 107 (2001-02) | Hillary Clinton | NY | Democrat | 1.55 | 129.6 |
| 108 (2003-04) | Lisa Murkowski | AK | Republican | 1.49 | 107.8 |
| 109 (2005-06) | Richard Burr | NC | Republican | 1.20 | 90.2 |
| 110 (2007-08) | Benjamin Cardin | MD | Democrat | 1.05 | 69.4 |
| 111 (2009-10) | Mark Udall | CO | Democrat | 0.78 | 54.4 |
| 112 (2011-12) | Richard Blumenthal | CT | Democrat | 0.95 | 64.0 |
| 113 (2013-14) | Mazie Hirono | HI | Democrat | 0.56 | 43.0 |

**Table 2: Top Freshman Senators in Minority Party, 1973-2014**

| Congress (Years) | Name | State | Party | LES | Relative to Average Minority Party Member |
|---|---|---|---|---|---|
| 93 (1973-74) | Henry Bellmon | OK | Republican | 0.96 | 189.9% |
| 94 (1975-76) | Paul Laxalt | NV | Republican | 0.08 | 13.2 |
| 95 (1977-78) | John Heinz | PA | Republican | 0.43 | 82.2 |
| 96 (1979-80) | Nancy Kassebaum | KS | Republican | 0.54 | 119.9 |
| 97 (1981-82) | Christopher Dodd | CT | Democrat | 0.30 | 58.1 |
| 98 (1983-84) | Frank Lautenberg | NJ | Democrat | 0.81 | 168.3 |
| 99 (1985-86) | Paul Simon | IL | Democrat | 0.44 | 80.5 |
| 100 (1987-88) | John McCain | AZ | Republican | 0.62 | 117.8 |
| 101 (1989-90) | Slade Gordon | WA | Republican | 0.61 | 106.0 |
| 102 (1991-92) | Hank Brown | CO | Republican | 0.70 | 131.0 |
| 103 (1993-94) | Kay Hutchison | TX | Republican | 0.36 | 67.0 |
| 104 (1995-96) | Ron Wyden | OR | Democrat | 0.39 | 80.4 |
| 105 (1997-98) | Tim Johnson | SD | Democrat | 0.75 | 162.4 |
| 106 ('99-'00) | Charles Schumer | NY | Democrat | 0.60 | 109.1 |
| 107 (2001-02) | George Allen | VA | Republican | 0.45 | 55.6 |
| 108 (2003-04) | Frank Lautenberg | NJ | Democrat | 0.24 | 39.4 |
| 109 (2005-06) | Barack Obama | IL | Democrat | 0.65 | 109.6 |
| 110 (2007-08) | John Barrasso | WY | Republican | 0.14 | 26.9 |
| 111 (2009-10) | James Risch | ID | Republican | 0.22 | 54.7 |
| 112 (2011-12) | Mike Lee | UT | Republican | 1.11 | 229.3 |
| 113 (2013-14) | Ted Cruz | TX | Republican | 0.87 | 134.6 |

**Table 3: Determinants of Legislative Effectiveness (1973-2014)**

| | House | | | Senate | | |
|---|---|---|---|---|---|---|
| | Model 3.1 | Model 3.2 | Model 3.3 | Model 3.4 | Model 3.5 | Model 3.6 |
| Lagged Effectiveness Score | 0.645*** (0.024) | | | 0.512*** (0.026) | | |
| Seniority | | 0.062*** (0.008) | 0.055*** (0.016) | | 0.026*** (0.009) | 0.121*** (0.016) |
| Seniority$^2$ | | | 0.0004 (0.001) | | | -0.005*** (0.0001) |
| Committee Chair | | 3.123*** (0.242) | 3.119*** (0.242) | | 1.147*** (0.124) | 1.085*** (0.123) |
| Subcommittee Chair | | 0.756*** (0.078) | 0.762*** (0.075) | | 0.311*** (0.079) | 0.234*** (0.077) |
| State Legislative Experience | | -0.044 (0.063) | -0.045 (0.063) | | -0.192* (0.116) | -0.180* (0.109) |
| State Legislative Experience × Legislative Prof. | | 0.321 (0.196) | 0.0322* (0.195) | | 0.838* (0.491) | 0.883* (0.485) |
| Majority Party | | 0.469*** (0.046) | 0.472*** (0.049) | | 0.246*** (0.077) | 0.359*** (0.078) |
| Majority Party Leadership | | 0.452*** (0.165) | 0.465*** (0.164) | | -0.022 (0.176) | -0.023 (0.166) |
| Minority Party Leadership | | -0.138** (0.054) | -0.135** (0.053) | | 0.024 (0.068) | 0.059 (0.067) |
| Power Committee | | -0.202*** (0.053) | -0.198*** (0.053) | | -0.087 (0.066) | -0.147** (0.063) |
| Distance from Median | | 0.044 (0.098) | 0.037 (0.098) | | -0.081 (0.125) | -0.041 (0.129) |
| Female | | 0.074 (0.051) | | | 0.082 (0.131) | |
| Majority Party Female | | | 0.028 (0.086) | | | -0.008 (0.154) |
| Minority Party Female | | | 0.117*** (0.037) | | | 0.212* (0.113) |
| African-American | | -0.349*** (0.081) | -0.351*** (0.080) | | -0.189** (0.074) | -0.153* (0.085) |
| Latino | | -0.0002 (0.107) | -0.001 (0.107) | | 0.073 (0.199) | 0.092 (0.190) |
| Vote Share | | 0.015 (0.010) | 0.016 (0.010) | | 0.045** (0.022) | 0.035 (0.021) |
| Vote Share$^2$ | | -0.0001 (0.0001) | -0.0001* (0.0001) | | -0.0003** (0.0002) | -0.0003* (0.0002) |
| Constant | 0.467*** (0.022) | -0.426 (0.357) | -0.450 (0.355) | 0.579*** (0.031) | -0.974 (0.725) | -0.876 (0.696) |
| N | 7386 | 8966 | 8966 | 1753 | 2074 | 2074 |
| Adjusted-R$^2$ | .38 | 0.42 | 0.42 | 0.26 | 0.39 | 0.40 |

*Notes:* Dependent Variable is Lawmaker *i*'s *Legislative Effectiveness Score* in Congress *t*. Ordinary least squares estimation, robust standard errors in parentheses, observations clustered by member.
*$p < 0.10$ (two-tailed), **$p < 0.05$ (two-tailed), ***$p < 0.01$ (two-tailed).

**Table 4: Determinants of Legislative Effectiveness in U.S. Senate (1973-2014)**

| | Model 4.1 | Model 4.2 | Model 4.3 |
|---|---|---|---|
| Seniority | 0.117*** | 0.118*** | 0.091*** |
| | (0.016) | (0.016) | (0.020) |
| Seniority$^2$ | -0.005*** | -0.005*** | -0.004*** |
| | (0.001) | (0.001) | (0.001) |
| Committee Chair | 1.084*** | 1.085*** | 1.100*** |
| | (0.121) | (0.120) | (0.120) |
| Subcommittee Chair | 0.236*** | 0.242*** | 0.170** |
| | (0.077) | (0.077) | (0.079) |
| State Legislative Experience | -0.128 | -0.126 | -0.129 |
| | (0.109) | (0.107) | (0.107) |
| State Legislative Experience × Legislative Prof. | 0.719 | 0.712 | 0.712 |
| | (0.482) | (0.468) | (0.471) |
| Majority Party | 0.338*** | 0.340*** | 0.406*** |
| | (0.077) | (0.077) | (0.081) |
| Majority Party Leadership | -0.042 | -0.048 | -0.054 |
| | (0.166) | (0.167) | (0.166) |
| Minority Party Leadership | -0.080 | -0.087 | -0.093 |
| | (0.066) | (0.065) | (0.065) |
| Power Committee | -0.138** | -0.136** | -0.157** |
| | (0.063) | (0.061) | (0.062) |
| Distance from Median | -0.207 | -0.167 | -0.140 |
| | (0.135) | (0.139) | (0.139) |
| Majority Party Female | -0.021 | -0.005 | 0.004 |
| | (0.153) | (0.150) | (0.150) |
| Minority Party Female | 0.214* | 0.221** | 0.207* |
| | (0.111) | (0.111) | (0.110) |
| African-American | -0.220** | -0.221** | -0.200** |
| | (0.088) | (0.087) | (0.092) |
| Latino | 0.048 | 0.057 | 0.048 |
| | (0.192) | (0.201) | (0.192) |
| Vote Share | 0.027 | 0.027 | 0.028 |
| | (0.020) | (0.020) | (0.020) |
| Vote Share$^2$ | -0.0002 | -0.0002 | -0.0002 |
| | (0.0002) | (0.0002) | (0.0002) |
| Southern Democrat | -0.341*** | -0.358*** | -0.357*** |
| | (0.070) | (0.074) | (0.073) |
| House Service | | -0.119 | -0.120 |
| | | (0.079) | (0.078) |
| House Service × Average LES | | 0.141** | 0.141** |
| | | (0.064) | (0.062) |
| Reelection | | | 0.065** |
| | | | (0.027) |
| Freshman | | | -0.253*** |
| | | | (0.056) |
| Retiree | | | -0.166** |
| | | | (0.068) |
| Constant | | -0.535 | -0.504 |
| | | (0.658) | (0.653) |
| N | 2074 | 2074 | 2074 |
| Adjusted-R$^2$ | 0.41 | 0.42 | 0.42 |

*Notes:* Dependent Variable is Senator $i$'s *Legislative Effectiveness Score* in Congress $t$. Ordinary least squares estimation, robust standard errors in parentheses, observations clustered by member.
*p < 0.10* (two-tailed), **p < 0.05* (two-tailed), ***p < 0.01* (two-tailed).

## Table 5: The Determinants of Bill Progression in the U.S. Senate (1973-2014)

| | Model 5.1 | Model 5.2 | Model 5.3 | Model 5.4 | Model 5.5 |
|---|---|---|---|---|---|
| | Total Bills Introduced | Percent of Bills Receiving Action In Committee (AIC) | Percent of Bills Receiving Action Beyond Committee (ABC) | Percent of Bills Passing Senate Upon Receiving ABC | Percent of Bills Becoming Law Upon Passing Senate |
| Majority | 1.153 | 1.078 | 6.605*** | -13.648*** | 7.899* |
| | (2.177) | (2.312) | (1.353) | (3.880) | (4.151) |
| | | | | | |
| N | 2074 | 2073 | 2073 | 1839 | 1636 |
| Adjusted $R^2$ | 0.19 | 0.07 | 0.28 | 0.06 | 0.02 |

*Notes:* Ordinary least squares estimation, robust standard errors in parentheses, observations clustered by member. Each regression model controls for the following variables from Tables 3 and 4 for Senator $i$: Seniority, Seniority$^2$, Committee Chair, Subcommittee Chair, State Legislative Experience, State Legislative Experience × Legislative Professionalism, Majority Party Leadership, Minority Party Leadership, Power Committee, Distance from Median, Female, African American, Latino, Vote Share, Vote Share$^2$, Southern Democrat, House Service, House Service × Average LES, Reelection, Freshman, Retiree.
*$p < 0.10$ (two-tailed), **$p < 0.05$ (two-tailed), ***$p < 0.01$ (two-tailed).

## Table 6: Partisan Determinants of Legislative Effectiveness in U.S. Senate (1973-2014)

| | Model 6.1 | Model 6.2 | Model 6.3 | Model 6.4 | Model 6.5 |
|---|---|---|---|---|---|
| Majority Party | 0.834*** | 0.642*** | 0.634*** | -0.065 | 0.268*** |
| | (0.055) | (0.086) | (0.087) | (0.084) | (0.086) |
| Distance from Majority Party Median | | -0.351*** | -0.337*** | -0.343*** | -0.277** |
| | | (0.125) | (0.126) | (0.108) | (0.111) |
| Majority Party Leadership | | | 0.210 | 0.063 | -0.072 |
| | | | (0.186) | (0.184) | (0.166) |
| Minority Party Leadership | | | 0.039 | 0.045 | -0.082 |
| | | | (0.065) | (0.065) | (0.065) |
| Chair | | | | 1.327*** | 1.105*** |
| | | | | (0.129) | (0.120) |
| Subcommittee Chair | | | | 0.400*** | 0.175** |
| | | | | (0.076) | (0.079) |
| Constant | 0.543*** | 0.780*** | 0.766*** | 0.765*** | -0.305 |
| | (0.023) | (0.095) | (0.095) | (0.084) | (0.636) |
| Table 3 Controls? | No | No | No | No | Yes (Not Distance from Median) |
| N | 2122 | 2116 | 2115 | 2109 | 2074 |
| Adjusted-$R^2$ | 0.16 | 0.17 | 0.17 | 0.38 | 0.42 |

*Notes:* Dependent Variable is Senator $i$'s *Legislative Effectiveness Score* in Congress $t$. Ordinary least squares estimation, robust standard errors in parentheses, observations clustered by member.
*$p < 0.10$ (two-tailed), **$p < 0.05$ (two-tailed), ***$p < 0.01$ (two-tailed).

**Appendix Table A1: Descriptive Statistics for Senate Analyses**

| Variable | Mean | Std. Dev. | Median | Min | Max |
|---|---|---|---|---|---|
| LES | 1 | 1.022 | 0.67858 | 0 | 10.1944 |
| Lagged LES | 1.010 | 1.043 | 0.686 | 0.0052214 | 10.1944 |
| Female | 0.074 | 0.262 | 0 | 0 | 1 |
| Seniority | 6.154 | 4.467 | 5 | 1 | 26 |
| Seniority$^2$ | 59.454 | 86.809 | 25 | 1 | 676 |
| State Legislature | 0.395 | 0.489 | 0 | 0 | 1 |
| State Legislature × Professionalism | 0.079 | 0.114 | 0 | 0 | 0.625 |
| Majority | 0.551 | 0.498 | 1 | 0 | 1 |
| Majority Leader | 0.053 | 0.225 | 0 | 0 | 1 |
| Minority Leader | 0.045 | 0.207 | 0 | 0 | 1 |
| Chair | 0.161 | 0.368 | 0 | 0 | 1 |
| Subcommittee Chair | 0.459 | 0.498 | 0 | 0 | 1 |
| Power Committee | 0.723 | 0.448 | 1 | 0 | 1 |
| Median Distance | 0.331 | 0.219 | 0.296 | 0 | 1.209 |
| African American | 0.005 | 0.075 | 0 | 0 | 1 |
| Latino | 0.006 | 0.075 | 0 | 0 | 1 |
| Vote Share | 59.797 | 9.452 | 58 | 35 | 100 |
| Vote Share$^2$ | 3664.944 | 1257.490 | 3364 | 1225 | 10000 |
| Southern Democrat | 0.117 | 0.321 | 0 | 0 | 1 |
| House Service | 0.312 | 0.463 | 0 | 0 | 1 |
| House Service × Average LES | 0.236 | 0.526 | 0 | 0 | 3.951 |
| Reelection | 0.331 | 0.471 | 0 | 0 | 1 |
| Freshman | 0.130 | 0.336 | 0 | 0 | 1 |
| Retiree | 0.061 | 0.240 | 0 | 0 | 1 |

Sources: *Almanac of American Politics*, various years; Volden and Wiseman (2014); www.thelawmakers.org; www.voteview.com.

**Appendix Table A2: Determinants of Legislative Effectiveness in the U.S. Senate, 1973-2014 (Amendment Models)**

| | Model 3.5 Replication | | Model 3.6 Replication | |
|---|---|---|---|---|
| | Amendment (1) | Amendment (2) | Amendment (1) | Amendment (2) |
| Seniority | 0.022** | 0.023** | 0.110*** | 0.111*** |
| | (0.010) | (0.010) | (0.020) | (0.020) |
| Seniority$^2$ | | | -0.004*** | -0.004*** |
| | | | (0.001) | (0.001) |
| Committee Chair | 1.161*** | 1.168*** | 1.090*** | 1.096*** |
| | (0.138) | (0.138) | (0.138) | (0.139) |
| Subcommittee Chair | 0.225*** | 0.223*** | 0.162** | 0.159** |
| | (0.079) | (0.079) | (0.077) | (0.078) |
| State Legislative Experience | -0.197 | -0.198 | -0.184 | -0.185 |
| | (0.124) | (0.125) | (0.117) | (0.117) |
| State Legislative Experience × Legislative Prof. | 0.831 | 0.834 | 0.875 | 0.879 |
| | (0.562) | (0.564) | (0.550) | (0.551) |
| Majority Party | 0.270*** | 0.273*** | 0.383*** | 0.387*** |
| | (0.082) | (0.082) | (0.083) | (0.083) |
| Majority Party Leadership | 0.046 | 0.047 | 0.042 | 0.042 |
| | (0.178) | (0.179) | (0.167) | (0.167) |
| Minority Party Leadership | -0.091 | -0.090 | 0.019 | 0.018 |
| | (0.074) | (0.075) | (0.075) | (0.076) |
| Power Committee | -0.080 | -0.080 | -0.137** | -0.138** |
| | (0.060) | (0.060) | (0.057) | (0.058) |
| Distance from Median | -0.069 | -0.059 | -0.017 | -0.015 |
| | (0.133) | (0.127) | (0.131) | (0.131) |
| Female | 0.069 | 0.069 | | |
| | (0.133) | (0.134) | | |
| Majority Party Female | | | -0.014 | -0.014 |
| | | | (0.154) | (0.155) |
| Minority Party Female | | | 0.200* | 0.200* |
| | | | (0.118) | (0.118) |
| African-American | -0.211* | -0.216** | -0.143 | -0.147 |
| | (0.109) | (0.108) | (0.117) | (0.117) |
| Latino | 0.097 | 0.097 | 0.143 | 0.143 |
| | (0.228) | (0.227) | (0.199) | (0.198) |
| Vote Share | 0.029 | 0.029 | 0.019 | 0.019 |
| | (0.021) | (0.021) | (0.021) | (0.021) |
| Vote Share$^2$ | -0.0002 | -0.0002 | -0.0003 | -0.0001 |
| | (0.0002) | (0.0002) | (0.002) | (0.0002) |
| Constant | -0.442 | -0.442 | -0.347 | -0.346 |
| | (0.696) | (0.697) | (0.678) | (0.679) |
| N | 1678 | 1678 | 1678 | 1678 |
| Adjusted-$R^2$ | 0.40 | 0.40 | 0.42 | 0.42 |

*Notes:* Dependent Variable is Senator *i*'s Amendment-Adjusted *Legislative Effectiveness Score* in Congress *t*. Ordinary least squares estimation, robust standard errors in parentheses, observations clustered by member.
*p < 0.10 (two-tailed), **p < 0.05 (two-tailed), ***p < 0.01 (two-tailed).

Figure 1: Source of Majority Party Influence on Senate Legislative Effectiveness Scores