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Legislative Productivity In the 93d–105th Congresses

We exploit a large new dataset in order to revisit the determinants of “legislative success” in Congress. Previous studies have focused on one or (rarely) two Congresses. Ours is the first study based on panel data, allowing us to better measure such causal effects as how a member’s productivity increases when they become a committee chair or their party attains a majority. While corroborating several previous findings, we also differ on several important points—e.g., whereas the most sophisticated previous study finds greater seniority and committee leadership posts boosting productivity in *neither* party, we find them boosting productivity in *both*.

At least since Matthews (1960), scholars have been interested in which members of the U.S. Congress are the most successful legislators. Most have viewed legislative success as fueled by resource endowments, with the most commonly noted such resources being majority status (e.g., Kim 2006); seniority (e.g., Padró i Miquel and Snyder 2004); committee or floor leadership posts (e.g., Froman 1967, 35); and ideological moderation (e.g., Moore and Thomas 1991).

In this article, we exploit a large new dataset documenting the legislative activity of all members of the US House from the 93d to the 105th Congresses, in order to revisit the determinants of legislative success in Congress. All previous studies focus on one or (rarely) two Congresses. Ours is the first such study based on panel data. This allows a better test of some of the causal effects suggested in previous studies.

For example, consider the impact of majority status. Some argue that members of the majority party enjoy substantial resource and agenda-setting advantages (e.g., Aldrich and Rohde 2001; Cox and McCubbins 1993, 2005), while others deny that the majority has any substantial advantage beyond what its numerical superiority and ideological homogeneity confer (Krehbiel 1993, 1998). Previous studies of legislative success are of limited value in addressing this debate, because single-congress studies have no “pre-test”: they observe members’ success in one Congress only. Thus, they cannot easily

control for inherent differences between members in skill, energy or inclination, when examining the causal impact of majority status. We, in contrast, can observe how members' productivity changes when their parties gain or lose majority status, or when the members themselves switch parties; and we can control for member-specific characteristics by including fixed or random effects.

We have similar advantages in studying the effects of committee leadership posts on legislative success. Unlike previous studies, we can track a given member over time as he or she gains or loses a committee chair or ranking minority membership.

In the rest of the article, we proceed as follows. First, we survey previous studies of legislative success. Second, having opted to measure success by counting the number of bills that each member is able to push past significant stages of the legislative process (in particular, committee report and chamber passage), we describe the fixed-effects negative binomial regression model that we use in our analysis. We then describe our data, analyze our results, and conclude.

The Literature on Legislative Success

The best-known measures of legislative success are: (1) members' "entrepreneurial activity," as measured by how many bills they sponsor and co-sponsor (e.g., Garand and Burke 2006; Wawro 2000); (2) members' "batting averages," defined as the proportion of the bills they sponsor that are passed (e.g., Matthews 1960; Moore and Thomas 1991); and (3) members' "productivity," defined as the number of bills each legislator is able to pass (e.g., Frantzich 1979). In this study, we use two productivity measures, counting the number of each member's bills that are reported from committee (*Bills Reported*) and passed (*Bills Passed*) in a given Congress.¹

Regardless of the particular measure they use, all previous congressional studies investigating the matter report that *members of the majority party are more successful than otherwise similar members of the minority party*.² For example, Anderson, Box-Steffensmeier and Sinclair (2003)—henceforth ABS—report: "Despite a strong debate in the literature to the contrary (e.g., Krehbiel 1998), it is apparent that party does matter in establishing who is more likely to succeed or fail."

Their unanimity notwithstanding, these single-congress tests suffer from the weaknesses noted in the introduction. For example, the two previous quantitative studies of productivity in the U.S. House (ABS 2003; Frantzich 1979) both examine Houses with Democratic

majorities and thus cannot exclude the possibility that Democrats seek legislative success more determinedly than Republicans and that this—rather than majority status—explains why Democrats were more productive. Since our dataset includes observations before and after the Republican takeover of 1994, we can exploit research designs similar to those of Cox and Magar (1999) and Garand and Burke (2006)—who study, respectively, how the Republican takeover affected campaign contributions and bill sponsorship activity.

Previous studies of legislative productivity have also examined the effect of committee leadership positions on productivity. Frantzych (1979) reports that committee leaders are more productive than rank-and-file members but he does not examine whether this effect is equally present in both the majority and minority parties. ABS (2003) do examine committee effects separately for each party and find mixed results. They report that subcommittee leadership positions boost productivity *only* within the majority party, while (surprisingly) committee leadership positions boost productivity in neither party. Thus, although many view it as conventional wisdom that committee and subcommittee posts boost productivity, this is not well supported by extant studies of the House.

A closely related literature studies which bills progress through the legislative process. For present purposes, these studies' most important finding is that different types of bill have different determinants of success. Krutz (2005) and Adler and Wilkerson (2005) both divide bills into a "low importance" category and one or more "high importance" categories. Both report that whether the sponsor of the bill is a member of the majority party is very important in determining the progress of important bills, but not at all important in determining the progress of unimportant bills (specifically, private bills and commemorative bills).

This finding suggests that one should not count all bills as equally important, when assessing legislators' success. Accordingly, we exclude private bills and commemorative bills from our counts. Our variables *Bills Reported* and *Bills Passed* count the number of bills (other than private or commemorative) sponsored by each member that were reported from committee, or passed in the chamber, respectively.

Our Model

Since our dependent variable is a count variable—the number of bills that each member succeeds in pushing through committee—we shall employ a method developed to deal with such variables. We cannot

use the standard Poisson count model because (a) it cannot accommodate *overdispersion* (a validity threat that is evidenced by the dependent variable's conditional variance being greater than its mean); and (b) ABS (2003) correctly note that overdispersion is likely to arise in data on bill reports. Thus, we need to utilize a method that can handle overdispersion.

Numerous tests for overdispersion have been developed, as have methods to accommodate overdispersed data.³ We follow ABS and employ a negative binomial regression model (NBRM) that tests for and corrects any overdispersion.⁴ Our results are based on Hausman, Hall and Griliches' (1984) estimator as implemented in *Stata*. We have also run our analyses using Allison and Waterman's (2002) suggested alternative (unconditional NBRM with direct estimation of the fixed effects via inclusion of dummy variables); the results are so similar that we need not bother reporting them separately.

Our Results

The data we use were collected by E. Scott Adler and John Wilkerson and provide information on all bills in the 93d–105th Congresses (see Appendix). To provide an initial sense of the data, we first consider some simple averages. Table 1 divides members into six categories, depending on whether they are in the majority or minority and whether they lead a full committee, a subcommittee, or no committee. For each category, we report the average number of bills sponsored by members of that category that are reported from committee; and the average number passed by the House. As can be seen, majority-party members who chair committees and subcommittees are by far the most successful legislators, followed by rank-and-file majority-party members, then minority-party committee leaders, and finally rank-and-file minority-party members.⁵

A similar picture of the importance of majority status emerges if one considers how the productivity of individual members varies over time, when their parties lose or gain majority status. Consider, for example, George E. Brown, Jr., a Democrat from California. In the 93d Congress—the first in our dataset—Brown had no committee leadership position and pushed zero bills through committee. During the 94th–101st Congresses, Brown chaired a subcommittee and averaged 1.9 bills pushed through committee per Congress. In the 102d and 103d Congresses, Brown chaired a committee and pushed 7 bills through committee per Congress. Finally, in the 104th and 105th

TABLE 1
Average Productivity of Different Types of Members

Type of Member	Average Number of Bills Sponsored by this Type of Member that are Reported from Committee Per Congress (N)	Average Number of Bills Sponsored by this Type of Member that are Passed by the House Per Congress (N)
Majority—Committee Chair	5.6 (358)	4.9 (358)
Majority—Subcommittee Chair	2.7 (1315)	2.3 (1315)
Majority—No Chair	0.5 (1681)	0.5 (1681)
Minority—Committee RMM	0.5 (357)	0.4 (357)
Minority—Subcommittee RMM	0.3 (965)	0.3 (965)
Minority—No RMM	0.2 (926)	0.2 (926)

Note: We have 358 observations of member-Congresses with the member in the majority and chairing a committee during the Congress in question. The average number of these members' bills that were reported from committee (per Congress) was 5.6.
RMM = Ranking Minority Member.

Congresses, after the Republican takeover, Brown switched from chair to ranking minority member and pushed zero bills past the committee stage. Philip Crane, a Republican from Illinois, presents a contrasting picture. In 9 of the 11 Congresses from the 93d to 103d, he pushed zero bills through committee (pushing through just one in the other two congresses). In contrast, after his party gained a majority, he pushed 6.5 bills through committee per Congress. Many other similar examples could be adduced.

Members who switch parties, and hence majority status, provide another test of the majority effect. Consider the case of Billy Tauzin of Louisiana, who began his career as a Democrat. During his last four terms as a Democrat, Tauzin moved five bills through committee on average. When the Republicans took control of the House in the 104th, his productivity dropped: he saw only a single bill reported from committee. Tauzin's fortunes changed again in the 105th when, after switching to the Republican party (late in the 104th), he was again a member of the majority and again able to push five bills through committee.

Rather than consider individual members' careers one after the other, we can summarize the evidence more economically by using a negative binomial regression with individual fixed effects. The dependent variable is the number of a member's bills that are reported

from committee in a given Congress. (Using the number of a member's bills that are *passed* by the House as the dependent variable, we get qualitatively similar results to those reported below.)

Our independent variables are similar to ABS's. First, we include (a quadratic function of) the number of bills sponsored by each member.⁶ Second, we include several variables reflecting the resources deployed by each member: whether the member holds a subcommittee leadership position (chair or ranking minority member); whether the member holds a committee leadership position (chair or ranking minority member); the member's years of previous service; and whether the member is in the majority party or not.⁷ Third, we include the distance between the member's DW-NOMINATE score and the median score in the House (cf. Poole and Rosenthal 1997).

What do we add to the ABS research design? First, as noted above, we have multiple observations on each member of Congress and can thus control for individual-specific factors that might affect productivity, such as native intelligence, work ethic and inclination. Formally, we control for such factors by including a fixed effect for each member.⁸ Second, we interact every variable with an indicator variable for majority status. Thus, we are able separately to estimate how much each independent variable affects a majority-party member's and a minority-party member's productivity. ABS estimate party-specific effects for several but not all of their variables. For example, they estimate a single effect of seniority on productivity, not allowing it to differ between the two parties.

Our results are presented in Table 2 (column 2). The main points to make are as follows. First, as in ABS's study, the number of a member's bills reported is a quadratic function of the number of bills that member sponsors. Second, unlike ABS, we find that minority-party members who gain a ranking position on a subcommittee or committee become (slightly but significantly) more productive. Third, members whose ideal points are further from the floor median have lower productivity, all else equal. This effect is statistically significant only in the minority party, however. Fourth, majority status matters in multiple ways: comparing majority and minority first-termers with comparable fixed effects, the former are substantially more productive than the latter; gaining an additional year of congressional experience is worth more for a majority than minority member; and gaining a subcommittee or a committee leadership position is worth significantly more for a majority than minority member.⁹

Several of these findings contrast with ABS's. They find no significant difference in the productivity of majority and minority

TABLE 2
 Negative Binomial Regression Analysis of Bills
 Reported from Committee, 93d–105th Houses
 (standard errors in parentheses)

	Member Fixed Effect 93d–105th	Random Effects 93d–105th	Clustered Errors ^a 93d–105th	Member and Congress FE 93d–105th	Member Fixed Effect 93d–103d
Constant Term	0.09 (.28)	-0.31 (0.21)	-2.10*** (0.17)	1.81*** (0.47)	1.07 (0.87)
Bills Introduced	0.029*** (0.007)	0.028*** (0.006)	0.03*** (0.005)	0.037*** (0.007)	0.029*** (0.009)
Bills Introduced Squared	-0.0001 (0.00006)	-0.0001* (0.00005)	-0.0001*** (0.00005)	-0.0002** (0.00007)	-0.00008 (0.00007)
Tenure (years)	0.03*** (0.01)	0.01 (0.008)	0.017** (0.007)	-0.04*** (0.02)	0.04** (0.02)
Distance to Chamber Median	-1.12*** (0.40)	-0.28 (0.25)	-0.20 (0.24)	-1.23 (0.40)	0.70 (0.87)
Committee Leader	0.34** (0.15)	0.35*** (0.13)	0.35** (0.14)	0.40** (0.16)	0.17 (0.18)
Subcommittee Leader	0.26** (0.12)	0.30*** (0.10)	0.27** (0.13)	0.22* (0.12)	0.28* (0.14)
<i>Majority Party Interactions^b</i>					
Constant Term	0.49** (0.24)	0.94*** (0.18)	1.03*** (0.19)	0.27 (0.26)	-0.91 (0.88)
Bills Introduced	0.002 (0.007)	0.002 (0.006)	-0.0002 (0.006)	-0.0002 (0.007)	-0.0002 (0.009)
Bills Introduced Squared	-0.00002 (0.00007)	-0.00003 (0.00006)	7.0e-06 (0.00006)	0.00001 (0.00007)	-0.00004 (0.00007)
Tenure (years)	0.028** (0.01)	0.03*** (0.009)	0.02*** (0.007)	0.035*** (0.01)	0.014 (0.017)
Distance to Chamber Median	0.86** (0.41)	-0.05 (0.29)	-0.04 (0.30)	1.24*** (0.44)	-1.17 (0.92)
Committee Leader	0.32** (0.16)	0.34** (0.14)	0.42*** (0.16)	0.19 (0.17)	0.46** (0.19)
Subcommittee Leader	0.55*** (0.13)	0.55*** (0.11)	0.67*** (0.14)	0.59*** (0.13)	0.57*** (0.15)
<i>N</i>	4,486	5,580	5,580	4,486	3,682
Wald χ^2 (d.f.)	1752*** (13)	1950*** (13)	1950*** (13)	1886*** (25)	876*** (13)

^aIn order to implement the Huber/White errors (which cluster on the individual legislator), we used the population average estimator in Stata. With the fixed effects (Hausman/Hall/Griliches) estimator, legislators who appear in exactly one Congress and legislators who never have a bill reported are both excluded. With the population average estimator, both groups can be included.

^bThe numbers below are the estimated coefficients on the interaction of a majority party indicator and our independent variables. The constant term for instance represents the estimated productivity boost a particular member of the minority would receive were she to become a member of the majority; 0.028 is the estimate, under our preferred specification, of the additional increase in the score function received by a majority member—beyond that received by a minority member—when each receives an additional year of tenure. Statistical significance indicates a rejection of the null hypothesis that the effect of the focal variable is the same for majority and minority party members. * $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$.

committee leaders, whereas we find a very substantial and significant such difference; they find no significant difference in the productivity of majority committee leaders and majority rank-and-file members, whereas we find a substantial and significant such difference; they find no effect of seniority, whereas we find a positive and significant effect in the minority party and a significantly larger effect in the majority.

Substantive Differences with ABS

What explains why our results differ from ABS's? Part of the answer is simply that we have a larger dataset. If one conducts a separate analysis for each Congress, one finds that few of the minority-party effects are statistically significant in the single-Congress runs. For example, while the effect of becoming a ranking minority member of a full committee is positive in 10 of 13 Congresses, it is significant at conventional levels in only one. Similarly, the effect of becoming a ranking minority member of a sub-committee is positive in 11 of 13 Congresses but never significant. Only when one pools information from a number of Congresses can one demonstrate that these small minority-party effects are consistent enough to attain statistical significance.

Another part of the answer is that our specification differs. As noted above, ABS force both parties to have the same tenure effect, whereas in our models we allow the tenure effect to differ between the parties. This turns out to matter. Looking at the Congress-by-Congress runs, one finds that tenure *never* significantly boosts productivity in the minority party, while it *always* boosts productivity in the majority party (and the effect is significant in 9 of the 13 Congresses). Thus, it is not surprising that ABS report an insignificant tenure effect in the 103d, given that they pool the two parties and the 103d turns out to be a Congress in which the tenure effect in the minority is actually estimated to be negative.

Finally, a last part of the explanation of why our results differ from ABS's has to do with idiosyncracies of the 103d Congress. In particular, the 103d is one of only three in which majority-party committee leaders are not significantly more productive at conventional levels.

Our Research Design

How well does our study capture the causal effect of majority status? We certainly meet the conventional standards for a quasi-experiment (cf. Trochim 2001, 189), in that we have multiple observations of members' productivity before and after "treatment" is given.

In particular, we observe some members both before and after the Republicans acquired a majority in 1994. Among quasi-experimental research designs, we are closest to an interrupted time-series design, in that we have multiple observations equally spaced in time before and after the “treatment” is applied in 1994. As Harris et al. (2006, 18) note, such designs generally rank high in internal validity within the class of quasi-experimental designs.

Moreover, there are two other features of this study that enhance the internal validity of the conclusions. First, we do not face a conventional selection-bias threat to validity. No individual legislator j chooses whether his or her party will win a majority; so the “treatment” is not self-selected by the “subjects.”¹⁰

Second, one might argue that the assignment to treatment (majority) and control (minority) groups is statistically unrelated to the dependent variable. Certainly, there is no extant argument or evidence that the probability an individual legislator’s party wins a majority is related to the number of bills that *individual* has pushed past committee. While majority status *does* depend on the incumbent majority party’s record of legislative accomplishment, this record reflects mostly the *content* of the bills passed, not their *number* (e.g., no one argues that the Democrats lost in 1994 because the aggregate number of bills they passed in 1993 was particularly high or low). If one accepts that the change in majority status occurring in 1994 was largely unrelated to the *number* of bills passed previously, then our research design faces even fewer threats to internal validity.

Robustness

How robust are our results? Table 2 also displays results from two alternative estimation methods—random effects (column 3) and population-average with clustered errors (column 4). Both these methods allow inclusion of members who serve in exactly one Congress, and members who never push a bill past committee, whereas the fixed-effects method does not. As can be seen, the results are nonetheless very similar across the board. The main differences are that, under the random-effects or population-average models, (1) increasing tenure for minority-party members has a smaller, albeit still positive, effect; (2) a member’s distance to the chamber median has an insignificant effect for both parties, not just for the majority; and (3) the shift in the intercept term for majority-party members is about twice as large.

Table 2 (column 5) shows what happens when—as suggested by a reviewer—one includes congressional fixed effects, in addition to

individual fixed effects. This model allows the constant term to shift from one Congress to the next, but does not allow any other coefficients to shift. As can be seen, in this model both minority-party and majority-party members are estimated to become *less* productive, as the number of terms of service they put in increases. As tenure always *boosts* majority-party productivity in the Congress-by-Congress runs (which runs can be viewed as allowing not just the constant but all coefficients to shift from one Congress to the next), we believe that the congressional fixed-effects model is misleading.

Table 2 (column 6) shows what happens when—as suggested by a reviewer—one focuses on just the pre-1994 portion of our data, in which the Democrats always held a majority, and again uses a fixed-effects approach.¹¹ Focusing on a period in which majority status does not change makes it difficult to tell whether Democrats are more productive because of their personal qualities (captured in the fixed effects) or because of their majority status (reflected both in the intercept shift and in various interactions). Indeed, we find that the intercept shift due to majority status is no longer positive.

Finally, we can also report that the majority boost to productivity (specifically, the shift in the constant term) is larger when the majority party has a larger share of the House's seats. This suggests that the minority party constrains the range of bills that majority-party members can successfully push, with larger minorities posing more substantial constraints.

Majority Advantages

We think there can be little question that majority status acts as a significant “treatment” that increases the legislative productivity of members of the U.S. House. The remaining questions are “How should we interpret productivity?”, “How does the majority advantage come about?” and “So what?”

How Should We Interpret Productivity?

When one observes an abrupt increase in the number of bills that a particular member pushes through committee, after that member becomes a committee chair, how should one interpret that increase? Perhaps new chairs have a backlog of bills that they begin pushing with their newly acquired resources. Perhaps certain bills must pass through a particular committee and it is customary for the chair to sponsor them (via the “chair’s mark”). Perhaps the chair acts like the leader of a research group in a scientific laboratory—providing

organization and resources for a variety of projects undertaken in the lab and putting his or her name on all (or most). In this latter capacity, the chair may select from a variety of ideas pushed by more junior members of the committee, rather than coming up with the ideas. Or, he or she may brainstorm with selected other committee members to generate ideas and then take credit (by sponsoring the bill) for the collective effort (cf. Adler and Wilkerson 2005). Either way, the chair's mark is not an individual but rather a collective product. In our view, the last possibility—which can be viewed as subsuming the second—probably accounts for the bulk of the increased productivity of chairs.

How Does the Majority Advantage Come About?

What are the mechanisms by which the majority's advantage in legislative productivity comes about? It is not surprising to find that majority-party members who become committee leaders also become more productive, as they have received tangible resources with their offices and are clearly at the center of the legislative process in their respective panels (cf. Hall 1996). It is less clear why each year of congressional experience increases a majority-party member's productivity. Since we control for the possession of subcommittee and committee chairs, seniority is not a proxy for acquiring committee leadership posts. Possibly, seniority is a proxy for the acquisition of other offices, such as positions on a party campaign finance committee. But, even if other offices turned out to increase productivity, that would not explain why first-term majority-party members (who typically have no offices) are more productive than minority-party committee leaders. Thus, there must be something beyond personal office-holding that explains the productivity of majority-party members.

A natural nominee for this "something" is that members of the majority party trade with one another. First-term members can trade labor, floor votes and caucus votes to committee leaders, in return for help in pushing their bills. As members become more senior, they become more efficient at arranging deals with key office-holders. This sort of human capital is less valuable to members of the minority party because the senior partners in their party have less legislative largesse to distribute.

So What?

A skeptic might say that who sponsors the bills reported from committee does not affect the substantive content of those bills. A Democratic sponsor's bill will be amended, if necessary, to correspond

to the ideal point of the median legislator in the House, and then passed. Ditto for a Republican sponsor's bill.

What this line of thinking misses is that the House faces thousands of issues on which it might act. The choice of which of those issues to address, by pushing a bill out of committee, is nine-tenths of the battle. Adjusting the policy on that particular issue, so that it lies closer to or farther from the median legislator's ideal point, is the last tenth. As Cox and McCubbins (2005) document, majority status largely determines the "directionality" of successful bills. When Democrats have a majority, over 80% of the bills that reach a final passage vote seek to move policy leftward (and the vast majority pass). In contrast, when Republicans have a majority, over 80% of the bills that reach a final passage vote seek to move policy rightward (and the vast majority pass). Thus, whose bills make it out of committee is crucial because it largely determines the floor agenda—that is, the set of status quo policies that the House will consider changing. It is for this reason that the majority party covets, and monopolizes, committee chairs.

Conclusion

In this article, we have re-examined the determinants of legislative productivity in the U.S. House. Ours is the first study of legislators' productivity with multiple observations on each member over the course of their career, enabling us to control for individual-specific factors that may affect productivity.

As compared to the most sophisticated previous study (viz., ABS 2003), we corroborate several findings and differ on several important points. Among the points on which we differ are these: whereas ABS find that committee leadership posts do not boost productivity significantly in either party, we find that they boost productivity in both, with a significantly larger boost in the majority; whereas ABS find that seniority does not boost productivity in either party, we find that it boosts productivity in both, with a significantly larger boost in the majority; whereas ABS find that subcommittee leadership posts have an insignificant negative effect on productivity in the minority party, we find a significant positive effect. Finally, we find that majority status boosts productivity more, when the majority party holds a larger share of House seats. This suggests that larger minority parties constrain the range of bills that can be passed.

Overall, the lesson we take from our study is that majority status boosts productivity both *directly* (an intercept shift) and *indirectly* (by increasing the productivity-enhancing effect of subcommittee and

committee leadership posts and of accrued experience). The impact of subcommittee and committee posts is also evident but strongly conditioned by majority status.

We argue that majority status enhances productivity in two ways. The more obvious mechanism is that majority-party committee leaders get substantially more resources, both in the form of staff and of parliamentary rights, than their minority-party counterparts. The less obvious mechanism is that rank-and-file members get a share of the pie, either as payment for their floor and caucus votes or because the top party leadership encourages generosity as a means to maintain the party's majority.

We also argue that the productivity boost conferred by majority status is not a merely cosmetic effect, as one might think by appeal to the median voter theorem (whoever sponsors the bill, it will end up at the floor median). Instead, majority Democrats sponsor bills that engineer leftward moves in policy, while majority Republicans sponsor bills that engineer rightward moves in policy. So, which party has a majority—and hence greater productivity—matters because it determines the congressional agenda and hence the general preponderance of leftward or rightward policy moves (Cox and McCubbins 2005).

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NOTES

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1. We prefer productivity measures to batting averages for the reasons articulated by Anderson, Box-Steffensmeier and Sinclair 2003. We avoid using sponsorship rates, as there are few special resources needed simply to sponsor a bill. We do not have access to any survey data on members' reputations.

2. See Frantzych (1979, 425), Moore and Thomas (1991, 964), and Anderson, Box-Steffensmeier and Sinclair (2003).

3. See, e.g., Lambert 1992; Zorn 1998; King 1989.

4. Briefly, the idea underlying the NBRM is as follows. Begin with the standard Poisson specification of the conditional mean of y_{it} (the number of member i 's bills reported from committee in Congress t) given the covariates \mathbf{x}_{it} : $m_{it} = \exp(\mathbf{x}_{it}\mathbf{b})$. The NBRM incorporates a random intercept term such that the conditional mean of y_{it} becomes $m'_{it} = \exp(\mathbf{x}_{it}\mathbf{b} + e_i)$, where $\exp(e_i)$ is a random draw from a gamma distribution with unknown variance.

5. We know from Adler and Wilkerson (2005) that about 80% of all reported bills are sponsored by members of the committees to which those bills were referred. Thus, it is highly likely that the increased productivity of chairs largely reflects the flow of bills through the committees they lead.

6. The notion here is *not* that every bill a member sponsors is one she intends to push vigorously through the legislative process; clearly, some members introduce bills as courtesies to constituents or as a way to stake out a (forlorn) position (cf. Herrick, Moore and Hibbing 1994). Rather, including (a quadratic function of) the number of bills sponsored allows us to control for the simple fact that the number of bills that a member pushes through committee must be less than or equal to the number of bills she introduces.

7. We do not include each member's electoral marginality (insignificant in the ABS study). Nor do we report any results including an indicator for House floor leaders. When we run analyses including such a variable, we find that (a) the variable is insignificant for both the majority and minority parties; and (b) including it does not affect any of the results we report.

8. A Hausman specification test suggested that a fixed effects model would be superior to a random effects model.

9. The boost in productivity that a majority member gets when s/he ascends to a committee leadership position arises from two sources. First, and most important, the member gets more bills pushed through the committee s/he chairs. Second, there is also a small boost in the member's ability to push bills through other committees. We discovered the second effect in preliminary analyses using the member-committee-congress as the unit of analysis, rather than (as here) the member-congress.

10. The exception to this statement is that the very small number of members who switch parties after learning which party has won a majority do self select.

11. The panel is too short in the later period (i.e., the 104th and 105th Congresses) to make including fixed effects an attractive strategy.

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APPENDIX
Descriptive Statistics for the Congressional Bills Data Set, 93d–105th Houses

This appendix describes the data we use in our study. All data were obtained from E. Scott Adler and John Wilkerson, Congressional Bills Project: (1973–98), NSF 00880066 and 0088006. These data—collectively known as the Congressional Bills Data, henceforth CBD—are publicly available at <www.congressionalbills.org>. The CBD presently contain bill-level data on every bill introduced in the U.S. House or Senate in the 93d through 105th Congresses. The data include information about the bill itself and information about the bill's sponsor. In order to conduct our analysis, we transformed the CBD so that each record is a member-Congress that includes the number of bills the member introduced and saw reach various stages of the legislative process in the relevant Congress. Our transformed dataset contains 5,603 observations of member-Congresses. Descriptive statistics of our main variables appear in the table below.

Variable	Description	Observations	Mean	Median	Std. Dev.
Bills Introduced	Total number of bills introduced by member-Congress	5,603	17.75	12	20.27
Bills Reported	Total bills reported to the House by member-Congress	5,603	1.27	0	2.54
Bills Passed	Total bills passed by the House by member-Congress	5,603	1.12	0	2.24
Tenure	Cumulative years of prior House service	5,603	8.37	6	8.05
Majority	Majority party indicator	5,603	0.60	1	0.49
Committee Leader	Indicator for full committee chair or ranking minority member	5,603	0.13	0	0.33
Subcommittee Leader	Indicator for subcommittee chair or ranking minority member	5,603	0.49	0	0.50
Distance to Chamber Median	Euclidean distance to floor median DW-NOMINATE (first dimension) from focal member's DW-NOMINATE	5,580	0.33	0.31	0.21

Note: In the 93d–105th Congresses, 50 member-Congresses did not sponsor a bill and therefore do not appear in our dataset. Of these 50, 28 served only partial terms, which probably explains their lack of productivity. The analysis in Table 2 drops observations from members who either (a) served only one term; or (b) never succeeded in pushing one of their bills past the committee stage; or (c) had missing DW-NOMINATE scores.