Why do Legislators Skip Votes?
Position Taking versus Policy Influence

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Abstract

A legislator's duty is to vote on legislation, yet legislators routinely miss votes. Existing studies of absenteeism have focused on the US Congress, producing useful but partial explanations. We provide added insight by examining absenteeism in American state legislatures. Our data include 2,916,471 individual votes cast by 4,392 legislators from 64 legislative chambers. This rich, multistate dataset produces insights that build on and sometimes conflict with Congressional research. We use a multilevel logistic model with nested and crossed random effects to estimate the influence of variables at five different levels. In particular, we investigate whether state legislators miss unimportant votes or important votes. Contrary to what Congressional studies have found, we find that state legislators *avoid* participating in close or major votes, favoring reelection concerns over policy influence. We also find that state-to-state variations in legislative professionalism—in particular, the length of the session—affect absenteeism, with shorter sessions leading to higher absenteeism.

Keywords

Abstention, absenteeism, position taking, strategic waffling, policy influence, calculus of voting, state legislature.

An elected legislator's primary duty is to craft and vote on legislation, yet legislators routinely skip votes. In 2011, American state legislators missed an average of 5% of their floor votes; the worst tenth of legislators missed upward of 14% of their floor votes. Given the critical role that floor voting plays in the legislative process, this absenteeism deserves careful analytic attention.[1]

High absenteeism certainly did not escape challenging candidates' attention during the 2012 elections. California Assemblyman Nathan Fletcher was accused of being "AWOL from Assembly sessions."[2] Kentucky Representative Alecia Webb-Edgington was urged to "return her salary" after missing several votes.[3] Ads complained that Utah Senator Dan Liljenquist "didn't show up to vote 227 times last year," missing "24 percent of the votes."[4] Washington State Senator Don Benton was criticized for missing 299 votes.[5] Examples are even easier to find in the better-publicized world of the US Congress.[6] As one additional example, Barack Obama's missed votes as an Illinois state legislator became an issue in his 2008 presidential campaign.[7] If legislators are willing to miss votes despite the risk of being called out by an electoral opponent, we ought to understand why.

Toward that end, we test hypotheses derived from two competing theoretical strains found in the research literature. On the one hand, traditional theories about voter turnout in mass

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[1] The data set and replication code are posted online at http://goodliffe.byu.edu/papers/absenteeism.replication.zip.
[2] See http://www.utsandiego.com/news/2012/may/10/filner-fletcher-missing-many-votes/
[3] See http://cincinnati.com/blogs/nkypolitics/2012/04/11/coast-calls-out-webb-edgington-on-missed-votes/
[4] See http://atr.rollcall.com/utah-freedom-path-ad-hits-dan-liljenquist-for-missed-votes/
[5] See http://www.columbian.com/weblogs/political-beat/2012/sep/26/examining-bentons-missed-votes-defense/
[6] A few examples from 2012: Connie Mack was asked to "explain how you don't show up to work." Bob Filner was accused of having "one of the worst attendance records in Congress." Debbie Wasserman Shultz was reportedly "more concerned with headlining fundraisers for [Obama than] … with fulfilling the responsibilities owed to her constituents." Mazie Hirono was called out for missing "127 votes in Congress." Gwen Moore was called "Wisconsin's most absent member of Congress." Ron Paul and Michele Bachmann were criticized for skipping votes while campaigning for president.
[7] See http://www.factcheck.org/2008/09/obamas-legislative-record/

elections predict that people will participate in a vote when their potential policy influence is maximized—either because the election will be close, or because the policy stakes are high (Downs 1957; Riker and Ordeshook 1968). On the other hand, Mayhew (1974) famously argued that legislators care more about taking inoffensive positions that sell well at home than about actual policy change, giving legislators a strategic incentive to avoid casting an unambiguous "aye" or "nay" vote on the most controversial bills. Neither theory was meant to explain legislative absenteeism specifically, but both theories lead to clear (and opposing) predictions. If legislators seek to maximize policy influence, then absenteeism should drop on close or consequential votes; if they seek to maximize reelection chances, then we should see the reverse.

We advance the literature not only by our theoretical frame, but also by collecting data on state legislatures rather than the US Congress. Moving to the states has the obvious advantage of increasing dramatically the number of legislators (4,392), bills (20,037), voting events (43,450), and individual votes (2,916,471) in our analysis. This massive increase in sample size allows us to reconsider some findings from the Congressional literature, not all of which hold up in state legislatures. Moreover, studying state legislatures allows us to consider additional circumstances that do not arise in the Congressional context, especially the wide variations in session length, chamber size, chamber partisanship, and vote margins that arise in the states.

Our analysis produces two general conclusions. First, state legislators are more likely to skip close votes and high-profile votes, and are less likely to miss minor votes. Apparently, state legislators are more concerned with reelection than with policy influence. Although this finding would not surprise Mayhew (1974), it conflicts with some findings from the Congressional literature. Second, state-to-state variations in legislative professionalism—especially variations in legislative session length—have a small but significant impact on absenteeism. Where legislating is a vocation, legislators miss fewer votes; where legislating is an avocation, they miss more.

Absenteeism and the Rational Calculus

Existing research suggests two possible theoretical approaches to understanding absenteeism. In the first, legislators maximize their influence over policy outcomes; in the second, legislators maximize their reelection opportunities. As we proceed, we will not initially differentiate between legislators who are absent from the chamber and legislators who are present but choose to abstain. Our reason is simple: Legislative rules in nearly all states formally require all legislators present to participate in all floor votes, unless excused due to a specific conflict of interest. As such, most legislators who wish to skip a particular vote must physically leave the voting floor, rendering abstention synonymous with absenteeism. Moreover, even in those very few states that do allow abstention, our data source does not differentiate absenteeism from abstention. For these reasons, we will use "absenteeism" broadly to refer to either absenteeism or abstention throughout our theoretical discussion. However, in our analytic section, we will return to this issue and present several attempts to separate non-strategic absenteeism (caused by ill health or similar difficulties) from strategic absenteeism.

We begin with the possibility that legislators seek to maximize their policy influence. By assuming such maximization as a goal, standard models of voter turnout draw our attention to four general considerations: The probability (p) of casting a decisive vote, the magnitude of the policy benefits (B) at stake, the transaction costs (C) of participating, and the consumption value of participating in the democratic (D) process. Using these four terms, the utility (U) to an individual voter of participating in an election is typically modeled with the familiar calculus of voting (Downs 1957; Riker and Ordeshook 1968):

$$U = pB - C + D$$

Although this model was first developed to explain voter turnout in mass elections, we can easily adapt it to the legislative context.[8] A legislator's probability *p* of casting the decisive vote is higher when votes are closer (Hypothesis P1), when the majority party holds a narrower seat advantage (P2), and when the legislative body has fewer members (P3). The policy consequences *B* are greater when voting on major bills (B1) and bills the legislator has sponsored personally (B2). In the former case, the policy consequences for the nation (or for constituents) are greater; in the latter case, the policy consequences for the legislator personally may be greater. The consumption value of democratic participation *D* is not obvious for state legislators. One possibility is chamber; Senators are said to exhibit more institutional pride than Representatives (Matthews 1959), so we might expect less absenteeism in upper chambers as a result (D1).

For *p*, *B*, and *D*, we have no reason to expect state legislators to behave differently than members of Congress. Matters change when we consider the costs *C* of showing up to vote. In Congress, these costs mostly reflect the difficulty of making trips back and forth between Washington and home. Existing work has found that U.S. Representatives miss more votes when they live far from the U.S. Capitol (Poole and Rosenthal 1997), especially on days that bump up against the weekends—Mondays and Fridays (Rothenberg and Sanders 1999). However, the dynamics producing these findings may differ in the states. Because legislators in most states spend far fewer days in session than Congress does, most state legislators can focus on

[8] See Noury (2004) for an application to the European Parliament, and Rothenberg and Sanders (2000) for an application to the US Congress.

legislating during the session and reserve constituent meetings for the interim rather than trying to squeeze them in on weekends. Moreover, the distance effect in Congress may be driven by Representatives who live thousands of miles from the Capitol, distances that arise only rarely within the states. The distance effect has been observed regularly enough in Congressional research that we do test it in our state level data (C1), though we do not expect it to play a meaningful role in the states.

In the states, we expect the transaction costs *C* of participating in legislative votes to reflect conditions that do not arise in Congress at all: State-to-state variations in legislative professionalism. Legislating is a career in some states but a hobby in others. A professionalized legislature has high legislator salaries, lengthy legislative sessions, and abundant staff support; a citizen legislature has low salaries, brief sessions, and minimal staff (Squire 1992; Squire 2007). Variations in legislative professionalism are perhaps the most meaningful and dramatic state-to-state variation in legislative structure, and states vary widely on all three dimensions of professionalism. New Hampshire legislators earn $100 per year; California legislators earn roughly $100,000. Alabama legislators convene for only 30 days; legislators in eight states meet almost year-round.

We pay particular attention to legislator salary, which we expect to correlate negatively with absenteeism (C2). When legislators receive minimal compensation, they must hold full-time jobs apart from their legislative service. Although many citizen legislators hold flexible jobs that allow for lengthy leaves of absence, even the most flexible jobs may require occasional attention during the legislative session. And if a legislator’s law firm, accounting practice, real estate career, or other profession requires attention during the legislative session, then the legislator will miss votes. Meanwhile, higher paid legislators are less likely to hold outside jobs, reducing absenteeism.

We also consider the length of the legislative session. In states with brief sessions, legislators may find that they cannot accomplish everything they want without missing a few votes. In Utah, for example, one legislator introduced 34 bills during the short seven-week session in 2011, successfully bringing 25 to a floor vote and passing 23. With so many bills, many of them consequential, it was inevitable that this legislator would leave the voting floor at times to discuss his bills with lobbyists, cosponsors, reporters, constituents, and other stakeholders. Had he enjoyed the luxury of a year-round session, he surely could have found time to develop his bills without leaving the floor so often. We see echoes of this logic in the Congressional literature, where work has found that House leaders miss more votes than rank-and-file Representatives (Rothenberg and Sanders 1999). We expect busier legislators (leaders and active bill sponsors) to miss more votes (C3); we expect this effect to be magnified in states with short sessions (C4).

Absenteeism as Strategic Waffling

To this point, we have used the rational calculus of voter turnout to explain legislative absenteeism. By assuming that legislators seek to maximize their influence over policy outcomes, the rational calculus leads to the prediction that legislators will be less likely to miss votes that are either close or consequential. As it happens, the rational calculus might not be the best model. The reason is simple: Voting in a legislature is not the same as voting in a mass election. Of the many differences, two are most relevant to the present discussion. First, legislative votes are public, not private, and are therefore reviewable by others, including constituents and fellow legislators. Second, legislators cast votes as representatives of their constituents, not as independent actors, and constituents have the opportunity to reward or punish their representatives on election day.[9]

These differences are critical. If legislators care about maintaining constituent support, then they need to consider how constituents might react to their legislative votes. The most difficult votes to explain back home are those that pit different constituency groups against each other. Fenno (1978) wrote that legislators differentiate between their more ideological “primary” constituency (who can deliver renomination) and their more moderate “reelection” constituency (who can deliver reelection). Controversial bills may pit these two groups against each other. If legislators were more concerned about enacting their preferred policy than about winning reelection, legislators would not worry about choosing between their primary and reelection constituencies. Of course, legislators often rank things the other way; as Mayhew (1974) argued, legislators are more concerned with “position taking”—taking stances that will not offend core constituencies—than with policy outcomes (see also Groseclose and Milyo 2010). When it is impossible to cast a vote that will simultaneously satisfy all of a legislator’s key constituencies, the legislator might prefer to simply skip the vote: “Division or uncertainty in the constituency calls for waffling” (Mayhew 1974, 64). Surely there is no act more antithetical to waffling than casting an unambiguous “aye” or “nay” on a controversial bill. Mayhew, then, would expect

[9] There is a third difference: In contrast to a mass election, a legislative vote involves few enough participants that a legislator’s decision to abstain may change the ideological location of the legislature’s median voter sufficiently to change the vote outcome. Arguments in Rohde (1991) and Cox and McCubbins (2005) suggest this occurs infrequently in the U.S. House, however. If majority party leaders worried that such a situation was imminent, they could avoid an unfavorable outcome either by keeping the bill off the floor or by using disciplined procedural votes to create an environment where electorally-threatened legislators could safely abstain (or even vote against their party leadership) on substantive votes. Still, Rothenberg and Sanders (2002) find that members of Congress occasionally miss votes when their participation could have been pivotal. Moreover, these Congressional theories may not apply in all state legislatures, where procedural powers vary widely (see e.g. Kim and Phillips 2009; Cox, Kousser, and McCubbins 2010). Future research could profitably assess whether and how often absenteeism in state legislatures actually reverses policy outcomes.

legislators to avoid close (Hypothesis M1) or major (M2) votes.

Mayhew's position-taking logic works against the calculus of voting, especially against the *p* and *B* terms. The *p* term predicts that absenteeism should fall on close votes (P1), and the *B* term predicts that absenteeism should fall on high-profile votes (B1), yet Mayhew's position-taking logic predicts exactly the opposite: Those votes that are most likely to attract constituents' notice, either because of controversy (M1) or because of policy impact (M2), demand the most nuanced waffling.[10]

This tension between influence and waffling may explain some of the conflicting findings in the Congressional literature. On the one hand, absenteeism has been found to fall on close votes, consistent with the rational calculus (Cohen and Noll 1991; Poole and Rosenthal 1997; Forgette and Sala 1999; but see null effect in Rothenberg and Sanders 1999). On the other hand, absenteeism rises among U.S. Representatives with the greatest influence over outcomes—that is, among majority party Representatives (Cohen and Noll 1991; Poole and Rosenthal 1997; Rothenberg and Sanders 1999)—contrary to the rational calculus's *p* term, but consistent with a waffling logic. By studying the data-rich world of state legislative voting, we hope to shed light on these conflicting Congressional findings.

To all this, we could add a legislator's electoral vulnerability. Mayhew's reelection logic does not provide clear guidance about vulnerability's effects on missed votes. On the one hand, we should expect vulnerable legislators to miss votes as a result of spending more time in their districts promoting themselves; Rothenberg and Sanders (2002) found this effect in their analysis of the 89th Congress. On the other hand, vulnerable legislators should be motivated to take as

[10] We could conceptualize public position-taking as a cost (*C*) of voting, but this stretches the concept of voting cost beyond the original formulation.

many safe positions as possible, while avoiding controversial positions. Because safe votes far outnumber controversial votes in state legislatures, the net effect would be decreased absenteeism, as found in Jones's (2003) analysis of the US Senate and Rothenberg and Sanders's (2002) analysis of the 104th Congress. We expect the latter effect to predominate in state legislatures, so that insecurity promotes participation while security allows some shirking (M3).[11] After all, we have already stated that shorter sessions and shorter traveling distances should give state legislators plenty of opportunity to hold district events outside of floor time. However, to allow different effects for vulnerable and secure legislators, we interact electoral margin and legislative vote margin.

Hypotheses

In our effort to understand legislative absenteeism, we have considered the rational turnout calculus, which assumes that legislators seek to maximize their influence over policy outcomes, and Mayhew's position-taking logic, which assumes that legislators seek to maximize their electoral chances. This theoretical discussion has produced several hypotheses, some of which conflict directly with one another. We repeat them here for clarity. If a particular hypothesis has been tested at the Congressional level, we note the relevant citations below; we are unaware of any published research investigating these hypotheses within state legislatures.

We begin by stating our hypotheses in terms of the rational calculus. Hypotheses relevant to the probability *p* that a legislator will cast a decisive vote:

[11] Raising the specter of shirking as an additional cause of absenteeism suggests entirely new theoretical avenues. A small literature, summarized well in Feher and Titiunik (2014), has been particularly interested in how term limits impact shirking. We do not address term limits here, partly because term limits are orthogonal to our core theoretical concerns, and partly because Feher and Titiunik have already presented persuasive evidence that term limits do not increase abstention rates. If there is any effect, the legislator random effects should incorporate the term limit effect.

- P1: Absenteeism is lower on close votes. Close votes were significant in Cohen and Noll (1991), Poole and Rosenthal (1997), and Forgette and Sala (1999), but not Rothenberg and Sanders (1999).
- P2: Absenteeism is lower when the majority party holds a narrower seat advantage.
- P3: Absenteeism is lower in smaller chambers.

Hypotheses relevant to the policy benefits *B* from having a vote pass or fail:

- B1: Absenteeism is lower on major bills (defined here as bills dealing with fiscal policy, appropriations, state constitutional amendments, and executive nominations).[12] Major bills were significant in Forgette and Sala (1999) and Rothenberg and Sanders (1999).[13]
- B2: Legislators are less likely to miss votes on bills they sponsor personally.[14]

Hypotheses relevant to the participation costs *C* involved in entering the voting chamber and casting a vote:

- C1: Absenteeism is higher among legislators who live far from their respective capitols. Distance was significant in Poole and Rosenthal (1997) and Rothenberg and Sanders (1999).
- C2: Absenteeism is higher in states that pay legislators less money and provide fewer staff.
- C3: Absenteeism is higher among those with competing obligations (leaders and those sponsoring many bills, measured as logged bills). Rothenberg and Sanders (1999) tested

[12] We rely on the Sunlight Foundation's coding here; we discuss our dataset further below.
[13] Rothenberg and Sanders (1999) used a dummy for Congressional Quarterly's key votes. Forgette and Sala (1999) proxied major bills as votes in which each party's leadership team voted against the other party's leaders.
[14] We consider only primary sponsorship, not cosponsorship, since states vary widely in their rules and reporting of cosponsorship.

the leadership effect and found modest results.

- C4: Absenteeism is higher in states with short sessions, especially among legislators with competing obligations.

Hypotheses relevant to the consumption benefits of participating in the democratic *D* process:

- D1: Absenteeism is higher in lower chambers than upper chambers.

Hypotheses based on the incentive to strategically miss votes that might be difficult to explain to constituents:

- M1: Absenteeism is higher on close votes (contra P1).
- M2: Absenteeism is higher on high-profile votes (contra B1).
- M3: Absenteeism decreases among electorally vulnerable legislators (Jones 2003; mixed results in Rothenberg and Sanders 2002).

Hypotheses P1-P3, B1-B2, C1-C4, and D1 are drawn from the calculus of voting. Hypotheses M1-M3 are drawn from Mayhew's position-taking logic. There is a direct conflict between M1 and P1, and a broader philosophical conflict between M1 and P1-P3 collectively: Either legislators are more likely to show up when their decisiveness p is maximized (P1-P3), or they are more likely to avoid voting on close, controversial votes (M1). There is also a conflict between M2 and B1: Either legislators are more likely to show up when the political or policy consequences B are greater (B1), or they are more likely to avoid taking a clear stance on major bills (M2).[15]

In addition to the variables called for by these hypotheses, we also include two partisan control variables: At the individual level, we include a dummy for legislator partisanship, and at the chamber level, we include a dummy for the chamber majority. Congressional research has found partisan effects in absenteeism (Cohen and Noll 1991; Rothenberg and Sanders 1999) but only when analyzing periods when majority control did not vary; our multistate approach allows us to separate legislator and chamber partisanship.

We also control for each chamber's participation rules—whether each state requires legislators to participate in every vote (3 states), allows abstention only due to conflict of interest (26 states), or allows abstention in all cases (6 states).[16] We do not expect these rules to have much predictive power, partly because they vary so little—very few states allow unexcused abstentions—and partly because legislators can simply leave the chamber if the formal rules require all present to vote.

We control for whether legislators are voting on a bill that originated in their own chamber and the number of votes taking place that day in the chamber (logged). We also control for multimember districts and election cohort.[17] In our robustness analysis, we add controls for age, and the number of other votes missed that day.

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[15] Although B2 is also related to *B*, it has more to do with personal consequences for the legislator than with a bill's broader policy consequences, so B2 does not compete with M2.

[16] In many states, abstention rules could conceivably vary across chambers. In practice, however, there were no states in our data where the upper and lower chambers had adopted different rules. As a result, we treat abstention rules as a state-level variable.

[17] We include indicator variables for the election cohort.

Data

Our primary analysis uses roll-call voting data collected by the Sunlight Foundation and made available through OpenStates.org as part of an ambitious project to digitize floor votes for every state legislature. Although the Foundation has made substantial progress toward that goal, data are not available for all states or all years. We rely on data from 2011, since that year has the most complete data (at this writing). We dropped voting events with absentee rates above 50%,[18] and legislators who cast very few votes.[19] We also drop the small number of legislators who entered office as midterm appointees to fill unexpected vacancies between elections. We are left with data spanning 64 chambers and 35 states. In 29 states, we have data for both chambers; in 6 states, we have data for only one.[20] The data include 20,037 bills that were subject to at least one floor vote; 43,450 separate voting events; 4,392 legislators; and 2,916,471 separate legislator-votes coded dichotomously as absent (1) or otherwise (0).

Absenteeism varies both between and within states. Figure 1 depicts the median legislator's absentee rate and also the interquartile range for each chamber in our analysis. Median absenteeism is highest in the New Mexico Senate, the Alabama Senate, and the South Carolina House; it is lowest in the Wisconsin Senate, the New Hampshire Senate, the Nevada Assembly and Senate, the Pennsylvania Senate, and the South Carolina Senate.[21] Within chambers, variance in legislator absenteeism rates is highest in the New Hampshire House, the

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[18] It appears that most voting events with absentee rates above 50% were committee votes miscoded as floor votes.
[19] We dropped legislators who cast fewer than 20 votes or with an absentee rate above 50%. It appears that most legislators in these circumstances were experiencing serious illnesses or other irrelevant issues that kept them from the legislature for extended periods.
[20] A listing of the missing states and chambers shows no obvious pattern. There are states with large and small populations, and states in all areas of the country. For every state or chamber that we have missing, there is a similar state or chamber in our data set (e.g. South Dakota for North Dakota), except perhaps Hawaii.
[21] The median absentee rate was 0 in these chambers, but there is still sufficient variance for analysis; in each of these chambers, at least 40% of legislators missed at least one vote, with some missing far more.

Utah Senate,[22] and the Alabama House; it is lowest in the New Hampshire Senate, Nevada Senate, Tennessee Senate, the South Carolina Senate, and Tennessee House.

[Figure 1]

As mentioned earlier, although a few states do differentiate between absenteeism (e.g. a legislator missing votes for health reasons) and abstention (e.g a legislator missing votes for strategic reasons) in their journals, the Sunlight Foundation data does not. Essentially, we have a measurement problem in that our primary hypotheses concern whether legislators *strategically participate* or *miss* close or important votes, but our dependent variable includes abstentions for other reasons. Combining these two types of missing votes together will bias the logit estimates toward zero (Hausman, Abrevaya, and Scott-Morton 1998), so if we find a statistical and substantive effect with our available measure, we would expect the effect to be even stronger if we could separate the different types of abstention.

Further, the measurement problem would likely not go away even if we could identify the difference between "absent" and "absent, excused." Legislators would likely rather have excused absences, so even if they were abstaining for strategic reasons, they may record them as excused for health or other reasons. Thus, it still could be that excused absences increase on close votes. In a perfect world, where legislators truthfully give the reason for abstaining, that reason is recorded on all votes, and we incorporate that reason into the model, the effect on strategic abstention would be even stronger.

Using the Sunlight Foundation data, we control for the different reasons for missing votes

[22] Utah is among the few states requiring legislators to participate in all votes, even when there is a conflict of interest. That Utah nevertheless has such a high absenteeism rate bolsters our claim that absenteeism and abstention are comparable.

by including variables for absenteeism (e.g. distance from the Capitol) and abstention for strategic reasons (e.g. type of bill). After our initial analyses, we also examine subsets of the data separately to isolate votes missed for strategic reasons from votes missed for non-strategic reasons. All variables pertaining to bill sponsorship, bill topics, individual roll call votes, and legislator partisanship derive from the Sunlight Foundation data. Recognizing vast state-to-state variations in chamber size, we measure each vote's closeness as a percentage of chamber size, so that zero indicates a tied vote and 100 indicates unanimity.[23] Likewise, we calculate the majority party's seat advantage as a percentage of chamber size, so that zero indicates a partisan tie.

We supplement the Sunlight Foundation data with several other sources. Indicators of legislative professionalism—that is, legislative staff, salary, and session length—come from the *Book of the States*, published by the Council of State Governments. We increment and log each variable, and we follow standard practice in rendering session lengths comparable across states.[24] Although the three components of professionalism are often grouped into a single variable—the so-called Squire index (Squire 1992; Squire 2007)—we separate them because we do not expect each component to have the same relationship with absenteeism.

Testing hypothesis M3 requires a measure of electoral vulnerability. We cannot directly gauge a legislator's fear of losing office, of course, and it may be that legislators feel "unsafe at

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[23] Some studies have inferred closeness using indicators of party-line votes. In our data, a party-line indicator correlates highly with our vote margin measure (r=-0.86); we include only the vote margin, as it preserves greater variance.

[24] Some states limit the number of session days, while others impose a limit on the number of calendar days (including weekends) that may pass between the session's first and last day. In states using a calendar day standard, we follow common practice by multiplying the session length (in days) by 5/7 to estimate the number of weekdays in session. Another (uncommon) approach to measuring session length would be to determine the number of distinct dates that appear in our roll call data. Doing so would precisely estimate the number of days when legislators convened on the voting floor. The difficulty is that legislators might convene for committee hearings on a particular day without convening on the floor, producing an underestimate of session length. In our analysis, we stick with the literature's standard measure of session length. (The two measures correlate at r=0.22, p=0.08.)

any margin" (Mann 1978; see also Jacobson 1987). All the same, we use the standard proxy: The legislator's vote share in the most recent general election.[25] General election variables, including district magnitude, vote share, and election year, come from Klarner et al. (2013). Legislators' hometowns were compiled from state legislative websites, then entered into Google Maps to calculate each legislator's distance from the state capitol; we use the logged mileage. Legislator biographical information, including age and leadership positions, come from Project VoteSmart's online API.[26]

Our analysis of the combined data involves several analytical levels: The individual legislator, the bill, the voting event, the legislator-vote, the chamber, and the state. These levels have a complicated hierarchy as shown in Figure 2. Voting events are nested within bills, but voting events are also nested within chambers even though bills are not—after all, bills must receive votes in both a state's chambers to pass. Legislators are nested within chambers. Legislator-votes are nested within legislators but also within voting events. Chambers and bills are both nested within states.

[Figure 2]

Analysis

The dependent variable is the 2,916,471 legislator-votes, coded dichotomously with 1 indicating a missed vote. We use a logit link between the dependent and independent variables. The independent variables are at different levels of analysis. For example, a close vote is at the

[25] Because states vary in their use of single and multimember districts (MMD), we use each legislator's percentage share of the overall vote instead of the vote margin. Out of abundance of caution, we include additional dummies for MMD (interacted with vote share) and for year of election, though these controls turn out to bear little weight.
[26] Because leadership structures vary widely by state, our "leadership" variable captures dichotomously whether Project VoteSmart records the legislator as serving in any leadership position during 2011.

level of the vote; number of bills sponsored is at the level of the legislator. Simultaneously modeling all the variables requires attention to the hierarchical structure shown in Figure 2. To estimate the effects of variables at different levels of analysis, we use multilevel models (also known as hierarchical or mixed-effects models).[27]

Using a multilevel model has several advantages. First, it avoids the ecological fallacy of interpreting relationships at a higher level (legislatures) as applicable to a lower level (legislators) (Skrondal and Rabe-Hesketh 2004).[28] Second, we can model the variation between groups and within groups at different levels simultaneously. In this application, we can see whether there is more variation in absenteeism across legislators within a state than across votes within a state. Third, we can account for, and model, the correlation that exists in the data at different levels. For example, there are legislators who (even after controlling for legislator characteristics) have a higher propensity to not vote. Whether the legislator does not vote in one instance is likely correlated with not voting in another instance. Similarly, some bills will have a higher likelihood of abstention across legislators (even after controlling for bill characteristics) because of factors unobserved to us, but known to legislators. Clustered standard errors may account for this correlation at one level, but we require multilevel modeling to account for this correlation (or unobserved heterogeneity) at five levels simultaneously.[29] We account for this correlation by including a random effect at each level.[30] In the parlance of multilevel models, we

[27] Separate analysis of each level of analysis may be found in a supplemental appendix. These level-by-level regressions produce the same general results as those presented here, with a few minor differences at the margins. Because separate regressions by level of analysis do not account for the nested and crossed structure of the data, however, we do not have confidence that the models reported in the supplement satisfy the Gauss-Markov requirements for OLS to produce unbiased results. Using clustered standard errors (as we do in the supplement) helps account for some of the problems that arise, but it cannot account for all of them.

[28] It also avoids the atomistic fallacy of doing the reverse.

[29] For more on the reasons to use multilevel modeling, see Gelman and Hill (2007).

[30] We use the lme4 package in R (Bates et al. 2015), which handles (partially) crossed and nested random effects elegantly. With 2.9 million observations, five random effects, and up to 31 covariates, some models took several days to run (on a server with 384 GB RAM and 32 cores).

have a combined nested and crossed random effects model to predict absenteeism.[31]

The results of our combined nested and crossed random effects estimation appear in Table 1, with the various coefficients grouped by level of analysis. The variables we estimate arise at the level of the state, chamber, bill, voting event, legislator, and legislator-vote. We first estimate a null (or empty) model that includes random effects at each level, but without independent variables. We then estimate a full model that addresses all our hypotheses. Finally, we present models that include the most important variables and effects.

[Table 1]

The Null Model includes random effects for each level and no independent variables. We present this model to examine how much variance exists at different levels. By construction, logit models have a variance at the lowest level (here, legislator-vote level) of $\pi^2/3 = 3.29$, or a standard deviation of 1.81. In comparison, the standard deviation of absenteeism at the legislator level is 1.44 (the next largest), and the standard deviation of absenteeism at the level of the bill is 0.42 (the smallest). Thus, without controlling for any independent variables, there is more variance across legislators than across bills (or chambers or states). For an average state, we would expect 95% of the *legislators* to have abstention rates between 0.07% and 16% (while not controlling for any independent variables).[32] In the same state, we would expect 95% of the *bills*

[31] We have nested random effects because legislators are nested within chambers, and thus the legislator random effects are nested within chamber random effects. We have crossed random effects because votes are not nested within legislators. Bates (2010) calls our model "partially crossed," rather than "completely crossed" because every legislator is not observed with every vote. By comparison to the econometric panel literature, a (completely) crossed random effects model is also called a (balanced) two-way random effects model, with a random effect for entities and a random effect for time.

[32] Like most multilevel models, we assume a normal distribution of random effects. We can then calculate the range of log-odds as $Intercept \pm 1.96\, SD(random\ effect)$, and convert to probabilities (and percentages). For legislators, the range of log-odds is $-4.49 \pm 1.96(1.44)$. The range of probability is then $1/\{1 + \exp[-(-4.49 \pm 1.96(1.44))]\}$. Since the average log-odds is the intercept ($= -4.49$), the baseline probability of abstention is $1/\{1 + \exp[-(-4.49)]\} = 0.011$ or 1.1%.

to have abstention rates between 0.5% and 2.5%. We generally expect these variances to drop as we include independent variables that explain (or absorb) the variance at different levels. This is indeed what we find as we move from the Null Model to the Final Model or Full Model, but the standard deviations do not change much, indicating that there is plenty of variance left unexplained by the independent variables. This is not surprising given the variety of chambers, legislators, and bills in the data set, and the many reasons legislators can abstain that we cannot model.

The Full Model of Table 1 contains tests of all our hypotheses. We find some evidence for one of the three hypotheses connected to the rational calculus's *p* term, P1-P3. Absenteeism has a positive relationship with chamber size (P3). Of course, the finding most relevant to our theoretical discussion is that absenteeism rises on close votes rather than falling—a finding contrary to P1 (from the turnout calculus) but consistent with M1 (from Mayhew's position-taking logic). Where the two theories conflict directly, we find support for the hypothesis that state legislators strategically waffle rather than take positions on close votes.

When it comes to the rational calculus's *B* term, we find clear evidence that legislators are less likely to miss votes on bills they sponsor personally (B2), but this finding is theoretically trivial. More interestingly, we find that absenteeism is correlated with high-profile bills—that is, bills dealing with appropriations, fiscal policy, and executive nominations—but the picture is somewhat murky. Two of our indicators have positive coefficients (appropriations and nominations), one has a negative coefficient (fiscal policy), and one is essentially zero (amendments). On balance, the evidence favors M2 over B1; it seems that high profile votes frighten legislators rather than attracting them, a finding consistent with the position-taking logic.[33]

We find only minimal support for hypotheses derived from the rational calculus's *C* and *D* terms. Contrary to the Congressional literature, we find no evidence that legislators who live farther from their capitol miss more votes (C1). We find no evidence that leaders miss more votes (C3). We do not find significant evidence that legislators miss fewer votes when they are paid more or have more staff (C2).[34] We find no meaningful evidence that absenteeism is higher in Senates than in Houses (D1).

We do find evidence that electoral vulnerability reduces absenteeism. Legislators who win election comfortably miss more votes than legislators who sneak in. Mayhew expected reelection-minded legislators to seek opportunities for position taking. Though we would expect vulnerable legislators to avoid close or controversial votes, most votes are neither close nor controversial—and in any event, we have controlled separately for closeness and controversy. Thus, it follows that vulnerable legislators would seek out opportunities to cast votes on the remaining (lopsided, non-controversial) bills. The variable interacting electoral margin and vote margin is insignificant, indicating that there is no difference between secure and vulnerable legislators in whether they avoid close votes.

As for our control variables, we find that Republicans and majority-party legislators miss fewer votes, an effect repeated at the chamber level with GOP-controlled bodies.[35] Legislators

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[33] Table B2 in the supplemental appendix provides less ambivalent results: When analyzing the data at the level of voting events, all four of these indicators have positive coefficients (i.e. absenteeism increases on major bills), and three attain statistical significance.
[34] We also measured legislative salary relative to the state median (logged). Like absolute salary, it was statistically insignificant.
[35] Research on executive vetoes suggests that presidents exercise more vetoes when Congress passes more objectionable bills (Rohde and Simon 1985). Likewise, minority legislators may abstain more often simply out of protest over the bills being brought to the floor. We thank an anonymous reviewer for this insight.

are somewhat less likely to miss votes on bills originating in their own chamber. We also find that absenteeism decreases on days when more votes are held, but only modestly.[36] Legislators abstain more often when they are allowed to abstain anytime, compared to abstaining with cause. However, legislators also abstain more often when the official rule is that legislators present in the chamber must vote on all questions, even when they perceive a conflict of interest (again, compared to abstaining with cause). This seemingly counterintuitive result may reflect unintended consequences. That is, these mandatory voting rules may drive legislators to leave the chamber entirely when they wish to skip a vote, causing legislators to miss several consecutive votes rather than just one.

We are interested in highlighting the most important variables and comparing their substantive significance. Because we have such a large data set, we go beyond statistical significance to use information criteria to determine which variables to include in our Final Model.[37] The Final Model of Table 1 includes the most important variables and random effects based on the Akaike information criterion (Akaike 1974). The last column of Table 1 includes variables and random effects based on the Bayesian information criterion (Schwarz 1978). We prefer the Akaike information criterion (AIC) to the Bayesian information criterion (BIC)

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[36] This variable's substantively small effect works in favor of our decision to treat absenteeism and abstention together. After all, holding many votes in a single day should not affect abstention rates, but the consequences of leaving the chamber for 2 hours would be much greater on a day with more votes. If the two behaviors had identical causes, we would expect no effect on this variable; if they had very different causes, we would estimate a large effect. Getting only a small effect (refer also to Table 2) provides some reassurance that absenteeism and abstention have similar underlying causes.

[37] Since we have almost 3 million observations, the effective degrees of freedom of a variable is the number of entities at the level the variable is measured (Snijders 2005). Thus, there are about 43,450 degrees of freedom for our vote margin variable, which is quite a lot, but not nearly as large as 2.9 million. There are about 35 degrees of freedom for our state-level variables, such as abstention rules. (In a Monte Carlo study, Bryan and Jenkins (forthcoming) recommend at least 30 groups for reliable estimates in multilevel logit models.) Most other variables have effective degrees of freedom between those two levels. The only variables that have 2.9 million degrees of freedom are whether a legislator is voting on his or her sponsored bill, and the cross-level interactions. Because some of these interactions are not significant, sample size alone is not driving statistical significance.

because we wish to find the model that is most adequately descriptive, rather than the model that is closest to the "true model" (Burnham and Anderson 2004). As usual, the BIC model has fewer variables. The BIC model also drops the state random effect. However, most importantly for our primary hypotheses, the AIC and BIC model both include type of bill (appropriation, fiscal, nomination) and legislative vote margin.

In our Final Model, we have an interactive variable between bill sponsorship and session length, so we examine the effects of these variables more closely. Because both coefficients are negative, absenteeism decreases with session length at all observed levels of bill sponsorship (C4). We infer that legislators in states with very short sessions, regardless of their bill load, find it difficult to accomplish all their duties without leaving the voting floor on occasion. We can see this negative relationship in a bivariate plot between absenteeism and session length for each chamber.[38]

The results are more complicated for bill sponsorship. Although the coefficient for bills sponsored is positive, this coefficient represents the effect when session length is 1 day, which is not observed in the data. Since the coefficient on bills sponsored × session length is negative, we can find the session length where the estimated effect of bills sponsored is 0: about 53 days, which is about the 22nd percentile. When session length is less than 53 days, increasing bill sponsorship increases absenteeism. When session length is greater than 53 days, increasing bill sponsorship decreases absenteeism. Thus, active bill sponsorship leads legislators to miss floor votes in short, rushed sessions (C3); elsewhere, active sponsorship suggests more active

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[38] The scatterplot is in Figure B3 of the supplemental appendix. A single-level model of chambers (controlling for other chamber- and state-level factors) shows a negative, but statistically insignificant relationship between absenteeism and session length. Including the interaction uncovers the effect of session length.

engagement with the voting process.

As noted, we wish to compare the substantive significance of the different independent variables. To compare the substantive effects, we calculate the percentage change in the odds associated with a two standard deviation increase in each independent variable, one at a time.[39] As pointed out by Gelman (2008), this procedure makes a change in a continuous variable equal to a change in a balanced binary variable.[40] Because the overall probability of abstaining is low, the percentage change in the odds is roughly equivalent to the percentage change in probability,[41] and we will use probability rather than odds. The results are in Table 2.

[Table 2]

We see that the strongest substantive effects are found in the state and chamber variables. The strongest effects are for the voting rules: Legislators that can abstain anytime or that must vote abstain about 130 percent more often, compared to abstaining with cause. As the legislative session length increases by two standard deviations, the probability of not voting decreases by 25-63 percent (depending on the number of bills sponsored). The substantive effects of voting on important bills—appropriations, fiscal, nominations—is smaller, around 10%. The substantive effects of legislator-level variables are in between bill-level variables and chamber/state variables: between 7 and 43% effects on probability.

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[39] We calculate this using the odds ratio = $\exp\left(\hat{\beta}\Delta x\right)$, where $\hat{\beta}$ is the coefficient on x and Δx is the two standard deviation increase. The percentage change is $100\% \times \left(\exp\left(\hat{\beta}\Delta x\right) - 1\right)$. To take into account the effect of the interactive variable, we calculate two values: where the other constituent variable is set to the 10th and 90th percentiles.

[40] For a perfectly balanced binary variable—half of the observations at 0, half at 1—a move from 0 to 1 is the same as a two standard deviation shift. (The proportion of Republicans is 0.53.) For unbalanced binary variables, a move from 0 to 1 is greater than two standard deviations. (The proportion of appropriation bills is 0.006. Moving from 0 to 1 is over 12 standard deviations.)

[41] $odds = \frac{p}{1-p} \approx p$, for small p.

For our primary variable of interest—vote margin—as the vote margin increases by two standard deviations (that is, as the vote becomes less close) the probability of not voting decreases by 32%. To reverse the reasoning: If we increase the closeness of the vote (by two standard deviations), the probability of abstention increases by 46%.[42] This strategic waffling is statistically and substantively significant, and the result is robust to all models that include strategic votes.[43] This result is found in all models including strategic votes, including a single-level model examining voting events, and even a bivariate relationship between percentage abstaining and the vote margin.[44]

We can also interpret the random effects in a similar manner. Moving from the median observation in a level (e.g. legislator, chamber) to two standard deviations higher increases the probability of not voting by the percentage shown. For legislators, such a move increases the probability of abstaining by 1582%.[45] For bills, the two standard deviation move increases the probability by 130%. States, chambers, and votes are in between legislators and bills in substantive effect. As discussed earlier, the unexplained variance at each level is much greater than the variance explained by the included variables.

A standard method of examining variance between and within levels is the intraclass correlation (ICC), called a residual ICC if independent variables are in the model (Snijders and

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[42] The standard deviation of vote margin is 30.6, and the coefficient is −0.0062. The percentage change in odds (≈ probability) is $100\% \times [\exp(-0.0062 \times 30.6 \times 2) - 1] = -32\%; 100\% \times [\exp(-0.0062 \times 30.6 \times -2) - 1] = 46\%$.

[43] The vote margin variable is also estimated with precision in each model: its *t*-statistic (i.e. coefficient/standard error or *z*-value) is always greater than 10. As noted below, when we exclude strategic votes, legislative vote margin is statistically insignificant.

[44] The single-level model and a scatterplot showing this relationship is found in the supplemental appendix, Table B2 and Figure B2.

[45] Although this is quite large, it is similar in magnitude to the unconditional change in the null model from 1.1% (mean) to 16% (+2 standard deviations).

Bosker 2012, 304-305). In the Final Model the residual ICC for a legislator is 0.50.[46] This means that the propensity of a given legislator (in a given chamber in a given state) to abstain from one vote to the next is correlated at 0.50 (holding independent variables constant). In contrast the residual ICC for a bill is 0.13, meaning that the propensities of two legislators (in the same state) to abstain on the same bill is correlated at 0.13 (holding independent variables constant).

Finally, for each entity in a level, we calculate the best linear unbiased predictor (BLUP) of that entity's random effect.[47] This predicts how much more (or less) likely the entity is to abstain net of the independent variables. We also calculate the 95% prediction interval for each BLUP. Then we order the BLUPs from most negative to most positive, creating "caterpillar plots" of the random effects for each level. As an example, a legislator with a positive BLUP is more likely to abstain than would be expected given the legislator's measured characteristics (e.g. party, number of bills sponsored, etc.). If the 95% prediction interval excludes zero, then it is unlikely this prediction is due to chance. The caterpillar plots are presented in Figure 3.

[Figure 3]

For states and chambers, there are few enough entities that we can pick out the chambers and states that have unexpectedly high or low abstention rates. Among states, Nevada and Tennessee have lower abstention rates than expected given session length and voting rules.

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[46] The residual ICC = $variance(random\ effect_i)/\left[\sum_j variance\left(random\ effect_j\right) + (\pi^2/3)\right]$, where $(\pi^2/3) = 3.29$ is the residual variance of a logit model. For legislators, ICC = $[1.44^2 + 0.91^2 + 0.97^2]/[1.44^2 + 0.91^2 + 0.97^2 + 0.59^2 + 0.42^2 + 3.29] = 050$. We include the state and chamber random effects because legislators are nested within chambers and states. For bills, ICC = $[0.42^2 + 0.91^2]/[1.44^2 + 0.91^2 + 0.97^2 + 0.59^2 + 0.42^2 + 3.29] = 0.13$. We include the state random effect because bills are nested within states (but not chambers).

[47] This is the conditional mode (i.e. maximum likelihood) of the probability density evaluated at the parameter estimates of the independent variables for each entity.

Alabama, Utah, California, and Oklahoma have higher abstention rates than expected. For chambers, we must also keep in mind that each chamber's random effect is calculated net of the state random effect. To get the overall effect of the chamber, we would need to add the two effects together. South Carolina presents an interesting case: the lower chamber (the top line) has a much higher abstention rate and the upper chamber (the bottom line) has a lower abstention rate than expected given the number of legislators in each chamber, the number of votes held, and partisan control. (The state as a whole has a slightly higher abstention rate than expected, though not statistically so.) We see a similar pattern in Figure 1, which has the unconditional abstention rates, and shows that the South Carolina upper chamber has an average abstention rate of zero while the South Carolina House has the highest abstention rate among lower chambers.

There are too many legislators, bills, and votes to analyze each entity separately, but the patterns in the caterpillar plots are still informative. First, there are few bills and votes that have unusually high or low abstention rates, as most prediction intervals overlap zero. However, about one-sixth of legislators have statistically higher abstention rates than expected given their party, majority status, electoral safety, representative scheme, and bills sponsored. And about one-tenth of legislators have statistically lower abstention rates than expected. This coincides with the earlier result that legislators' random effects have the strongest substantive effect on abstention. Random effects absorb whatever factors are consistent (across votes, or across legislators) but not included in the model. Since the legislator random effects are the strongest random effects, future research could profitably consider other legislator-level factors that may lead to missed votes, such as legislator health and progressive ambition. However, the legislator random effects also include factors that are essentially unobservable, such as legislator dedication or laziness.[48]

Robustness

As we noted earlier, one of the advantages of the Sunlight Foundation data set is that we are able to analyze all of the votes in many of the state chambers. The tradeoff with this comprehensive data set is that we cannot distinguish between the two types of absences—strategic abstention and non-strategic absenteeism—on each vote. We now address this limitation more directly by examining auxiliary models that add variables to the final model or look at subsets of the data of the final model. The different models are in Table 3. For comparison, the first column includes our Final Model from Table 1.

[Table 3]

First, we add age to the final model by separating age into different categories: less than 35, 35-44, 45-54, 55-64, 65-74, 75-84, and greater than 84. As we do not have any variables for health, the age categories may proxy for them. In addition, the separate categories allow a non-linear relationship between age and abstention. Unfortunately, our data source has information on legislator ages for only 62% of the legislators (and 60% of the legislator-votes), which is one reason we do not include it in our initial models. The results, in the second column of Table 3, are qualitatively the same once we control for age. In particular, the coefficient on legislative vote margin is very similar: Even when we control for age (and other included factors), legislators are more likely to miss votes that are close. The age results show that legislators who

[48] In the supplemental appendix, we present caterpillar plots for the Full Model including Age. They are qualitatively similar demonstrating that it is not omitting age that leads to the strong random effects, it is other unobservable factors.

are over 84 miss votes much more often. In addition, compared to other age categories, legislators who are 35-44 are absent more often, perhaps because of competing professional or family obligations. The other categories are statistically similar to each other.[49]

Second, we add the percentage of votes missed by the legislator that day to the final model. We expect that as a legislator misses other votes on a particular day, the legislator is more likely to miss the current vote on the same day. This variable is meant to identify days where a legislator finds it difficult to vote for non-strategic reasons. We already attempt to control for these circumstances by including variables such as number of bills sponsored and number of votes held that day. This additional variable is an extreme (non-causal) version of such a control, in that it uses votes missed earlier and later in the day to predict the legislator's participation in the current vote. The results are in the third column of Table 3. The additional variable absorbs much of the variance in absenteeism, especially among state legislators, as shown by the greatly reduced standard deviation on the legislator random effects. In addition, the effects of important votes and voting rules are less strong. However, most importantly, the effect on close votes is still statistically strong, and even substantively stronger: Legislators are more likely to miss closer votes, once we control for the percentage of other votes missed by the legislator that day.[50]

Third, we run two additional models that exclude observations where we are least likely or most likely to find strategic behavior. That is, we run one model for the subset of observations where strategic behaviors are most likely, and another for the subset where strategic behaviors are least likely. We expect that when a legislator misses all votes for an entire day, the legislator

[49] In the supplemental appendix, we present the results of the Full Model with Age, and the results of Null and Final Model using the subset of legislator-votes that have legislators' ages. The results are qualitatively similar, particularly in the key theoretical variables of vote margin and type of bill.

[50] The other variables have similar effects, except for number of votes held that day. Once we control for the percentage of votes missed by a legislator that day, days with more votes have more abstentions.

is less likely to be abstaining for a strategic reason. Thus, we run the final model while excluding those votes. This excludes 43,461 votes, which is about one-third of the abstentions. These votes missed are similar to "leave of absence" votes in the US Congress (Powell 2015). This method of distinguishing strategic from non-strategic absences is also used by Dynes and Reeves (2015) in their analysis of attendance of Republican caucus meeting in the US House. The results are in the "Strategic Subset" column. As noted above, including non-strategic abstentions with strategic abstentions is a type of measurement or misclassification error on the dependent variable, in which case, the coefficients on the strategic covariates should be biased toward zero. Indeed, this is what we find with the vote margin variable: Once we remove votes missed for the entire day, the coefficient is about 42 percent larger. Its magnitude is similar to the magnitude found in the previous model, when we controlled for the percentage of other votes missed by the legislator that day.

As a comparison, we estimate a model where we include only those abstentions where a legislator missed all of the votes that day, and exclude the abstentions where the legislator voted at any other time that day. Here, we would expect that strategic considerations such as the closeness of the vote would have no effect. The results are in the "Non-strategic Subset" column. As expected, the closeness of the vote does not affect whether a legislator missed all of the votes that day.

There are some other interesting differences in the results in the strategic and non-strategic subsets. When more votes are held, a legislator is less likely to miss the entire day and more likely to miss a specific vote that day. In addition, when the session length is longer, a legislator is more likely is miss an entire day of votes, and less likely to miss a specific vote. And a legislator's election percentage has a stronger effect on missing an entire day of votes than on a specific vote. The primary finding, however, is that whether we control for age, other votes missed that day, or full-day abstention, state legislators are more likely to abstain on close votes than lopsided votes.

Discussion

We began by deriving hypotheses from two theoretical traditions. Rational models of voter turnout in general elections (Downs 1957; Riker and Ordeshook 1968), as applied to legislative voting (Rothenberg and Sanders 2000; Noury 2004), motivated hypotheses P1 through D1. We derived additional hypotheses (M1 through M3) from Mayhew's (1974) position-taking logic, emphasizing that legislators may have strategic decisions to miss votes that commit them to specific, controversial stances and seek out less controversial opportunities for position taking.

We noted at the outset a philosophical conflict between the rational calculus and the position-taking logic, at least with some of our hypotheses. If legislators are more likely to show up when their probability *p* of casting a decisive vote is higher, we should confirm P1-P3 and reject M1; if legislators avoid taking positions on close, controversial votes, we should observe the opposite. If legislators are more likely to show up when the policy consequences *B* are greater, we should confirm B1 and reject M2; if legislators avoid taking specific positions on the most important policy matters, we should observe the opposite. More broadly, the rational calculus assumes that legislators seek to maximize policy influence; Mayhew's logic assumes they seek to maximize electoral concerns.

As it happens, we have found evidence against P1 (absenteeism falls on close votes), weak evidence for P2 (absenteeism falls when the party margin is slim), evidence for P3 (absenteeism falls in smaller chambers), and mixed evidence for B1 (absenteeism is lower on high profile bills). Meanwhile, we found clear evidence in favor of M1 (absenteeism rises on close votes) and mixed evidence for M2 (absenteeism generally rises on high profile bills). When policy influence comes at the cost of electoral goals, it appears that Mayhew's position-taking behavior dominates. Legislators would rather take bland positions that resonate with voters than stake out a clear stance on controversial issues—a clear stance that may haunt them later.

We found weaker evidence for some of the remaining hypotheses (B2-D1), which were derived from aspects of the rational calculus of voting that did not conflict with the position-taking logic—the *C* and *D* terms. There is evidence that busier legislators and legislators with shorter sessions miss more votes (C3 and C4). We did not find compelling evidence that absenteeism is higher in lower chambers than upper chambers (D1). On the whole, it appears that the *C* and possibly *D* terms from the rational calculus of voting are less useful ways to understand legislative absenteeism.

We found clear evidence for our final hypothesis (M3), which reflected aspects of Mayhew's position taking logic that did not conflict with the rational calculus. Electorally threatened legislators seem to seek out opportunities to vote on routine, non-controversial bills. Because most bills are routine and non-controversial, vulnerable legislators have lower abstention rates overall.

In summary, when there is a close vote on a controversial issue, legislators can choose to influence policy by casting a "yea" or "nay" vote, or to avoid blame out of concern for re-election by casting no vote. Our results show that the closer the vote, the more likely the legislator is to miss that vote. Thus, when legislators might be expected to make a difference through their representative behavior, they avoid legislating in favor of campaigning. Legislators prefer easy votes over hard ones.

These findings point toward profitable avenues for future inquiry that are beyond the scope of this article. First, we find that electoral concerns can lead legislators to skip votes, yet we opened with anecdotes suggesting that excessive absenteeism creates electoral risks. Future work should assess the effects, if any, of absenteeism on electoral outcomes. Second, future work should estimate how many legislative outcomes might have been reversed had absent legislators participated. After all, absenteeism has less substantive impact if it does not change any real-world policy outcomes. Such an analysis would require estimating ideal points for each legislator and then calculating the ideological cutpoint for each voting event. The requisite methodological tools are readily available (Poole and Rosenthal 1997; Shor and McCarty 2011). The large, freely-available state-level voting data we have relied on makes research on these questions possible, and with far greater precision than in studies of Congress or of any other legislative body.

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Figure 1: Median legislator absenteeism rates and interquartile ranges, by state and chamber

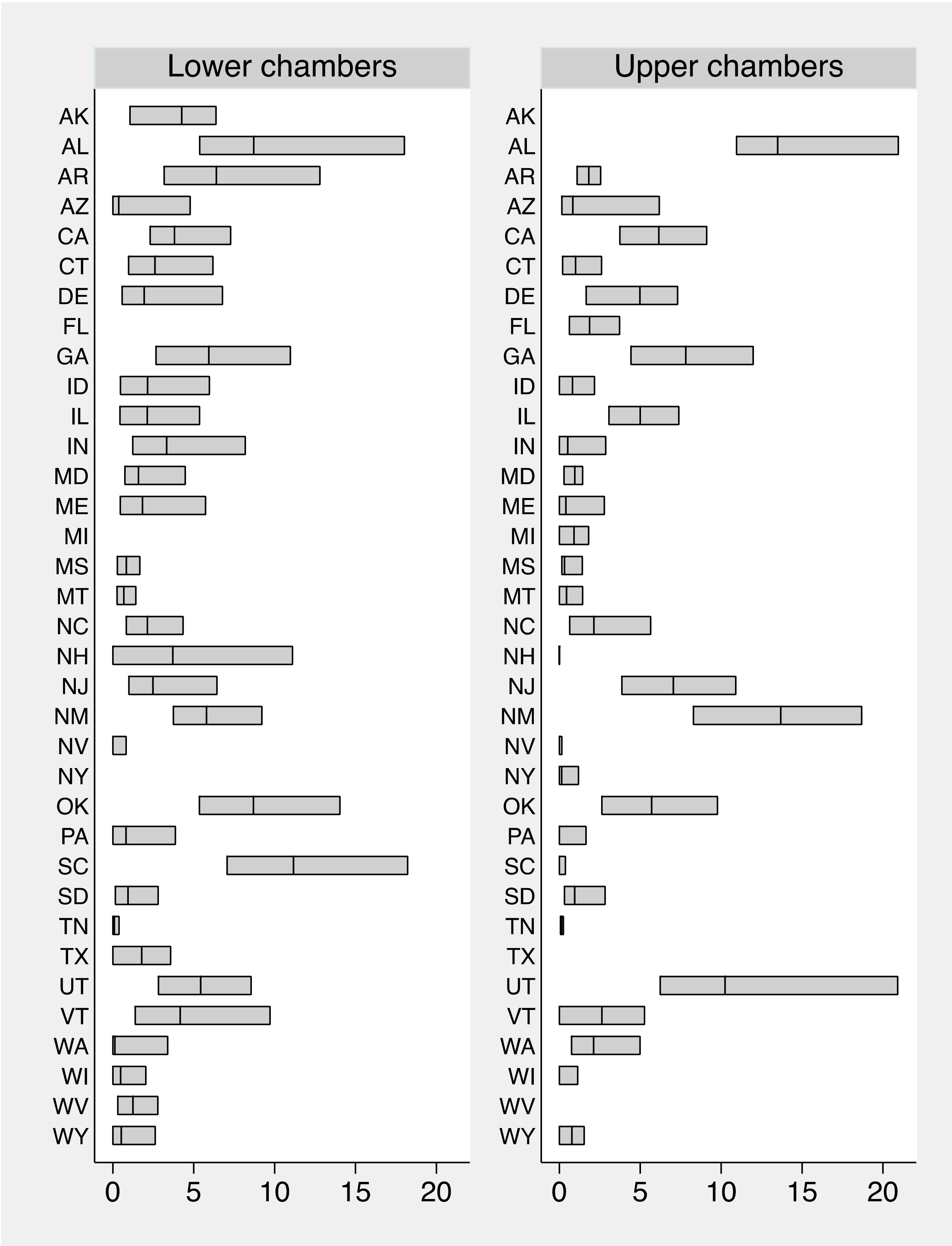

Figure 2: Hierarchical structure of the data

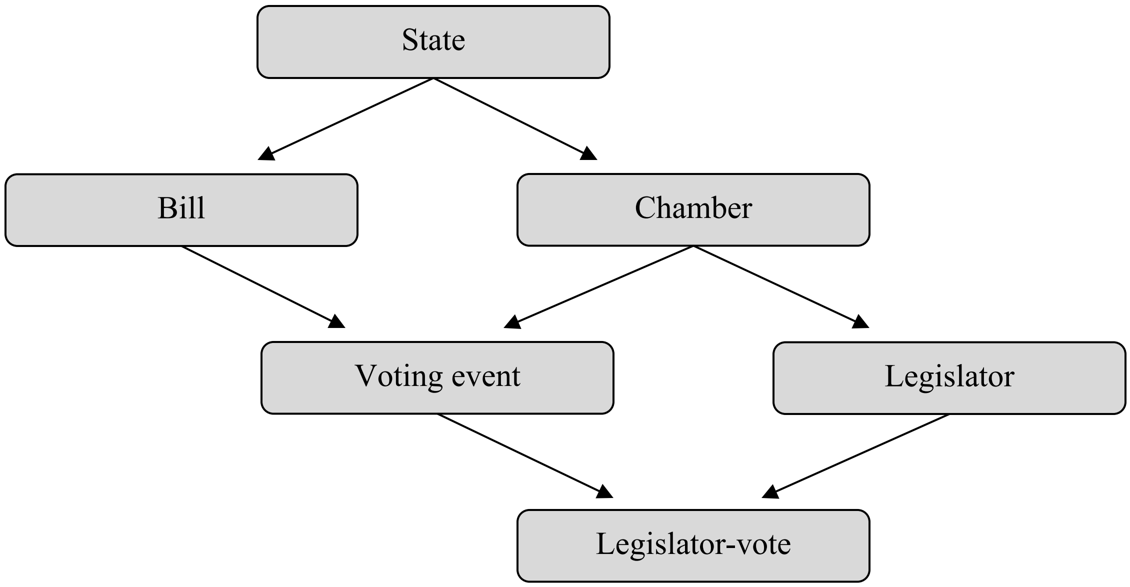

Figure 3: Caterpillar Plots of Random Effects for Each Level (Final Model)

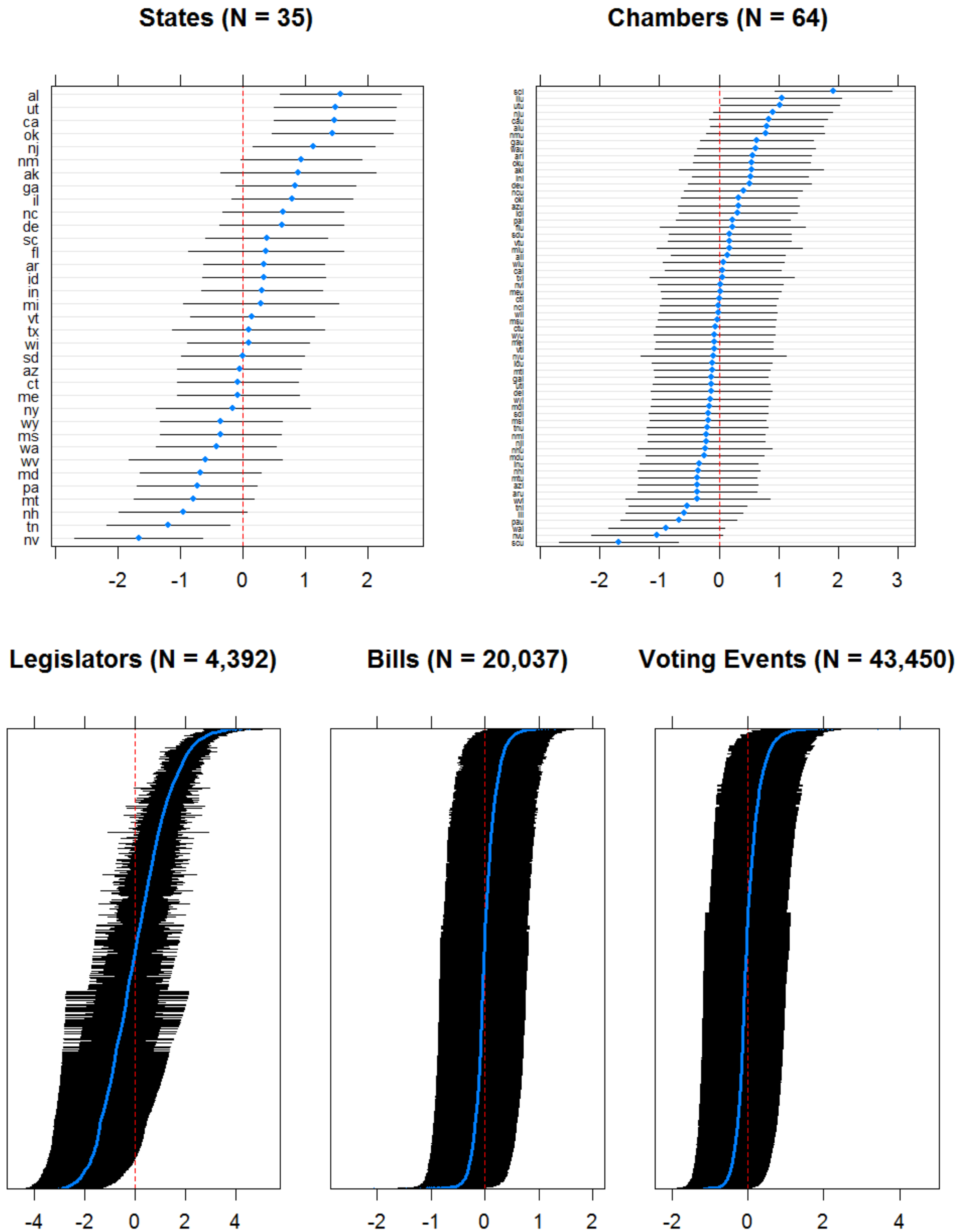

Table 1: Absenteeism in the state legislatures

Variable [Hypothesis Direction]	Null Model	Full Model	Final Model	BIC Model
Level: Voting event	(*N=43,450*)	(*N=43,450*)	(*N=43,450*)	(*N=43,450*)
Vote margin (%) [P1+ vs. M1−]		−0.0060**	−0.0062**	−0.0062**
		(0.00048)	(0.00021)	(0.00021)
Bill originated in voting chamber		−0.074**	−0.073**	−0.074**
		(0.011)	(0.011)	(0.0099)
Level: Bill	(*N=20,037*)	(*N=20,037*)	(*N=20,037*)	(*N=20,037*)
Appropriations [B1− vs. M2+]		0.33**	0.34**	0.33**
		(0.064)	(0.064)	(0.064)
Fiscal policy [B1− vs. M2+]		−0.29**	−0.29**	−0.29**
		(0.042)	(0.042)	(0.042)
Nomination [B1− vs. M2+]		0.76**	0.75**	0.76**
		(0.096)	(0.094)	(0.094)
State amendment [B1− vs. M2+]		−0.19		
		(0.29)		
Level: Legislator	(*N=4,392*)	(*N=4,392*)	(*N=4,392*)	(*N=4,392*)
Republican		−0.23**	−0.24**	−0.21**
		(0.052)	(0.051)	(0.051)
Member of majority		−0.29**	−0.28**	−0.35**
		(0.055)	(0.053)	(0.051)
Election percentage [M3+]		0.0072**	0.0070**	0.0055**
		(0.0015)	(0.0014)	(0.0011)
log(bills sponsored) [C3+]		0.65**	0.67**	
		(0.22)	(0.20)	
Multi-member district		0.60*	0.43*	
		(0.27)	(0.18)	
Election percentage × MMD		−0.0048		
		(0.0064)		
Leadership [C3+]		0.31		
		(0.64)		
log(miles to capitol) [C1+]		0.014		
		(0.019)		
Elected in 2010 (baseline: 2007)		−0.40		
		(0.80)		
Elected in 2009 (baseline: 2007)		−0.70		
		(0.78)		
Elected in 2008 (baseline: 2007)		−0.37		
		(0.80)		
Level: Chamber	(*N=64*)	(*N=64*)	(*N=64*)	(*N=64*)
log(votes held today)		−0.064**	−0.063**	−0.063**
		(0.0071)	(0.0070)	(0.0070)
Number of legislators [P3+]		0.0066*	0.0070**	
		(0.0028)	(0.0016)	
GOP has chamber majority		−0.70	−0.62*	
		(0.38)	(0.28)	
Partisan margin (%) [P2+]		0.014		
		(0.011)		
Lower chamber [D1+]		0.060		
		(0.30)		

Level: State	(*N=35*)	(*N=35*)	(*N=35*)	
Must vote (baseline: abstain with cause)		1.38*	1.17*	
		(0.66)	(0.51)	
Abstain anytime (baseline: with cause)		1.15*	1.25**	
		(0.48)	(0.48)	
log(session length) [C4−]		−0.027	−0.21	
		(0.41)	(0.11)	
log(legislator salary) [C2−]		−0.091		
		(0.10)		
log(legislator staff) [C2−]		0.32		
		(0.23)		
Level: Legislator-vote	(*N=2,916,471*)	(*N=2,916,471*)	(*N=2,916,471*)	(*N=2,916,471*)
Vote by the bill's sponsor [B2−]		−0.66**	−0.66**	−0.66**
		(0.031)	(0.030)	(0.030)
Cross-level interactions				
log(bills sponsor) × log(session) [C4−]		−0.16**	−0.17**	
		(0.049)	(0.044)	
Leadership × log(session) [C4−]		−0.059		
		(0.14)		
Vote margin × Election percentage		−0.0000028		
		(0.0000059)		
Intercept	−4.49**	−5.31**	−3.31**	−3.81**
	(0.064)	(2.09)	(0.43)	(0.16)
Random effects	*Std. Dev.*	*Std. Dev.*	*Std. Dev.*	*Std. Dev.*
Voting event	0.59	0.57	0.57	0.57
Bill	0.42	0.42	0.42	0.42
Legislator	1.44	1.41	1.41	1.42
Chamber	0.97	0.77	0.78	1.36
State	0.91	0.81	0.85	
AIC	863106	861329	861309	861348
BIC	863184	861806	861619	861541

Notes: $*p\leq 0.05$, $**p\leq 0.01$ (two-tailed). The dependent variable is a dichotomous indicator for missed votes (1=legislator was absent), estimated using a combined nested and crossed random effects logit model.

Table 2: Substantive Effects on Absenteeism in the state legislatures

Variable [Hypothesis Direction] Increased by 2 Standard Deviations	**Percentage Change in Probability of Not Voting**
Level: Voting event (*N=43,450*)	
Vote margin (%) [P1+ vs. M1−]	−32
Bill originated in voting chamber	−7
Level: Bill (*N=20,037*)	
Appropriations [B1− vs. M2+]	+5
Fiscal policy [B1− vs. M2+]	−12
Nomination [B1− vs. M2+]	+9
Level: Legislator (*N=4,392*)	
Republican	−21
Member of majority	−24
Election percentage [M3+]	+37
log(bills sponsored) [C3+]	
Days in legislative session = 44	+7
Days in legislative session = 261	−43
Multi-member district	+26
Level: Chamber (*N=64*)	
log(votes held today)	−11
Number of legislators [P3+]	+115
GOP has chamber majority	−45
Level: State (*N=35*)	
Must vote (baseline: abstain with cause)	+135
Abstain anytime (baseline: with cause)	+129
log(session length) [C4−]	
Number of bills sponsored = 0	−25
Number of bills sponsored = 23	−63
Level: Legislator-vote (*N=2,916,471*)	
Vote by bill's sponsor [B2−]	−16
Random effects	
Voting event	+214
Bill	+130
Legislator	+1582
Chamber	+376
State	+447

Notes: Calculated from Final Model of Table 1.
Each variable is increased by 2 standard deviations, while Holding the other variables constant.
For variables in interactions, the other variable is set to the 10^{th} and 90^{th} percentiles.

Table 3: Absenteeism in the state legislatures, other models

Variable [Hypothesis Direction]	**Final Model**	**Including Age**	**Including Other Votes**	**Strategic Subset**	**Non-strategic Subset**
Level: Voting event	(*N=43,450*)	(*N=43,450*)	(*N=43,450*)	(*N=43,450*)	(*N=43,450*)
Vote margin (%) [P1+ vs. M1−]	−0.0062**	−0.0060**	−0.0091**	−0.0088**	−0.00021
	(0.00021)	(0.00023)	(0.00029)	(0.00025)	(0.00030)
Bill originated in voting chamber	−0.073**	−0.058**	−0.10**	−0.066**	0.017
	(0.011)	(0.012)	(0.014)	(0.013)	(0.015)
Level: Bill	(*N=20,037*)	(*N=20,037*)	(*N=20,037*)	(*N=20,037*)	(*N=20,037*)
Appropriations [B1− vs. M2+]	0.34**	0.43**	−0.016	0.37**	0.31**
	(0.064)	(0.077)	(0.088)	(0.078)	(0.089)
Fiscal policy [B1− vs. M2+]	−0.29**	−0.30**	−0.18**	−0.12*	−0.34**
	(0.042)	(0.052)	(0.058)	(0.052)	(0.057)
Nomination [B1− vs. M2+]	0.75**	0.44**	−0.25	−2.99**	1.02**
	(0.094)	(0.10)	(0.20)	(0.65)	(0.10)
Level: Legislator	(*N=4,392*)	(*N=2,733*)	(*N=4,392*)	(*N=4,392*)	(*N=4,392*)
Republican	−0.24**	−0.20**	−0.084**	−0.19**	−0.26**
	(0.051)	(0.065)	(0.025)	(0.047)	(0.10)
Member of majority	−0.28**	−0.23**	−0.14**	−0.24**	−0.55**
	(0.053)	(0.067)	(0.027)	(0.050)	(0.10)
Election percentage [M3+]	0.0070**	0.0050**	0.0024**	0.0049**	0.015**
	(0.0014)	(0.0016)	(0.00068)	(0.0012)	(0.0025)
log(bills sponsored) [C3+]	0.67**	0.52*	0.37**	0.58**	0.045
	(0.20)	(0.23)	(0.10)	(0.18)	(0.031)
Multi-member district	0.43*	0.40*	0.23*	0.26	1.06**
	(0.18)	(0.19)	(0.097)	(0.16)	(0.30)
Age 35-44 (baseline Age < 35)		0.33*			
		(0.14)			
Age 45-54 (baseline Age < 35)		0.096			
		(0.13)			
Age 55-64 (baseline Age < 35)		0.045			
		(0.12)			
Age 65-74 (baseline Age < 35)		0.098			
		(0.13)			
Age 75-84 (baseline Age < 35)		0.30			
		(0.16)			
Age > 84 (baseline Age < 35)		1.38**			
		(0.38)			
% of other votes missed that day			0.084**		
			(0.00022)		
Level: Chamber	(*N=64*)	(*N=64*)	(*N=64*)	(*N=64*)	(*N=64*)
log(votes held today)	−0.063**	−0.056**	0.048**	0.33**	−0.62**
	(0.0070)	(0.0079)	(0.010)	(0.0092)	(0.0098)
Number of legislators [P3+]	0.0070**	0.0062**	0.0023	0.0061**	0.0099**
	(0.0016)	(0.0017)	(0.0014)	(0.0020)	(0.0024)
GOP has chamber majority	−0.62*	−0.61*	−0.43	−0.63*	−0.71
	(0.28)	(0.29)	(0.24)	(0.28)	(0.38)
Level: State	(*N=35*)	(*N=35*)	(*N=35*)	(*N=35*)	(*N=35*)
Must vote (baseline: abstain with cause)	1.17*	1.05*	−0.17	1.30**	0.96
	(0.51)	(0.50)	(0.58)	(0.47)	(0.70)
Abstain anytime (baseline: with cause)	1.25**	1.17*	0.39	1.68**	0.37
	(0.48)	(0.49)	(0.39)	(0.62)	(0.57)
log(session length) [C4−]	−0.21	−0.25*	−0.22*	−0.77**	0.93**
	(0.11)	(0.10)	(0.097)	(0.095)	(0.14)
Level: Legislator-vote	(*N=2,916,471*)	(*N=1,762,826*)	(*N=2,916,471*)	(*N=2,872,351*)	(*N=2,826,325*)
Vote by the bill's sponsor [B2−]	−0.66**	−0.59**	−1.00**	−0.81**	−0.41**
	(0.030)	(0.036)	(0.044)	(0.038)	(0.045)
Cross-level interactions					
og(bills sponsor) × log(session) [C4−]	−0.17**	−0.15**	−0.087**	−0.13**	−0.14*
	(0.044)	(0.050)	(0.022)	(0.039)	(0.69)

Intercept	−3.31**	−2.99**	−3.69**	−2.55**	−10.75**
	(0.43)	(0.40)	(0.42)	(0.34)	(0.56)
Random effects	*Std. Dev.*	*Std. Dev.*	*Std. Dev.*	*Std. Dev.*	*Std. Dev.*
Voting event	0.57	0.56	0.81	0.69	0.58
Bill	0.42	0.44	0.47	0.47	0.61
Legislator	1.41	1.39	0.59	1.57	2.75
Chamber	0.78	0.78	0.54	0.86	1.07
State	0.85	0.84	0.61	0.87	0.94
AIC	861309	502260	520128	616384	314777
BIC	861619	502631	520450	616693	315085

Notes: *p≤0.05, **p≤0.01 (two-tailed). The dependent variable is a dichotomous indicator for missed votes (1=legislator was absent), estimated using a combined nested and crossed random effects logit model.