

Constituency Influence in Congress: Does Subconstituency Matter?

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Introduction

A central theme of republican democracy is that elected officials represent the interests of their constituents. Early research asserting constituency affect supports this aphorism (Miller and Stokes 1963; Cnudde and McCrone 1966; Jackson 1971). Over time however, these findings have become controversial (e.g. Achen 1978; Bernstein 1989). A survey of congressional scholarship finds a body of work with conflicting conclusions. On the one hand, traditional political science research consistently and overwhelmingly finds that constituency influences motivate legislators (Miller and Stokes 1963; Jackson 1971; Kingdon 1973; Mayhew 1974; Fiorina 1974; Fenno 1978; Jackson and King 1989; Wright 1989; Bartels 1991; Bianco 1994; Page et al. 1984; Arnold 1990). In contrast, the political economics literature generally holds that legislators are influenced by their own ideology (Bernstein and Anthony 1974; Kau and Rubin 1979, 1993; Kalt and Zupan 1984; Peltzman 1984; Bernstein 1989; Dougan and Munger 1989; Poole and Rosenthal 1991, 1998; Poole and Romer 1993).

Jackson and Kingdon (1992) suggest these inconsistent results arise from specification and measurement problems. The poor measurement of legislator ideology, the omission of measures of constituent intensity, and the failure of scholars to account for the various sub-constituencies to whom legislators appeal, each contribute to incomplete, inconsistent and inaccurate results.

Measures based on averages of constituents' views may provide an inaccurate estimate of constituent influence. This measurement problem stems from the failure to account for subconstituencies--subgroups of voters within the geographic constituency that share common preferences. Researchers failure to account for these subgroups of voters results in statistical models of legislator behavior that diverge substantially from legislator's experience (Fenno 1978). Specifically, legislators do not consider the views of every voter equally on each issue they face. Instead, they attach disproportionate weight to the views of various subgroups of constituents depending on the issue in question (Kingdon 1973, Arnold 1990).

This paper begins to reconcile these findings by addressing the problem of sub-constituencies. While the concept of subconstituency has received considerable theoretical attention (see in particular Fenno 1978), it has yet to be incorporated in studies of decision-making. Consequently, this paper examines whether the conflicting results found in roll call voting research stem from the omission of subconstituency measures in models of legislator decision-making.

In order to examine whether the subconstituency problem influences the results, I identify a general subconstituency model, and compare its results to those of a traditional model-- one that accounts for constituent preferences using the geographic or legal constituency.

The results show that, in contrast to traditional models, constituency variables are almost always significant in models that account for subconstituency. In addition, subconstituency models explain the data as well as traditional models and, when properly specified, are jointly significantly different than traditional models. These results support the work of scholars that find a large role for constituents in legislator's decisional process (e.g. Mayhew 1974; Fenno 1978; Kingdon 1973; Arnold 1990).

The Constituency Quagmire

Two themes dominate the legislator voting literature. Political economists investigate the role of legislator's personal ideology as an influence on their decisions. Such research examines the relative effects of legislator ideology and constituent economic interests (e.g. Kau and Rubin 1979; Kalt and Zupan 1984). Generally, the role of non-economic constituency characteristics is ignored. An alternative line of research examines the role of constituency more carefully (e.g. Miller and Stokes 1963; Hill and Hurley 1999). These studies examine the relative influence of legislator's personal and constituent preferences on their decisions. In both literatures, constituency measures are most often derived from averages of district characteristics.

Research shows that models using constituency measures based on average district characteristics are mis-specified (Goff and Grier 1993, 11). Differences between the legal constituency-- the geographical entities that legislators serve-- and the electoral constituency-- the subset of the legal constituency that is likely to vote-- are seldom quantitatively examined. For instance, Goff and Grier (1993, 15) find that differences in same state Senate voting is related to district heterogeneity-- the differing socio-economic characteristics of a legislator's constituency. As a result, Wright (1989) finds that "... different members simply define and perhaps even see their constituencies differently." (483).

Some scholars recognize the influence of constituent sub-groups on legislator behavior (Fiorina 1974; Marcus 1974; Fenno 1978; Kuklinski 1978; Peltzman 1984; Shapiro et al. 1990). Fenno (1978) identifies three important sub-constituencies that provide unique resources to legislators. Kuklinski examines the majority preferences of "those who have the right to vote and do so" (1978, 168). Consistent

with Fenno's re-election constituency, Peltzman applies a sophisticated weighting system designed to account for "differences in economic characteristics among a legislator's supporters and opponents" (1984, 184). He determines that the predictive power of constituent interest varies with the type of vote being examined. Medoff et al. (1995) use party affiliation to identify cleavages in the electorate by restricting constituency ideology scores to the means of the incumbent's party plus independents.¹ While these studies improve upon constituency measures, each concludes that legislator ideology dominates roll call voting decisions.

A few researchers, by using the sub-constituency thesis, find that constituent preferences are an important influence on legislator's votes (Markus 1974; Wright 1989; Shapiro et al. 1990). However, member ideology is not included in these models. Thus, it is not surprising that these findings conflict with other similar research that finds no role for constituency when member characteristics are included in the model (Medoff et al. 1995).

To review, two inconsistencies afflict the small body of sub-constituency research. First, the variables studied differ across models. As a result, it's difficult to evaluate the conflicting results.² Second, scholars fail to advance a general theory that underlies their sub-constituency operationalization (Poole and Romer 1993). This precludes the development of a general baseline model against which changes in specification might be compared.

In order to examine whether there are any subconstituency effects, a baseline model of roll call voting as typically seen in the literature is compared to a model based on a re-conceptualized measure of constituency.³ Specifically, a subconstituency measure-- a generalizable measure that more accurately reflects the influence of constituency on legislators-- is developed based on electoral theory. Evaluating the influence of constituency on legislator's voting calculus across models facilitates investigation of the influences on legislators, and the degree to which they behave as delegates.

The Traditional Model

While scholars that study legislator decision-making investigate two slightly different questions, they share a common methodology. A regression type model characterizes models of legislator decision-making with a dependent variable representing a vote (or index of votes) and a series of independent variables that account for the factors held to influence these votes.

Specification of these models is fairly standard. Peltzman (1984, 182) describes the models found in the political economics literature as taking the form that $Y = DX + CI + \text{error term}$, where Y is the probability that a legislator will vote yes on a particular bill....; X is the 'economic interest' of constituents in the outcome....; and D and C are parameters." I is reflected by "some overall rating of the 'liberalism' of the legislator's voting record.... by a group such as the Americans for Democratic Action (ADA)."

These models vary in their operationalization of constituency variables. While political scientists implicitly recognize the complexity inherent in operationalization of constituency variables, economists use measures of economic interest to capture constituents' preferences.⁴ Consequently, the number and type of constituency variables differs across models. Overwhelmingly however, the constituency variables used are calculated based on the average of the legal or geographic constituency.

The traditional model shown herein is specified consistent with the models described by Peltzman (1984). Since these models are similar, I identify a traditional model as commonly seen in the literature. This model is then used as a baseline against which a subconstituency model can be compared.

Identifying Subconstituencies

Legislators recognize that different groups of constituents provide them with different benefits (Fenno 1978). Fenno identifies four general subconstituencies; the Geographical-- the "legally bounded space" (1978, 1) they represent, the Re-election-- "composed of those people in his district who he thinks vote for him" (1978, 8), the Primary-- the strongest supporters, and the Personal constituency-- those who know and advise. However, we can also think of subconstituencies on a more tangible level.

Legislators choose among policy proposals by estimating citizens preferences weighted for the possibility that constituents will use these decisions as a voting cue in the next election (Arnold 1990). Consequently, when legislators are estimating preferences and intensities of various groups of constituents on specific issues, they are in practice developing issue subconstituencies to whom they look for guidance on the issue in question.⁵

Identifying the subconstituencies to whom legislator's appeal is a methodologically daunting problem. First, in each geographic constituency there are an infinite number of potential subconstituencies. Such groups need not be formally organized, but need only share intense preferences on one or more issues to be important to legislators. Further complicating matters, members of these 'groups' need not be aware

either that the issue is before congress or that they care about the issue until some point after a roll call vote is taken.⁶ Finally, on some issues there may be no subconstituency with preferences in a particular geographic constituency. For instance, there may be no coherent constituency from which a representative from Detroit, Michigan can draw cues on the California Desert Protection Act.

These characteristics severely constrain researchers. For many issues, constituent preference data is non-existent. Even when data on the issue at hand is available, it is rarely compiled on a level that allows for the discrete analysis of small subgroup preferences. For instance, while many Californian's doubtlessly felt strongly about the Desert Protection Act, identifying members of this subgroup and estimating their specific preferences is difficult (even on a vote where interests are fairly well defined).

While legislators can often identify subconstituency preferences through interaction with the district and by paying attention to their mail, scholars have no such advantage (Kingdon 1973; Arnold 1990). Instead we must puzzle groups and preferences together, on an issue by issue basis, by examining the nature of the interests affected by the issue in question.

In order to determine whether the concept of subconstituency provides leverage to the roll call voting question, we need to identify a general subconstituency to whom legislator's appeal on a large number of votes. Only by studying a large number of votes can we draw a general conclusion about the efficacy of subconstituencies, generally speaking. Identification of a large subconstituency will also help to overcome problems with obtaining data on subconstituency preferences. I develop such a subconstituency measure, called the 'prospective constituency' by application of the literature on mass and congressional behavior.

The 'prospective constituency' is based on the idea that legislator's are driven to maintain or increase their share of the vote in the next election (e.g. Fenno 1978; Arnold 1990).⁷ To do this, they appeal to centrist voters as well as extremists within their own party. Political candidates engage in this behavior to court voters. Studies show that in presidential elections, candidates perceived as centrist are more successful (Nie, Verba and Petrocik 1976; Stone and Rapoport 1994). Thus, it is not surprising to find that incumbent senators "have a tendency toward moderation relative to the district" (Wright and Berkman 1986, 575).

Congressmen appeal to centrist voters who are not bound by party or ideological ties to an extreme position.⁸ Research suggests that less partisan voters are more fickle "the vote is less stable from one election to the next and a wide margin in one election is a weaker guarantee of success in the next" (Jacobson 1992, 44). Often independents act more like partisans than do weak identifiers (Keith 1992). Consequently, incumbents appeal to those weak party identifiers that might cross party lines in the next election.

The Prospective Constituency

The prospective model is based on the idea that re-election is legislator's primary goal. Citizens choose among candidates by evaluating legislator's policy positions (Arnold 1990). Consequently, roll call votes are cast to induce voter support in the next election. Legislator's positions on roll-call votes are identified based on the preferences of a subset of the geographic constituency, those voters legislators think they can influence.

The prospective constituency model holds that legislators appeal to a moderate sub-constituency along with their own party extremists. As such, they ignore opposition party extremists, whose votes are unavailable. More specifically, they recognize that the probability of getting votes from opposition extremists is low and the extreme shifts in policy necessary to appeal to such voters likely would alienate more moderate and attainable constituencies. Legislator's appeal to a broad sub-constituency because it is not always clear which voters are available in any given election.

To calculate the preferences of the prospective constituency, respondents were bifurcated according to their self-placement on a seven point partisanship scale.⁹ Respondents were asked to rate themselves as strong, weak, or leaning partisans or as independents. The prospective model excludes extremists of the party opposing the legislator. Figure 1 illustrates the differences in the construction of constituency variables between models.¹⁰ A legislator's sub-constituency depends on his party affiliation. Scores on all constituency variables (ideology, union, race and ideology) are calculated accordingly.

--Insert Figure 1--

The prospective constituency is likely a good general measure for the votes considered herein. Since these 'key votes' are of greater visibility and importance than many of the other votes considered by

Congress, legislator's behavior on these votes is most likely to be noticed by the constituents to whom they are trying to appeal in the next election. These constituents comprise the prospective constituency.

Mississippi Minutiae

For any variable, the traditional model provides a mean for the state electorate, while the prospective model provides a mean for legislators from each party in that state. For instance, in 1988, Mississippi had senators from opposing parties. Senator Stennis, a Democrat, had a prospective constituency that was 43% minority. In contrast, Republican Senator Cochran had a prospective constituency that was only 27% minority. Mississippi, on average was 36.7% minority.

The resulting implication is that the differences between these senators voting records likely stem from their representation of different constituencies.¹¹ Senator Stennis, for instance, would have a much more difficult time opposing civil rights legislation than would Senator Cochran. The constituency differences illustrated here apply to other characteristics as well.

Data and Methods

The Data Set: Pooled Senate Study

The *American National Election Study: Pooled Senate Election Study 1988, 1990, 1992* (ANES) is unique in its question consistency, breadth of coverage, and period of time covered. Unlike previous surveys, the *Pooled Senate Study* records data in each of the three years covered, for about 75 respondents in every state. The questions and sample sizes remain relatively constant. The *Pooled Senate Study* is the only extensive survey with samples from all fifty states approaching sizes necessary to achieve statistical validity at the subconstituency level.

Dependent Variable: Senate Key Votes

CQ Weekly Report identifies a number of roll call votes each year as 'key votes'. Among these, domestic policy votes from the years 1987, 1989 and 1991 were chosen as the dependent variable in this study.¹² Key votes were chosen to represent a wide variety of domestic policy issues.¹³ Votes on domestic policy are chosen because reasonable measures of constituent influence, which can be calculated at the subconstituency level, are available on these votes. The term examined is long enough to allow general conclusions about legislators' decision-making to be drawn. In combination, there are 46 'key votes' during these years, of which six did not provide adequate variation for inclusion.¹⁴ Fifteen votes focus primarily on

matters other than domestic policy. The remaining 25 votes were used as the basis for this research. The dependent variable equals one if the senator voted or announced in favor of the bill and zero if the senator opposed the legislation. (See Appendix A for the title and description of each vote.)

Constituent Ideology

Research suggests that "on most issues constituency preferences are not communicated to their representatives" (Kuklinski 1978, 168). Rather, legislators gain a sense of the general preferences of the district through their interaction with constituents (Froman 1963). Ideology accounts for the general political orientation of constituents.

Measuring ideology is problematic, as self-reported ideology scores are of dubious reliability. Factors which may bias responses include: a tendency toward answer moderation, priming that may have occurred prior to the question being asked, or reliance on a single question or indicator. The ambiguity surrounding terms such as ideology, liberalism and conservatism further impairs measurement. Additionally, self reported measures of ideology may not accurately reflect constituents policy preferences on any given issue.

To increase the accuracy of the constituent ideology measure, I develop an index based upon responses to 10 questions from the *ANES 1988, 1990, 1992 Pooled Senate Study*. Each question is scored 10 for liberal, five for neutral, and zero for conservative. Scores are combined to form a mean state ideology.

The resulting measures should provide reliable estimates of ideology for both the legal and prospective constituencies. The traditional model calculates constituent ideology as the mean state ideology score of all citizens. In contrast, the prospective model calculates the mean score of voters in a legislator's prospective constituency. Appendix B displays the questions that comprise the index.

Re-election

Research shows that senators up for re-election are more responsive to their constituents (Kuklinski 1978). To account for this relationship, both models include a re-election dummy variable. Those facing re-election in the year following the vote are denoted by one, all others by zero. The sign depends on the vote. Each senator's seat comes up at least once during the study.¹⁵

Constituent Interest

Socioeconomic variables are included to examine the degree to which legislators' roll call votes reflect the economic interest of their constituents across a wide range of votes.¹⁶ In order to test a general model, general measures of interest are needed.¹⁷

The measures; income, race and union, come from questions asked in the *Pooled Senate Study*.¹⁸ These variables are measured in the same manner as constituent ideology. The traditional model derives a mean for all eligible voters in a state, while the prospective model takes a mean score for the prospective constituency.

The income variable is taken from a summary measure of six income questions. Respondents were asked to place their income in \$10,000 ranges up to \$80,000. These ranges are then collapsed to form a scale from 1 through 7. Higher scores correspond to increased income levels.

The race variable was derived by recoding a question about race into a dichotomous variable that differentiates whites from minorities. The measure used is the percentage of each state's population and prospective constituency that is non-white. Union is the response to whether any household members belong to a union. The measure used is the percentage of those who responded yes in a state and prospective constituency, respectively.¹⁹

Legislator Ideology

Legislator ideology is examined through the use of residualized ADA scores (Carson and Oppenheimer 1984). ADA scores are a measure of liberalism as determined by Americans for Democratic Action. Higher scores denote increased liberalism. To avoid problems of collinearity with senate 'key votes', the ADA scores used are taken from the year after the vote. For instance, 1987 key votes are predicted by 1988 ADA scores. ADA scores are used from the years 1988, 1990 and 1992 for each of the preceding years votes.

Several studies show that ADA scores are good estimates of legislator ideology. First, Smith et al. (1990) use survey research to corroborate interest group rating scores. They find a correlation of .9 between a House member's self-reported ideology and ADA scores. Second, a study of ideology by Poole and Rosenthal (1985) finds that their measure of ideology (D-NOMINATE), derived by identifying a legislators position in an 'n' dimensional Euclidean space, is highly correlated with ADA scores. Finally, Shaffer (1989) finds that liberalism factor scores are correlated with ADA scores at .98 in the Senate.

Questions have been raised concerning the use of interest group ratings, such as ADA scores, as measures of legislator ideology in studies of roll call voting. Jackson and Kingdon (1992) identify two theoretical problems. First, because such measures are derived from a series of votes, they are not an independent predictor of the vote being studied. Second, use of interest group ratings makes evaluation of the relative impact of the other variables in the model difficult and unreliable. This occurs because the interest group ratings and the vote being studied are likely to vary together so closely as to leave little variation for other, often noisier, variables to explain.²⁰

This paper attempts to gauge the effect of the mis-measure of constituency preferences. To do so, it is necessary to compare models of legislator's decision-making that account for subconstituency measures with those that do not. Since most studies use some form of roll call based score as a proxy for ideology, it is important to replicate this occurrence by including it in the models developed herein, in order to restrict the source of changes in results to the constituency variables. Consequently, the inclusion of a roll call based measure of ideology-- despite its bias and inconsistency when used in studies of roll call voting-- is a necessary element for evaluating the importance of measures of constituency.

However, the problem of covariation between legislator ideology and constituency variables presents problems for studies that attempt to parse out the effects of constituency and ideology. To reduce this problem, legislator ideology is refined through a residualization process. Residualization of ideology measures is not uncommon in studies of roll call votes (Kau and Rubin 1979, Kalt and Zupan 1984). This process serves to purge the legislator ideology measure of the constituency influences represented in the model.²¹ The resulting measure of ideology, while not optimal, is the best available gauge of ideology. Legislator ideology is calculated by taking the residuals from the equations shown in Appendix C.

Model Specification

In the traditional model, shown in Equation A, the dependent variable, Vote, is the probability that a senator votes or announces in favor of a particular 'key' vote. C.I. is constituent ideology as measured through an index of ten specific issue questions. The variables Union, Race and Income represent the economic interests of the legislator's constituency. ResADA is the measure of legislator ideology. Re-election is denoted by R.E.²²

(A). $\text{Vote} = a + b_1 (\text{ResADA}) + b_2 (\text{C.I.}) + b_3 (\text{Union}) + b_4 (\text{Race}) + b_5 (\text{Income}) + b_6 (\text{R.E.})$

The prospective model (B) differs from the traditional model (A), in that each of the constituency variables (eC.I., eUnion, eRace and eIncome) omits the influence of opposing partisans.

(B). $\text{Vote} = a + b_1 (\text{ResADA}) + b_2 (\text{C.I.}) + b_3 (\text{eUnion}) + b_4 (\text{eRace}) + b_5 (\text{eIncome}) + b_6 (\text{R.E.})$

Results

The results of 50 logit equations (upon which the results in Figure 2 are based) are seen in Appendix D. Figure 2 graphically summarizes the improved sensitivity of the prospective model (in table 2) when accounting for the endogeneity of ADA. This figure shows the number of times a variable is significant across models, by year. By graphing the data in groups according to the variable we can easily compare the sensitivity of the models on each variable by year. Despite the increased role of constituency variables and the constant, member ideology and re-election do not change much across models. Specifically, re-election and constituent interest fail to achieve the role expected. However, we see large changes in the constituent ideology variable.

--Insert Figure 2--

Table 1 summarizes the results of the two models, showing the number of times each variable achieves statistical significance. The findings of the traditional model are consistent with the roll call voting literature. In contrast, the prospective model is sensitive to constituent influences.

--Insert Table 1--

In both models, legislator ideology is an important predictor of the vote. In the traditional model legislator ideology is significant in 76% of votes (19 of 25) while in the prospective model it achieves significance in 72% of the votes (18 of 25). However, most striking is the effect of constituent ideology. In the traditional model, the measure is significant in 24% of votes (6 of 25 votes). However, in the prospective model, constituent ideology is significant in 80% of votes (20 of 25). Constituent interest variables also play an increased role, with instances of significance increasing from 40% (10 of 25) to 56% (14 of 25) of votes.²³

An alternative method of comparing the efficacy of models is through their goodness of fit. Improvement in the goodness of fit of the sub-constituency model, while minor suggests that it explains as much variation as the traditional model. This was measured by comparing the likelihood ratio index (LRI) scores across models (Greene 1993, 651). LRI scores for each model by year are shown in Appendix E.

LRI scores are, in practice, an analog to the r^2 statistic. Like r^2 , scores are restricted between zero and one. These scores are determined by subtracting from 1 the ratio of the log likelihood when the null hypothesis is true (e.g. when all coefficients equal zero) divided by the log likelihood for the logit equation as run. In a sense, LRI is a measure of distance from the null hypothesis (Pindyck and Rubinfeld 1991, 268).

---Table 2 ---

Table 2 shows the improvement in LRI's across models by year. Specifically, LRI scores from the prospective model (B) are subtracted from the scores of the traditional model (A). Each model uses the same number of independent variables as does the traditional model. Model (B) remains the same or increases in 56% (14 of 25) of cases when compared to the traditional model. Interestingly, most of the instances in which the traditional model is a better predictor of fit, the scores are close. In eight of the nine instances that model (B) predicts less well, it does so by .03 or less. These results suggest that the models explain similar amounts of variation. Although the prospective model appears better specified, the degree of improvement varies depending upon the vote. While the LRI's for the sub-constituency model show improvement, generally their magnitude is not large.

A final test may be invoked to determine whether the variables in the prospective model (B) are jointly significant when compared to the traditional model (A). The likelihood ratio test examines whether the data supports parameter restrictions on the model. More specifically it tests the null hypothesis that some coefficients are equal to zero and thus have no significant effect on the model. Table 3 shows these results.²⁴

--Insert Table 3--

These results show log likelihood scores for two sets of variables. These results demonstrate that the variables unique to the prospective model (i.e. C.I., R.E., Union, Race, and Income) are jointly significant in 57% (12 of 21) of cases.

Discussion

These results show that constituency is an important influence on legislator's decisions. Even so, they likely understate constituency affect. For any particular vote a subconstituency could likely be found that better approximates the actual subgroups of constituents that influenced legislators on the issue. As a consequence, the results for any particular vote are likely biased against constituency proxies due to their noisiness.

These results also suggest that legislators do not rely exclusively on their own personal ideology when casting roll call votes. Rather, I find that consistent with interview-based work (Kingdon 1973; Mayhew 1974; Fenno 1978) legislators consider the ideology and the economic interests of constituents as a compliment to their own preferences in the decision making process.

In addition, subconstituency models help explain the paradox of conflicting votes by same state senators by recognizing the different groups to whom legislators appeal for support (also see Wright 1989). From this perspective, legislators use votes as a tool to gain favor with specific groups of constituents. By taking stands on multiple issues, legislators combine support among intense groups to assemble a re-election coalition. Conflicting votes by senators from the same state result from an appeal to different groups of constituents. Seeking to assemble a winning re-election coalition, legislators appeal to various sub-groups, resulting in differing perceptions of constituent ideology and economic interest.²⁵ Consequently, the model provides a nice explanation for conflicting votes among same state legislators that belong to opposing parties.²⁶

These results also shed light on the political economy literature, which with only rare exception holds that personal ideology drives legislator's decisions. Such studies often measure constituency through economic interest. These results show that while economic interests do matter (they attain significance in about one-half of votes when accounting for subconstituency), they are significant much less frequently than are more general cues such as the ideology of constituents.²⁷ Consequently, the use of measures of interest alone, as proxies for constituent preferences, may bias studies against a finding for constituency.²⁸

Of special interest are the results of the likelihood ratio test. Since these models differ significantly (in about one-half of votes) the results suggest that the overall quality of roll call voting models is rather poor. Past models need to be reconsidered given the effect of measurement problems described herein. Indeed, the poor quality of past models is likely understated here, as I do not consider other problems that afflict such models, such as the mismeasure of ideology and the omission of intensity (Jackson and Kingdon 1992).

The results of roll call voting studies appear to be dependent on the specification and operationalization of constituency preferences. Scholars need to account, not only for the subconstituency to whom legislators appeal on the bill in question, but also for the different cues legislators can use to interpret constituent preferences. For reasons of generality and data availability, this paper accounts for the ideology and economic interests of the prospective constituency. Scholars should also account for the *opinion* of constituents, as it need not be consistent with economic interest or ideology on any particular issue.

Conclusion

This paper shows that subconstituencies do matter. Research that examines refined measures of constituency finds that legislators are sensitive to constituent's preferences. Subconstituency models explain legislator's roll call votes as well as traditional models and are jointly significantly different in about one-half of the votes studied.

A new 'prospective' subconstituency based on mass behavior research is identified. A model that accounts for legislators' prospective constituency better explains roll call voting outcomes on key votes. However, optimal construction of the subconstituency may vary depending on the issue being studied (Wright 1989, Shapiro et al. 1990). These results are likely understated given the problems measuring legislator ideology identified by Jackson and Kingdon (1992).

This research addresses one of three criticisms leveled against roll call voting studies by Jackson and Kingdon (1992). The prospective constituency is a step toward accurately measuring constituency. In addition, legislative scholars need to develop improved measures of ideology and to account for the intensity of constituent's preferences in such studies.

These results are important because they provide a theory-based alternative to previous subconstituency measures. The measure advanced here may be applied to future research. Most importantly, this study shows that both the ideology and the economic interests of constituents are significant influences on roll call voting decisions. Narrowly drawn constituency measures improve overall significance levels and are jointly significant when compared to traditional models.

Notes.

Most of the data used in this analysis were supplied by the Institute for Social Science Research via the Interuniversity Consortium for Political and Social Research. Neither the Institute, the Consortium nor the principal investigators are responsible for the analysis presented herein. The advice of Kathy Bawn and Chris Dennis was integral to the completion of this work. I would like to thank Barbara Sinclair, Scott Desposato, Dan Schwarz, Joel Aberbach, Melissa Collie and the anonymous reviewers for their comments and criticism of numerous drafts of this paper. Laura Woller, Susy Bishin, Doyle Brunson, Alex Rodriguez, Michael Balzary and Mike Watt each uniquely contributed to the final version of the paper.

¹ This model differs from the one presented below in that Medoff et al. (1995) do not account for legislator's attempt to expand their support through appeal to members of the opposing party.

² Indeed, these results lead Arnold to state "Unfortunately the effects of these electoral calculations will never show up in a study of representation that searches for correlations between measures of constituency opinion and legislators' actual decisions" (1990, 10).

³ Unfortunately, roll call voting models most commonly advanced have a number of flaws that lie outside the scope of this effort. Most famous of these is the difficulty measuring legislator ideology. However, by showing that a reconstitution of constituency improves models of roll call voting, even in these 'worst case' scenarios, increased power is lent to the findings.

⁴ Political scientists implicitly distinguish between cues such as constituent opinion, constituent ideology, and constituent's economic interest.

⁵ Arnold (1990) details the process legislators go through to estimate citizens real and potential preferences. Issue subconstituencies are formed by aggregating the preferences of groups of citizens that feel most intensely about a particular issue, since these are the people most likely to allow that issue to affect their vote.

⁶ For a discussion of the importance of potential preferences see Arnold (1990). See also Key (1963) for an early treatment. Fiorina (1974) discusses the weights legislators assign these elements in their decisional process.

⁷ These authors identify this goal as primary among several.

⁸ More specifically, Wright and Berkman suggest that senators use the first portion of their terms to "build credit with their attentive party activists and core ideological supporters" and then move toward the center as the election nears to increase their appeal (1986, 575). Kuklinski (1978) also finds legislator behavior to vary as elections approach.

⁹ Specifically, a dummy variable was created which controlled for 'strong' opposition partisans, creating a group of extremists and non-extremists. The results for the non-extremists were then used to calculate means across the constituency variables. Generally, the extremist group accounted for about one-fifth of the sample in each state.

¹⁰ Theoretically, other methods could be used to identify those voters to whom the incumbent might wish to appeal on any specific vote. However, small sample sizes, inconsistency of question wording and under-representation of smaller states in national surveys all preclude testing at this time.

¹¹ This distinction provides insight concerning the results of studies that find legislator ideology dominant. If average district characteristics are used in a model that includes only them and legislator ideology, then the variation that explains differences in the voting patterns of senators from the same state is member ideology.

¹² These votes were chosen to maintain consistency throughout the analysis. This process allows all of the independent variables to be measured in the even numbered years and the dependent variable measured in the odd numbered years. This was done to avoid problems of collinearity among the variables.

¹³ *Congressional Quarterly Weekly Report* selects its key votes, according to four criteria "an issue is judged by the extent that it represents "a matter of major controversy; a matter of presidential or political power or; a matter of potentially great impact on the nation and lives of Americans (12-18-1993, 3441). Random selection was not used due to the problems associated with insincere voting and the necessity of ensuring enough variation on each vote.

¹⁴ Specifically, a vote was excluded if one side did not receive at least 20% of the total vote.

¹⁵ Due to various factors a seat may have come up more than once (e.g. to replace an appointed legislator).

¹⁶ Since I am advancing a general model, applicable for most votes, the measures used are the same across votes. By including the most likely interest measures, these variables should fairly represent constituent economic interest on issues of domestic policy.

¹⁷ The selection of variables is limited by the necessity of measuring the interest variables according to the sub-constituency criteria. If our interest were in explaining any single vote, preferred measures might be found depending on the issue.

¹⁸ These measures are selected since they are commonly used in the literature.

¹⁹ The education variable was omitted due to the irreparability of its non-normal distribution. More specifically, there were **no** midrange responses (those with high school or some college) for the 1990 respondent group (of non-extremists).

²⁰ As a practical matter there are no known better measures. Scholars are faced with the choice of mis-specifying roll call models by omitting ideology measures, or of introducing a biased and inconsistent measure into their models. Alternatives measures such as those suggested by Jackson and Kingdon (1992) and Quaile-Hill et al. (1997) of content

analyzing legislator's speeches and writings are subject to the same criticism, as the factors influencing public position taking are likely similar to those affecting roll call voting. Indeed, I re-ran the models for 1991 using ideology scores obtained from legislator's public statements (Quaile-Hill et al. 1997). The results are substantively identical to those presented herein. Other alternatives such as legislator race and age (Jackson and King 1989) appear to have little theoretical justification.

²¹ Jackson and Kingdon also demonstrate that even after a residualization process, the effect of the variable is likely to suppress the impact of constituency measures. As a result, a finding of an influential role for constituency variables using the residualization process is likely understated.

²² This research compares a new theoretical measure to measures used in past research. To do this I compare the prospective model with models commonly seen in the literature in order to show that the source of the differences between models stems from subconstituency. Since the overwhelming majority of roll call voting studies omit party influence, I do not include them here. Further, inclusion of a dummy variable for party introduces serious problems of multicollinearity (see also Fiorina 1974). Multicollinearity appears in both the prospective and traditional model. At first glance, the omission of party combined with the construction of the constituency variables may appear to bias results in favor of the prospective model. However, it seems likely that the close relationship between the roll call vote based measure of ideology and the party dummy drives this relationship. Roll call votes tend to be cast along party lines. For a detailed discussion of the problem with including a dichotomous party variable see Fiorina (1974). For one solution using a structural equation model, see Jackson and King (1989).

²³ However, the prospective model finds numerous votes where more than one economic factor is significant, while the traditional model never does. Overall, 26.5% of the economic interest variables were significant in the prospective model (20 of 75) while only 13.3% were significant in the traditional model (10 of 75). This finding further supports the conclusion that the prospective model is more sensitive to constituent influences than is the traditional model.

²⁴ This test is performed by subtracting the log likelihood of the restricted model from the log likelihood of the unrestricted model and multiplying the resulting difference by -2. The result then has a chi-squared distribution (Pindyck and Rubinfeld 1991, 240). To test whether the variables unique to the prospective model are significantly different than those of the traditional model, the prospective model (B) is nested within the traditional model (A). The full nested model combines equations (A) and (B), the traditional and prospective models, as seen on page 11. The restricted model is defined as the traditional model. A log likelihood test is then performed to determine if the variables unique to the prospective model are jointly significant.

²⁵ Differing estimates may result from legislator miscalculation or anticipation of changes in the constituency (Key 1963, Arnold 1990).

²⁶ The insight that legislator's are appealing to narrow groups within the legal constituency in assembling a re-election coalition also provides the basis for explaining conflicting votes cast by same state members of the *same* party. By looking at the groups that are important to the legislator, we can identify their preferences. As these groups (or the legislator's perception of them) vary, so do the influences on their vote.

²⁷ The (relatively) poor showing of constituency interest measures relative to measures of constituent ideology does not tell us much about their relative influence on legislators due to the unavailability of more specific measures of constituent interest, directly relevant to each of the votes examined. However, while the poor results of the economic interest measures may stem from the unavailability of good subconstituency measures on economic issues for these votes, they likely bias other studies against a finding for constituency as they too are limited in the measures of economic interest available for use. It is unclear whether this bias results from poor measurement of constituent interests, their unavailability, or legislator's disregard from them. Nonetheless, models that incorporate only economic interest measures as measures of constituency are less likely to find a role for constituency.

²⁸ Indeed, this may explain Peltzman's (1984) findings. While he finds a role for economic interest when subgroups of voters are considered, he still finds that member ideology is the most frequent and powerful influence on decisions.

Figure 1. The Traditional and Prospective Constituencies.

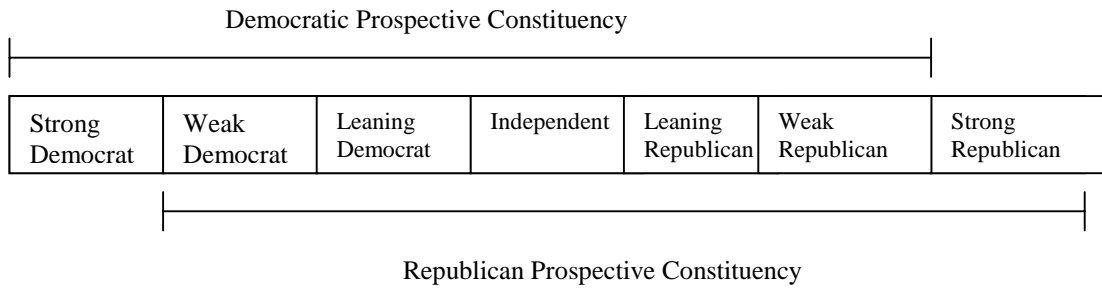


Figure 2. Frequency of Variable Significance Across Models 1987-1991

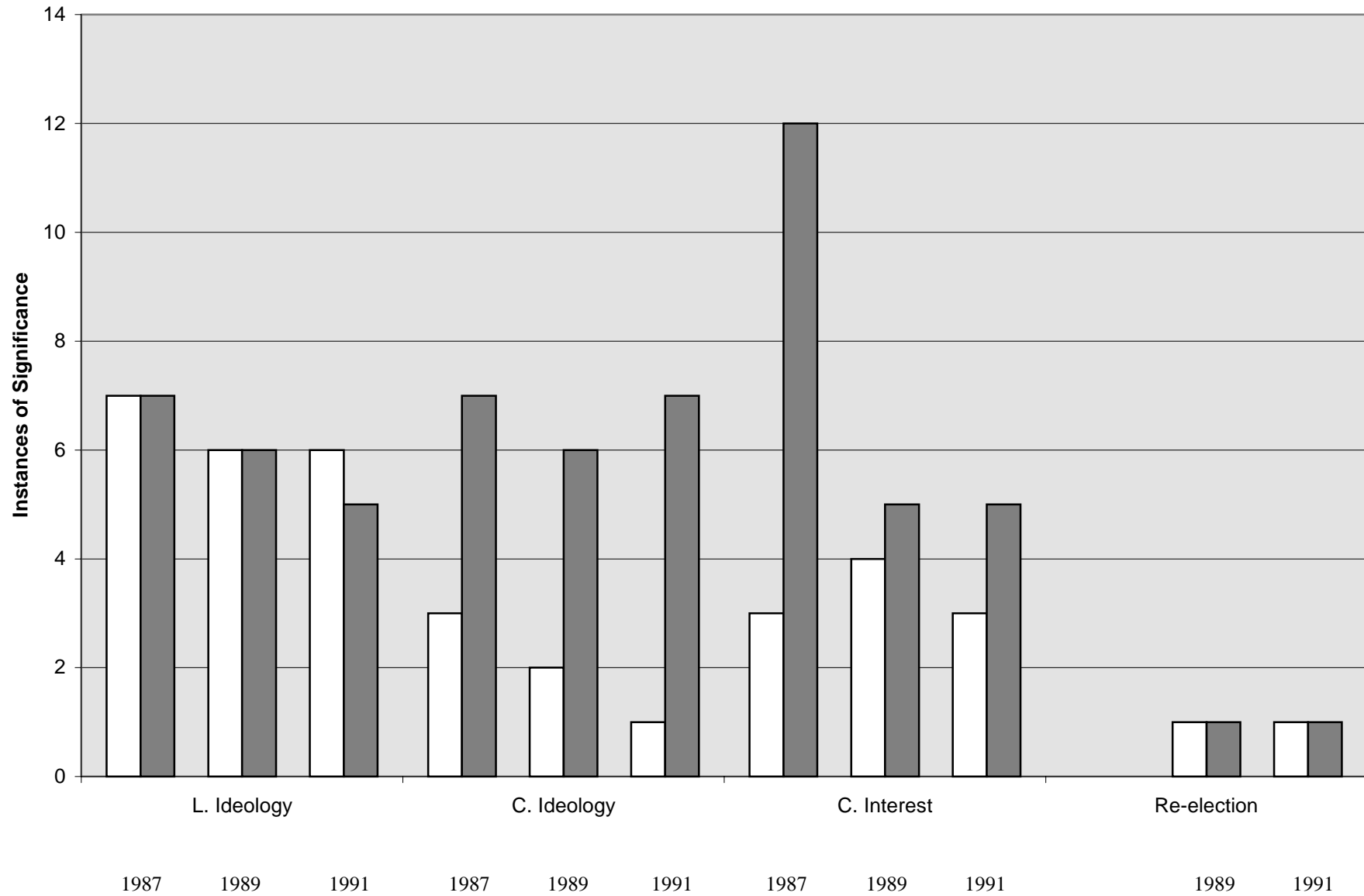


Table 1. Frequency of Significant variables in the Traditional (A) and Prospective Models (B)

| Year | Model | Constant | L. Ideology | C. Ideology | C. Interest | Re-election |
|----------------|-------|----------|-------------|-------------|-------------|-------------|
| 1987 n=8 | A | 3 | 7 | 3 | 3 | 0 |
| | B | 5 | 7 | 7 | 13 | 0 |
| 1989 n=8 | A | 2 | 6 | 2 | 4 | 1 |
| | B | 6 | 6 | 6 | 5 | 1 |
| 1991 n=9 | A | 3 | 6 | 1 | 3 | 1 |
| | B | 6 | 5 | 7 | 5 | 1 |
| Sum Difference | | 9 | -1 | 14 | 13 | 0 |

Number of statistically significant variables ($p < .05$) in each model by year.

Summary improvement across models and years ('Sum Difference') is shown in the bottom row.

A and B denote the traditional and prospective models respectively.

Table 2. LRI Improvement in the Prospective Model

| Key Vote | 1987 | 1989 | 1991 |
|----------|-------|-------|-------|
| 1 | . | . | . |
| 2 | 0.11 | . | -0.05 |
| 3 | -0.02 | . | -0.03 |
| 4 | 0.01 | -0.03 | 0.06 |
| 5 | . | 0.04 | -0.01 |
| 6 | 0.03 | . | . |
| 7 | -0.02 | . | . |
| 8 | . | -0.02 | . |
| 9 | . | 0.04 | 0.02 |
| 10 | . | . | -0.01 |
| 11 | . | . | 0.01 |
| 12 | 0.02 | 0.01 | 0.01 |
| 13 | -0.03 | . | . |
| 14 | 0.04 | -0.01 | 0 |
| 15 | . | 0 | . |
| 16 | . | -0.02 | . |

A period indicates that the vote either did not contain enough variation to be examined, was not on domestic policy, or did not occur (e.g. there were only 14 key votes in 1987).

Table 3. Likelihood Ratio Test Scores by Year and Vote

| Key Vote | 1987 | 1989 | 1991 |
|----------|---------|---------|--------|
| 1 | . | . | . |
| 2 | 35.99** | . | 22.8** |
| 3 | 10.37* | . | 5.2 |
| 4 | DNC | 3.88 | 10.41* |
| 5 | . | 30.06** | 0.67 |
| 6 | 25.21** | . | . |
| 7 | DNC | . | . |
| 8 | . | 20.95** | . |
| 9 | . | 9.79* | 4.63 |
| 10 | . | . | DNC |
| 11 | . | . | 1.597 |
| 12 | DNC | 9.06 | 4.07 |
| 13 | 5.39 | . | . |
| 14 | 10.81* | 20.65** | 5.11 |
| 15 | . | 13.84** | . |
| 16 | . | 12.24** | . |

4 of 5

6 of 8

2 of 8

*p<.1 (9.24)

**p<.05 (11.07)

A period indicates that the vote either did not contain enough variation to be examined, was not on domestic policy, or did not occur (e.g. there were only 14 key votes in 1987). DNC denotes those models that did not converge.

Appendix A. Vote Name, Number and Description.

| Year | Key Vote # | | Breakdown | Description |
|------|------------|--------------|--------------------------------|---|
| 1987 | 2 | HR2 | 67-33 | Omnibus Highway Reauthorization |
| | 3 | HR1157 | 33-63 | Farm Disaster Assistance |
| | 4 | H Con Res 93 | 56-42 | Fiscal 1988 Budget Resolution |
| | 6 | H J Res 324 | 41-52 | Temporary Debt Limit Increase |
| | 7 | S 2 | 51-44 | Senate Campaign Finance |
| | 12 | | 42-58 | Bork Nomination |
| | 13 | HR 2700 | 37-56 | Energy and Water Appropriations |
| | 14 | S 825 | 57-43 | Housing and Community Development/ Budget Waiver |
| 1989 | 4 | HR 2072 | 77-18 | Fiscal 1989 Supplemental Appropriations |
| | 5 | S5 | 44-56 | Child Care |
| | 8 | HR 1278 | 54-46 | Savings and Loan Restructuring |
| | 9 | HR 3015 | 77-21 | Fiscal 1990 Transportation Appropriations Cloture |
| | 12 | S 1726 | 37-62 | Catastrophic Revision |
| | 14 | S J Res 180 | 51-48 | Anti-Flag Desecration |
| | 15 | HR 3628 | 51-47 | Capital Tax Gains Cut |
| | 16 | HR 3660 | 56-43 | Government Pay and Ethics Package/ Pay Raise |
| 1991 | 2 | S 1204 | 53-44 | Surface Transportation Reauthorization |
| | 3 | S 1241 | 67-32 | Crime Bill |
| | 4 | HR 2427 | 62-37 | Fiscal 1992 Energy and Water Appropriation |
| | 5 | HR 2506 | 53-45 | Fiscal 1992 Legislative Branch Appropriations |
| | 9 | HR 2707 | 28-69 | Fiscal 1992 Labor, HHS, and Education Budget Waiver |
| | 10 | S 1722 | 65-35 | Unemployment Benefits Extension |
| | 11 | S 5 | 65-32 | Family and Medical Leave Act Substitute |
| | 12 | | 52-48 | Thomas Nomination |
| 14 | S 1220 | 50-44 | National Energy Policy Cloture | |

Appendix B.

Pooled Senate Study: 1988, 1990, 1992 Ideology Index Components.

1. Should the government increase or decrease spending on the environment? (Increase =10, Unsure=5, Decrease=0).
2. Should the government increase or decrease spending on Schools?
3. Should the government increase or decrease spending on Social Security?
4. Should the government increase or decrease spending on Food Stamps?
5. Should the government increase or decrease spending on AIDS?
6. Should the government increase or decrease spending on Child Care?
7. Should the government increase or decrease spending on Drugs?
8. Should the government increase or decrease spending on Defense? (Increase 0, Unsure=5, Decrease=10)
9. Should the government increase or decrease spending on Medicare?
10. Should the Government try to help Blacks? (Yes =10, Unsure =5, No =0)

With the exception of those noted, all questions are scored consistent with question one.

Appendix C. Least Squares Regression of ADA on Independent Variables.

| Variable | 1988 | | 1990 | | 1992 | |
|------------------|----------|-----------|---------|------------|--------|------------|
| | A | B | A | B | A | B |
| Intercept | -178.93* | -173.17** | -167.62 | -293.34*** | -61.56 | -260.45*** |
| | 77.02 | 57.25 | 77.9 | 68.24 | 80.85 | 64.2 |
| Income | 10.52 | -14.21 | 19.3* | 2.525 | 10.49 | -20.92* |
| | 12.93 | 9.57 | 9.068 | 8.783 | 10.3 | 8.01 |
| Ideology | 2.817 | 3.56*** | 2.12 | 4.95*** | 1.12 | 5.79*** |
| | 1.26 | 0.922 | 1.196 | 1.07 | 1.37 | 1.04 |
| Race | -9.14 | 0.708 | 12.04 | 14.19 | -1.88 | 7.69 |
| | 36.83 | 24.58 | 33.23 | 29.75 | 37.11 | 31.28 |
| Union | -10.23 | 113.7*** | 40.18 | 52.55 | 15.26 | 38.12 |
| | 53.03 | 22.65 | 40.96 | 36.63 | 58.11 | 42.4 |
| R2 | 0.1 | 0.44 | 0.14 | 0.26 | 0.04 | 0.29 |

Standard Errors are shown below coefficients.

* p<.05, **p<.01, ***p<.001

Column A reflects the Traditional model, while Column B reflects the Prospective model.

Appendix D. Logit Results of 25 Senate Votes on Domestic policy in 1987, 1989 and 1991.

| Year | | Constant | L. Ideology | C. Ideology | Income | Union | Race | Re-election |
|-------------|------|-----------|-------------|-------------|----------|-----------|----------|-------------|
| 1987 | #2 A | -6.117 | .0510*** | 0.1875 | -1.969 | 2.718 | 9.925 | -0.0192 |
| | B | -11.18 | .027* | .3644** | -4.734** | 14.01** | 8.456* | 0.0038 |
| #3 | A | 14.47* | -0.009 | -.1737* | -0.8869 | -0.9554 | -1.641 | -0.3279 |
| | B | 10.55* | -0.0035 | -.1648* | 0.145 | -0.9127 | -1.687 | -0.0061 |
| #4 | A | -14.75 | .1149*** | 0.192 | 0.9128 | -10.1 | 10.79* | -0.2297 |
| | B | -23.64* | .0929*** | .435** | -3.08 | 15.59*** | 16.44** | -0.0085 |
| #6 | A | -7.388 | .0647*** | 0.118 | -0.1051 | -4.273 | 1.36 | -0.5819 |
| | B | -8.013 | .0525*** | .2739** | -3.008 | 10.47*** | 2.321 | -0.0121 |
| #7 | A | -22.32* | .1039*** | .3508* | 0.3446 | -16.62* | 6.69 | -0.8106 |
| | B | -26.64** | .0861*** | .5818*** | -4.547** | 9.499** | 10.03* | -0.0207 |
| #12 | A | 16.02 | -.1022*** | -0.1864 | -1.446 | 4.546 | -1.966 | 0.5949 |
| | B | 21.5* | -.0898*** | -.4061** | 2.705 | -14.25*** | -7.64 | 0.0144 |
| #13 | A | -8.604 | .0282*** | 0.0524 | 1.585 | -6.006 | 0.8108 | -0.1566 |
| | B | -8.295 | .0306*** | 0.1185 | -0.2586 | 1.933 | 2.516 | -0.0004 |
| #14 | A | -19.96* | .0618*** | .2666* | 0.4178 | 2.261 | 7.764* | -0.1691 |
| | B | -20.36** | .0463*** | .3474** | -1.703 | 10.58** | 7.438* | -0.0021 |
| 1989 | | | | | | | | |
| #4 | A | 12.34 | 0.0162 | -0.1048 | -1.002 | -4.852 | 8.027 | -0.3883 |
| | B | 6.231 | 0.0154 | -0.0221 | -0.7514 | -5.307 | 7.35 | -0.0075 |
| #5 | A | 17.03 | -.0914*** | -0.1695 | -1.744 | 2.064 | -9.733 | 1.059 |
| | B | 40.21*** | -.0894*** | -.6429*** | 0.6508 | -1.518 | -13.74* | 0.0173 |
| #8 | A | -5.227 | .1073*** | -0.0291 | 2.302* | -10.65 | 7.19 | 0.4124 |
| | B | -21.39* | .0984*** | .3352* | -0.5359 | 1.55 | 15.79** | 0.0013 |
| #9 | A | -6.719 | .0223* | -0.0427 | 2.978** | 4.597 | -5.579 | 0.3574 |
| | B | -20.28* | .0277* | 0.1801 | 2.955** | 1.196 | -8.087** | 0.0062 |
| #12 | A | -11.05 | .0381*** | 0.113 | 0.9946 | -1.039 | -2.798 | -0.7414 |
| | B | -19.47** | .0365*** | .2818** | 0.2898 | -1.742 | -2.017 | -0.0108 |
| #14 | A | 20.56* | -.0702*** | -.2313* | -1.077 | -8.058* | -0.5421 | 0.0027 |
| | B | 29.74*** | -.0681*** | -.4447*** | 0.1054 | -6.004 | 1.304 | -0.0012 |
| #15 | A | 11.67 | -.0827*** | -0.0535 | -2.238* | 2.58 | -4.602 | 0.9038 |
| | B | 23.78** | -.0853*** | -.349** | 0.2376 | -5.64 | -10.94* | 0.0188 |
| #16 | A | -12.05* | -0.0027 | .2292* | -0.7108 | 3.221 | 2.115 | -1.968*** |
| | B | -10.36 | -0.0016 | .2093* | -0.7133 | 1.409 | 0.3283 | -.0284*** |
| 1991 | | | | | | | | |
| #2 | A | -1.533 | 0.0096 | -0.099 | 2.39*** | -0.7097 | -2.953 | -0.7583 |
| | B | -8.65 | 0.0111 | 0.1012 | 0.6012 | 2.007 | -3.207 | -0.007 |
| #3 | A | -31.44*** | .0494*** | .4730** | 0.1666 | 7.604 | -2.777 | -0.6966 |
| | B | -29.64*** | .0407*** | .4143*** | 0.6461 | 7.205 | -1.607 | -0.0103 |
| #4 | A | 13.05* | .0238** | -18.65 | -0.2902 | 4.05 | 6.169* | -0.3346 |
| | B | 22.39*** | -0.0152 | -.4097** | 1.268 | 2.642 | 6.582* | -0.0067 |
| #5 | A | 3.41 | -0.0059 | -0.0657 | 0.4415 | -1.251 | 1.948 | -1.647*** |
| | B | 1.608 | -0.0062 | -0.0255 | 0.1775 | -0.5461 | 1.874 | .0233*** |
| #9 | A | -15.15 | .0589*** | 0.122 | 1.475 | 2.874 | -9.037* | 0.5566 |
| | B | -23.67** | .0621*** | .3414** | -0.2602 | 4.974 | -8.747* | 0.0077 |
| #10 | A | 59.8 | 0.6418 | -0.918 | 1.655 | 57.93 | 34.23 | -0.0758 |
| | B | -66.92 | 0.3881 | 1.637* | -10.64 | 32.22 | 16.53 | 0.0027 |
| #11 | A | -42.99* | .1535*** | 0.4758 | 3.002 | 26.05 | -6.006 | 0.9515 |
| | B | -69.04** | .1551*** | 1.103** | -1.276 | 28.74* | -6.798 | 0.0153 |
| #12 | A | 4.366 | -.09*** | 0.048 | -1.498 | -7.866 | -1.683 | 0.172 |
| | B | 27.3** | -.0893*** | -.5166** | 2.588* | -11.48* | -1.81 | 0.0015 |
| #14 | A | 10.55 | -.0343*** | -0.0867 | -1.527 | 5.171 | 4.182 | -0.056 |
| | B | 22.24*** | -.0328*** | -.3394*** | -0.0081 | 3.183 | 3.188 | -0.0024 |

A= Traditional Model
 B= Prospective Model
 *P <.05, **P<.01, *** P<.001

Appendix E. Likelihood Ratio Index Scores for Senate Key Votes, by Model.

| Year | Key Vote # | Prospective Model | Traditional Model |
|------|------------|-------------------|-------------------|
| 1987 | 2 | 0.47 | 0.36 |
| | 3 | 0.09 | 0.11 |
| | 4 | 0.69 | 0.69 |
| | 6 | 0.44 | 0.42 |
| | 7 | 0.64 | 0.65 |
| | 12 | 0.67 | 0.65 |
| | 13 | 0.15 | 0.17 |
| | 14 | 0.50 | 0.46 |
| 1989 | 4 | 0.12 | 0.15 |
| | 5 | 0.64 | 0.61 |
| | 8 | 0.63 | 0.64 |
| | 9 | 0.24 | 0.20 |
| | 12 | 0.24 | 0.23 |
| | 14 | 0.48 | 0.49 |
| | 15 | 0.56 | 0.56 |
| | 16 | 0.16 | 0.19 |
| 1991 | 2 | 0.08 | 0.14 |
| | 3 | 0.39 | 0.42 |
| | 4 | 0.22 | 0.16 |
| | 5 | 0.09 | 0.10 |
| | 9 | 0.40 | 0.39 |
| | 10 | 0.93 | 0.94 |
| | 11 | 0.76 | 0.75 |
| | 12 | 0.63 | 0.62 |
| 14 | 0.24 | 0.24 | |

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