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Senate Elections in the United States, 1920–94

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Adopted in 1913, the 17th Amendment to the US Constitution requires that members of the US Senate be elected by citizens of their respective states. This article is concerned with understanding what factors have influenced Senate election outcomes and how their effects have changed over time. I focus on three independent variables, state partisan composition, incumbency, and national partisan tides, and then develop a model of Senate election outcomes that allows their effects to change from election year to election year. The results reveal substantial variability and lead to a new and detailed understanding of Senate elections in the United States. The significance of the findings is further demonstrated by showing how the effects of the independent variables have affected actual election outcomes.

For students of electoral politics, a primary responsibility is to explain why elections turn out as they do. This article focuses on elections for the US Senate and asks two basic questions: (1) what are the determinants of Senate election outcomes, and (2) how have their effects changed over time? As will become apparent, explaining the causes of US Senate election outcomes requires an approach that allows the effects of variables to vary from election year to election year. Although previous research provides useful insights, no prior investigation fully addresses this dynamic feature of Senate elections. Consequently, our understanding of Senate elections is unnecessarily limited. The approach employed in this article reveals important aspects of Senate elections that lead to a new and detailed understanding of Senate elections in the United States.

Since the adoption of the 17th Amendment to the US Constitution in 1913, Senators have been elected by the citizens of their respective states. Despite the limited availability of data spanning the time from the first constitutionally mandated senatorial elections to the present, I investigate the effects of three primary variables, state partisan composition, incumbency, and national partisan tides on Senate election outcomes. A close analysis of the elections in four recent six-year Senate election cycles, from 1972 to 1994, provides further insight into the dynamics of Senate elections in the United States.

The layout of this article is as follows. First, I introduce the three primary independent variables and argue that their effects on Senate elections are not sufficiently understood. Then I proceed to estimate the effects of these variables

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in every election year from 1920 through 1994, seeking to identify time-dependent trends in the magnitudes of the effects of state partisan composition, incumbency and national partisan tides. Finally, focusing on the most recent election cycles, I examine how actual election outcomes are contingent on the effects of the independent variables. Taken as a whole, the article provides a comprehensive, general explanation of Senate election outcomes in the United States from 1920 through 1994.

BASIC EXPLANATORY VARIABLES

What determines candidates' vote shares in a given Senate election? One obvious factor is the partisan composition of the electorate.[1] A well-established maxim is that individuals with a greater allegiance to one of the political parties are more likely to vote for that party's candidate than those who identify with the other party. Aggregating voters into statewide electorates, one therefore expects that the greater a state's partisan distribution favours one of the parties, the greater that party's share of the Senate vote in a given election. Democratic candidates should receive greater vote shares in states that have greater proportions of Democrats, just as Republican candidates should do better in more Republican states.

Nearly every study of Senate election outcomes employs the premise that state partisan composition affects outcomes.[2] Nevertheless, a clear understanding of the relationship remains elusive because most analyses assume that the effects of state partisan composition are invariant over time.[3] The assumption of invariance means, for example, that the difference in the Democratic share of the vote in two states whose levels of Democratic partisanship differ by 10 percentage points is assumed to be similar at different points in time. However, there is little reason to believe that a 10-point partisan advantage translates into

[1] Assessing the effect of state partisan composition on Senate election outcomes is possible because interstate differences in partisanship have continued to be apparent in America. I also investigate the effects of intrastate changes with regard to the rise of the Republican party in the South.

[2] The only study I have found that does not model the effect of state partisan composition is Peverill Squire, 'Challengers in US Senate Elections', *Legislative Studies Quarterly*, 14 (1989), 531–47.

[3] See, for example, Alan Abramowitz, 'Explaining Senate Elections', *American Political Science Review*, 82 (1988), 383–403; David Brady, Brian Gaines and Douglas Rivers, 'The Incumbency Advantage in the House and Senate: A Comparative Institutional Analysis' (unpublished manuscript, Stanford University, 1994); James E. Campbell and Joe A. Sumners, 'Presidential Coattails in Senate Elections', *American Political Science Review*, 84 (1990), 513–24; Barbara Hinckley, 'Incumbency and the Presidential Vote in Senate Elections: Defining the Parameters of Subpresidential Voting', *American Political Science Review*, 64 (1970), 836–42; V. O. Key Jr, *Politics, Parties, and Pressure Groups*, 5th edn (New York: Thomas Y. Crowell, 1964); David Ian Lublin, 'Quality, not Quantity: Strategic Politicians in US Senate Elections, 1952–1990', *Journal of Politics*, 56 (1994), 228–41; Charles Stewart III, 'A Sequential Model of US Senate Elections', *Legislative Studies Quarterly*, 14 (1989), 567–601; Mark C. Westlye, *Senate Elections and Campaign Intensity* (Baltimore, Md: The Johns Hopkins University Press, 1991). The period of time covered in these studies ranges from ten to thirty-eight years.

similar vote shares over time. In analyses that cover a comparatively short period the premise has greater plausibility.[4] Yet, over longer periods the assumption is more difficult to justify. The approach employed in this article permits the effect of state partisan composition to vary over time.[5]

The second variable to consider is incumbency. Incumbents clearly have more success than either challengers or open-seat candidates. Measuring and explaining the 'incumbent advantage' has been a primary preoccupation of congressional election scholars since David Mayhew observed the 'vanishing marginals' in House elections.[6] Senate incumbents, although less successful than their counterparts in the House, also have been good bets to be re-elected.[7] Four useful studies have attempted to gauge the effect of incumbency on Senate elections.

Barbara Hinckley analysed what she deemed to be 'competitive' states between 1956 and 1966 and found a relationship between incumbency and 'strong … deviations from the base party vote'.[8] This study is certainly interesting, but is limited because it considers only a handful of states over a relatively short period of time. Moreover, Hinckley did not provide precise estimates of the magnitude of the incumbent advantage in those elections that she did examine.

In contrast to Hinckley's work, both Kostroski and Krashinsky and Milne provide concrete estimates of the incumbency effect.[9] Their analyses also span

[4] However, my analysis reveals that even over periods as short as ten years, substantial change in the effect of partisan composition may be observed.

[5] The single exception to the common practice of assuming that the effect of state partisan composition on Senate election results is invariant over time is Warren Lee Kostroski, 'Party and Incumbency in Postwar Senate Elections: Trends, Patterns, and Models', *American Political Science Review*, 67 (1973), 1213–34. Kostroski analysed elections over a twenty-two year period, from 1948 to 1970, and found that the 'importance of party has undergone a sharp, secular decline' (p. 1229). However, as I have explained elsewhere in Benjamin Highton, 'Parties, Candidates, and Issues in US Senate Elections' (unpublished manuscript, University of California, Berkeley, 1998), Kostroski employs a flawed model, making his conclusions dubious. In addition, Kostroski uses a crude indicator of state partisan composition that he calls 'base party vote', which is the value of 'the lowest percent of votes for House candidates cast in that state during the five election years of which the "target year" [the year of the Senate election] … constitutes the midpoint year' (Kostroski, 'Party and Incumbency in Postwar Senate Elections: Trends, Patterns, and Models,' p. 1226). I will demonstrate that this sort of measure tends to underestimate the effect of state partisan composition on election outcomes.

[6] David R. Mayhew, 'Congressional Elections: The Case of the Vanishing Marginals,' *Polity*, 6 (1974), 295–317.

[7] From 1946 to 1994, 77 per cent of Senate incumbents seeking re-election were successful. The corresponding number for House incumbents is 92 per cent (Norman J. Ornstein, Thomas E. Mann and Michael J. Malbin, *Vital Statistics on Congress 1997–1998* (Washington, DC: Congressional Quarterly Inc., 1998).

[8] Hinckley, 'Incumbency and the Presidential Vote in Senate Elections: Defining the Parameters of Subpresidential Voting', p. 840.

[9] Kostroski, 'Party and Incumbency in Postwar Senate Elections: Trends, Patterns, and Models'; Michael Krashinsky and William J. Milne, 'The Effects of Incumbency in US Congressional Elections, 1950–1988', *Legislative Studies Quarterly*, 18 (1993), 321–44.

substantially greater periods of time, twenty-two and thirty-six years, respectively. However, they reach contradictory conclusions and employ dubious models.[10]

The final attempt to measure the incumbency advantage in Senate elections is that of Brady, Gaines and Rivers.[11] In this study, the authors identify an increase in the effect of incumbency from 2.2 percentage points in the 1932–60 period to 7 percentage points in the 1962–92 period. The results are obviously useful, but their model necessitated an assumption that, within each thirty-year period, the effect of incumbency did not change. Just as in the case of state partisan composition it would be desirable to test this assumption, especially in the light of Gary Jacobson's findings about House elections, which show an increasing incumbent advantage during the latter period, including 'a particularly sharp increase in the mid-1960s'.[12]

The third and final factor to consider is short-term national partisan tides. The concept is a familiar one. Whether the cause is presidential popularity, economic performance, scandal or whatever, few doubt that the major political parties have good and bad years. Scholars have devoted substantial attention to understanding the effects of short-term national forces on House elections and even the Senate has received some attention. Both Abramowitz and Squire have shown that Senate candidates of the president's party lose votes in mid-term elections.[13] Campbell and Sumners provide modest evidence of presidential coat-tails in concurrent Senate and presidential contests.[14] Hibbing and Alford, Lublin, and Simon, Ostrom and Marra all have demonstrated an association between national economic performance and Senate outcomes. Lublin and Simon, Ostrom and Marra also show that Senate outcomes are related to presidential popularity.[15]

In order to analyse the links between national partisan tides and variables like the economy, scholars must often assume that the effect of a particular variable is constant across elections. For example, Lublin's model entails the assumption that a 5 per cent change in per capita income would have the same effect in every election year from 1952 to 1990.[16] However, if Senate elections became increasingly 'localized' during this period, then the connection between national economic performance and Senate outcomes may have weakened.

Here, the problems associated with the attempts to gauge the effects of

[10] See Highton, 'Parties, Candidates, and Issues in US Senate Elections', Appendix 2.A.

[11] Brady, Gaines and Rivers, 'The Incumbency Advantage in the House and Senate'.

[12] Gary C. Jacobson, *The Politics of Congressional Elections*, 4th edn (New York: Addison Wesley Longman, 1997), p. 24.

[13] Abramowitz, 'Explaining Senate Elections'; Squire, 'Challengers in US Senate Elections'.

[14] Campbell and Sumners, 'Presidential Coattails in Senate Elections'.

[15] John R. Hibbing and John R. Alford, 'Economic Conditions and the Forgotten Side of Congress: A Foray into US Senate Elections', *British Journal of Political Science*, 12 (1982), 505–16; Lublin, 'Quality, not Quantity'; Dennis M. Simon, Charles W. Ostrom Jr and Robin F. Marra, 'The President, Referendum Voting, and Subnational Elections in the United States,' *American Political Science Review*, 85 (1991), 1177–92.

[16] Lublin, 'Quality, not Quantity'.

economic and other variables on short-term national partisan tides will be avoided. As discussed more fully later, the model of Senate elections I employ will provide individual election-year estimates of the magnitude and direction of any national partisan tides. These estimates will make it possible to determine the contribution of such tides to actual Senate election results. This sort of approach is extremely useful for understanding whether, for example, the Democrats' net gain of two Senate seats in 1972, despite Nixon's landslide, indicates the absence of a Republican tide.

MODEL, SAMPLE AND MEASUREMENT

The basic model of Senate elections that I will estimate has three independent variables: state partisan composition, incumbency and partisan tides. The dependent variable is individual election outcomes, specifically, the Democratic candidate's percentage of the two-party vote in each election.[17]

Ordinary least squares (OLS) is used to estimate the parameters. The period for which I generate estimates is 1920 through 1994. The period begins in 1920, rather than 1914, the first year of constitutionally mandated popular elections, because in 1920 elected Senators were beginning to seek re-election. Senate incumbents, defined as candidates seeking re-election, did not exist before 1920. Equation (1) summarizes the model where i indexes states and t indexes years. V_{it} denotes the Democratic percentage of the two-party vote. SPC_{it} denotes state partisan composition. I_{it} indicates incumbency status. Partisan tides are indicated by the intercept, α_t.

$$V_{it} = \alpha_t + \beta_{1t} * SPC_{it} + \beta_{2t} * I_{it} + \varepsilon_{it} \quad (1)$$

Elections in which a third party or independent candidate received more than 15 per cent of the popular vote are not included in the analysis. Only two states had more than one race excluded on these grounds.[18] Uncontested races pose a more difficult question. Not only are they more frequent than independent and third-party candidacies, they are very strongly correlated with region of the country. Over the entire period that Senators have been popularly elected, 8.6 per cent of the elections were not contested by one of the major parties. Nearly

[17] Several sources provided the necessary data: Robert A. Diamond, ed. *Guide to US Elections* (Washington, DC: Congressional Quarterly Inc., 1975), Richard M. Scammon and Alice V. McGillivray, eds, *America Votes 20: A Handbook of Contemporary American Election Statistics* (Washington, DC: Congressional Quarterly Inc., 1993), and US Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 1* (Washington DC, USBC, 1975).

[18] Other than Minnesota, only Virginia had more than one race excluded for this reason. In both 1970 and 1976, Harry Byrd Jr, who won a special election as a Democrat in 1966 to replace his father Harry Byrd, ran as an independent in Virginia. Both parties nominated candidates to oppose him in 1970 while only the Democrats contested the 1976 race. Byrd Jr won these elections. In Minnesota the Farmer–Labor party was a vigorous alternative to the two major parties between 1922 and 1942, winning five elections and finishing second three times. All Minnesota Senate elections during this period were deleted from the sample for analysis.

TABLE 1 *Senate Election Outcomes by Region and Period*

Period†	South:* % of races won by Democratic party (*N*)	Non-south: % of races won by Democratic party (*N*)
1914–60	100 (194)	43 (647)
1962–78	75 (69)	55 (244)
1980–94	58 (57)	50 (218)

*The South is defined as the eleven former Confederate states.
†Special elections held in odd-numbered years are not included.

95 per cent of these races occurred in the eleven former Confederate states, the South, representing more than a third of all the races in this region.[19] In addition, uncontested southern races were more prevalent earlier in the time period under study. Before 1960 fully 50 per cent of Senate races in the South were uncontested, compared to 16 per cent since.[20]

Regional differences in uncontested races provide justification for separately investigating Senate races in the South, as does the history of Democratic party domination in the South. Table 1 provides evidence of the distinctive character of Senate elections in the South. Before 1960 every Senate race in the South was won by a Democrat.[21] Since then, the Republicans have steadily become more successful, winning 42 per cent of southern races since 1980.[22] A detailed examination of southern Senate races will be saved for later. Until then, given the basic premise of the model that Senate elections are contests between competing candidates and parties, the analysis will focus on contested non-southern elections.

Before moving on to the main analysis, several questions of measurement must be considered. An indicator of state partisan composition needs to be constructed that satisfies two criteria. First, and most obvious, the measure must

[19] Fewer than 1 per cent of Senate elections outside the South were not contested by one of the major parties.

[20] With two exceptions, every uncontested Senate race in the South was due to the absence of a Republican candidate. In 1990 the first two unchallenged Republicans stood in the South, Thad Cochran (Mississippi) and John Warner (Virginia).

[21] The Republican candidate who received the largest share of the vote in the South before 1960 was Ben Hooper, who lost to Kenneth McKellar in Tennessee in 1916.

[22] The first Republican to be elected to the Senate from the South was John Tower of Texas in 1961. Lyndon Johnson's ascension to the vice-presidency precipitated the special election. Tower beat the Democrat, William Blakley, with 51.6 per cent of the vote. In 1966 the first Republican wins were made in regularly scheduled elections: Tower in Texas, Strom Thurmond in South Carolina, and Howard Baker Jr in Tennessee.

span the entire period that Senators have been popularly elected. Secondly, the indicator must be able to reflect the changing partisan composition within states over time as the assumption of static state partisan composition over the seventy-four year period is clearly inappropriate, for southern and non-southern states alike.

One possible measure of state partisan composition relies on previous electoral behaviour, specifically a party's share of the vote in the preceding Senate election.[23] This was Lublin's approach. 'Previous incumbent vote will serve as a measure of local political conditions. Incumbents who won the previous election by a large margin probably have a larger base of support than incumbents who won by a narrow margin.'[24] I concur with Lublin's conclusion, but also agree with Jacobson's comment that the variable is 'far from ideal'.[25] The potential problem results from the fact that previous vote, like current vote, reflects the influence of factors like incumbency and other short-term forces, in addition to partisan composition.

A party's share of the previous Senate vote is by no means worthless as an indicator of state partisan distribution, and I do employ it as one indicator. However, in order to decrease idiosyncratic variation, rather than simply use the most recent previous Senate election, I employ the average of the two most recent elections.

Outcomes from elections other than those for the Senate present additional possibilities as indicators of state partisanship. Gubernatorial elections and statewide House results are options, yet they are susceptible to the same sort of disadvantages as the use of previous Senate election outcomes. A better office upon which to focus is the presidency. There is a greater degree of equality of resources and media attention in presidential contests compared to the others. Therefore, in a given election year, much of the cross-sectional variation in the parties' vote shares in the states may be attributed to differences in the partisan compositions of the states.

The drawback of using state-level presidential returns concerns longitudinal comparisons. For example, if the Democratic party received 50 per cent of one state's vote in 1956 and 50 per cent of another's in 1964, one should be wary of inferring that both states had similar partisan compositions despite their identical election returns. After all, a Democratic vote share of 50 per cent in the face of Eisenhower's landslide is more impressive that a similar share in the midst of Johnson's. To solve this problem one can simply subtract the Democratic party's national vote percentage from the Democratic party's percentage of the vote in each state. Thus 50 per cent in 1956 becomes + 7.8,

[23] Gary Jacobson introduced this variable in his analysis of the effects of campaign spending in congressional elections (Gary C. Jacobson, 'The Effects of Campaign Spending in Congressional Elections', *American Political Science Review*, 72 (1978), 469–91).

[24] Lublin, 'Quality, not Quantity, p. 230.

[25] Jacobson, 'The Effects of Campaign Spending in Congressional Elections,' p. 471.

whereas 50 per cent in 1964 becomes −11.4. I refer to these quantities as 'relative', rather than 'absolute' presidential percentages.

The relative presidential vote variable is not without its own problem. Its use entails the assumption that the entire amount of the deviation of the Democratic national vote percentage from 50 per cent is due to short-term forces. This is probably not true. For example, most political scientists would agree that Franklin Roosevelt's success was not simply the result of a temporary surge to the Democrats. A variety of factors were causing a long-term change in the national balance of partisanship in favour of the Democrats – hence the term 'New Deal realignment'. Although the relative measure would treat them equally, a state whose presidential vote was equal to the national average in 1936 was probably more Democratic than a state whose presidential vote was equal to the national average in 1920. Absolute presidential vote percentages, therefore, appear to have merit, too.

Because no obvious way of choosing between relative and absolute presidential vote totals presents itself, I computed the average of two variables to serve as the yearly indicator of state presidential vote totals. Like the indicator based on previous Senate outcomes, the average Democratic percentage of the two-party vote in each state for the two most recent presidential elections will serve as the indicator of state partisan composition. For example, for a Senate race in 1980, the state's presidential scores from 1976 and 1972 were averaged.

To construct a single measure of state partisan composition, I averaged the two indicators, thereby giving each variable equal weight in the composite measure.[26] This decision was guided by the results displayed in Table 2. The first two columns report the parameter estimates of the effects of each indicator, with the other excluded. Notice that the estimates are quite similar in magnitude, 0.44 and 0.5. The third column of the table reports the estimates from a model that includes both indicators. Here again the two estimates are very similar, 0.34 and 0.3. Because the effects of both indicators are similar, providing equal weight to each in the composite measure seems justified. The fourth column of Table 2 displays the estimated effect of the combined measure. Notice that the magnitude is larger than either of those of the indicators in the first two columns. This result demonstrates how imperfect measurement of state partisan composition can lead to an underestimate of its effect on outcomes. Using the previous senate vote or previous presidential voter indicators alone leads to estimates that are 22 and 31 per cent,[27] respectively, smaller in magnitude than the estimate obtained by combining the two.[28]

[26] To make the average previous Senate vote variable more directly comparable to the average previous presidential vote variable, I subtracted 50 from each value of the previous Senate vote. Thus positive values of each variable indicate a partisan composition that favours the Democrats, while negative ones indicate a Republican advantage.

[27] Direct comparisons of this sort are possible because all the indicators are measured in the same units, percentage points.

[28] The combined measure performs better than Austin Ranney's widely used classifications of state partisanship, Austin Ranney, 'Parties in State Politics', in Herbert Jacob and Kenneth N. Vines,

TABLE 2 *Parameter Estimates of the Effect of State Partisan Composition (SPC) on Senate Election Outcomes using Alternative Indicators*

SPC indicator	Model 1	Model 2	Model 3	Model 4
Average previous Senate vote (*S*)	0.44 (0.04)		0.34 (0.04)	
Average previous Presidential vote (*P*)		0.50 (0.05)	0.30 (0.05)	
Average of *S* and *P*				0.64 (0.05)
s.e.e.	8.50	8.66	8.36	8.35
Adjusted R^2	0.40	0.38	0.42	0.42

Note: The dependent variable is Democratic percentage of the two-party vote in each race. The equation was estimated over all non-southern contested Senate races between 1920 and 1994 ($N = 1{,}001$). Though their estimates are not reported here, the model includes an intercept and an incumbency indicator. Standard errors are given in parentheses below each OLS estimate.

Measuring incumbency and national partisan tides is far less complicated than state partisan composition. Following the approach that Andrew Gelman and Gary King used in their analysis of House elections, I measure incumbency with a trichotomy.[29] Races with a Democratic incumbent are coded + 1, open-seat races receive a value of 0, and contests in which a Republican seeks re-election are coded − 1. Because a unit change in this variable represents a change from an incumbent-contested race to an open-seat one, the OLS estimate of this variable represents the electoral advantage of incumbency.[30]

Given the coding of state partisan composition and incumbency, the estimated value of the intercept provides a meaningful estimate of yearly partisan tides. To see this, recall that OLS intercepts indicate the expected value of the dependent variable when the value of all the independent variables is zero. In

(F'note continued)

eds, *Politics in the American States* (Boston, Mass; Little, Brown, 1965), pp. 61–99. Ranney's original measure covers the period from 1946 through 1964. During this time, the correlation between Ranney's indicator and mine is 0.71. Pooling the Senate races from this period, and estimating a model that includes incumbency and Ranney's indicator of state partisanship produces a standardized effect estimate of 0.34 for the Ranney index, and a standard error of estimation (s.e.e.) of 7.3. Re-estimating the model after substituting my measure for Ranney's produces a larger standardized estimate of the effect of state partisanship, 0.46, and a smaller s.e.e., 7.0. In a model that includes both indicators, the respective standardized coefficients for Ranney's indicator and my combined measure are 0.10 and 0.39.

[29] Andrew Gelman and Gary King, 'Estimating Incumbency Advantage without Bias', *American Journal of Political Science*, 34 (1990), 1142–64.

[30] Because my concern is to estimate the overall incumbency advantage, I do not include indicators that tap characteristics of challengers and their campaigns. This approach parallels that of Gelman and King, 'Estimating the Incumbency Advantage without Bias.'

the present context, values of zero for incumbency and state partisan composition indicate an open-seat race in a state evenly split between the two parties. If there is no partisan tide, then one would expect the Democratic percentage of the vote to equal 50 in such a race. Thus an estimated yearly intercept greater than 50 indicates a short-term Democratic tide equal to the value of the intercept minus 50. An estimated intercept less than 50 indicates a Republican tide. A concrete example is helpful. When President Truman's popularity was near its nadir in 1946, the intercept estimate is 42.1. This suggests that Democratic Senate candidates lost (and Republican candidates received) 7.9 per cent ($42.1 - 50 = -7.9$) of vote as a result of a Republican tide.

SENATE ELECTION OUTCOMES, 1920–94

Table 3 provides useful summary information for the model estimates for the thirty-eight election years from 1920 through 1994. Not surprisingly, the average estimate of the effects of state partisan composition and incumbency are positive. The average national partisan tide of $+0.8$ indicates that over the entire period of study Democratic candidates benefited slightly, less than 1 per cent, from short-term tides.

TABLE 3 *Summary of Parameter Estimates of the Basic Model of Senate Election Results*

	State partisan composition	Incumbency	National partisan tides
Number of estimates	38	38	38
Average effect estimate	0.64	4.9	0.8
Range of estimates	0.00–1.38	− 0.9–10.0	− 8.7–8.9
Standard deviation of effect estimates	0.35	3.0	4.5
Average standard error of effect estimates	0.26	1.9	1.9

Notes: Full details of the model and estimation of the determinants are given in the Appendix attached to the electronic version of this article. The unit of analysis is individual Senate races. The model was estimated for every election year from 1920 through 1994. The dependent variable is the Democratic percentage of the two-party vote. See main text for coding details.

In the following paragraphs I analyse changes, if any, in the effects of each of the independent variables. To facilitate the investigation, the yearly effect estimates have been plotted in figures. Because I am primarily concerned with observing time-dependent trends in the effects of state partisan composition and

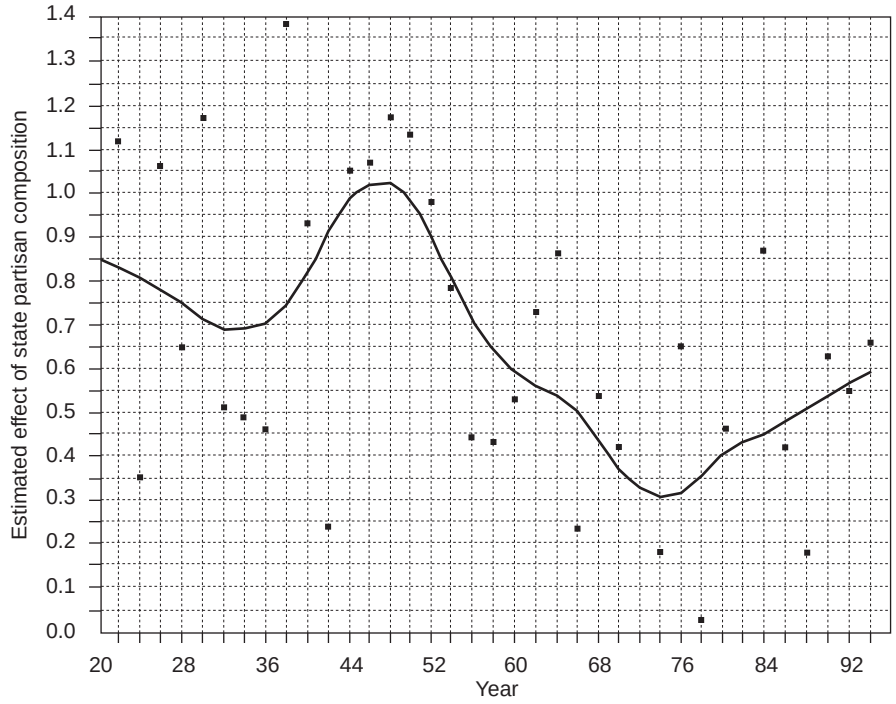

Fig. 1. Estimated effect of state partisan composition, 1920–94

incumbency, a line fitted by LOWESS regression is also displayed.[31] Although the magnitude of national partisan tides might be time-dependent, the direction of them is not. Consequently, the figure that reports the estimated short-term swings does not include a LOWESS fitted line.

The effect of state partisan composition (SPC) appears to vary considerably over time. Figure 1 suggests three distinctive periods. The period beginning in 1920 and ending in 1946 is marked by the largest effect of state partisan composition. During this time the LOWESS results suggest that the effect of SPC fluctuated between roughly 0.7 and 1.0.[32] Each percentage point of SPC translated into between 0.7 and 1.0 percentage points of the Senate vote. Substantively, these values mean that the difference in the Democratic share of the two-party Senate vote between two states, one of which leaned towards the Democrats by 10 percentage points and one that leaned to the Republicans by 10 points, was between 14 and 20 percentage points.

After reaching its peak shortly after the end of the Second World War, the

[31] LOWESS initially estimates a local polynomial least squares fit to a subset (in this case 30 per cent) of the points, then defines robustness weights to resmooth the fit. Essentially, a moving average with weights positively associated with proximity is generated.

[32] The range of the yearly estimates, from 0.25 to 1.35, is larger. The average of the yearly estimates during this period is 0.8. The standard deviation of the yearly estimates is 0.36.

effect of state partisan composition on Senate outcomes began a nearly thirty-year decline. Figure 1 shows the estimated effect diminishing from 1.0 to 0.3. The effect of a 20 percentage point difference between two states in terms of their levels of partisan composition decreased from 20 to 6 percentage points.[33]

The third time period, from 1974 through 1994, displays a halt in the decline of the effect of state partisan composition. Figure 1 suggests that there may have been a modest recovery, though statistically, the probability that such an increase is due to chance is not trivial.[34] Thus confidently reaching the conclusion that the effect of SPC is increasing will depend on the post-1994 pattern of results.

The implications of the changes in the magnitude of the effect of state partisan composition on the competitiveness of Senate elections become apparent with a simple example. Consider a state that leans towards the Republican party by 10 percentage points. Before the decrease in the effect of SPC, a Democratic candidate would have to overcome the 10 percentage-point advantage accorded to the Republican due to the balance of state partisanship ($10*1.0 = 10$). At its nadir, the effect of state partisan composition left the Democratic candidate with a substantially smaller disadvantage, 3 percentage points ($10*0.3 = 3$). A smaller disparity produced by state partisan composition increases the possibility that other factors, like partisan tides, may affect the outcomes of races. The bigger the effect of SPC, the more insulation candidates benefited by it receive.

Before proceeding to an examination of the effects of incumbency, a useful perspective on the effect of state partisan composition may be obtained by a brief detour into the world of presidential elections. The decline in the effect of SPC in Senate elections might indicate a general decline in the effect of partisanship on elections in the United States.[35] However, the decline might be limited to Senate elections. Obviously, interpreting the decline properly depends on its degree of ubiquity.

Table 4 shows that there has not been a matching decline in the effect of state

[33] To determine whether the roughly linear decline in the apparent effect of SPC might be a methodological artefact, I conducted two tests. First, I disaggregated the composite measure of state partisan composition and estimated the basic outcome model with each component of SPC separately. Between 1946 and 1974 the effect of each variable, previous average presidential and senatorial vote, declined by similar amounts. Second, I pooled all the races between 1946 and 1974 and estimated an outcome model that included a linear trend term for SPC. The estimates reveal that the probability that there was no decline in the effect of SPC is very small ($p = 0.01$). Thus the depiction in Figure 1 of the nearly thirty-year decline in the effect of state partisan composition on Senate election outcomes appears to be real.

[34] The *p*-value associated with a linear SPC trend term from a pooled analysis of races from 1974 through 1994 is 0.44.

[35] One might be tempted to use the National Election Studies surveys conducted every election year since 1952 to further investigate this issue. However, they are poorly suited for analysing voting behaviour in Senate elections (Westlye, *Senate Elections and Campaign Intensity*, chap. 5, provides a detailed explanation).

TABLE 4 *State-Level Presidential Vote Regressed on Average Previous Presidential Vote (Non-southern states only)*

Period	Average parameter estimate	Average standard error
1920–32	0.64	0.18
1936–44	0.64	0.13
1948–56	0.80	0.13
1960–68	0.88	0.15
1972–80	0.85	0.12
1984–92	0.84	0.07

Notes: State-level presidential vote was regressed on previous state-level presidential vote (the average of the two most recent elections) for every presidential year from 1920 to 1992. Cell entries report the average estimate for each period.

partisan composition on state-level presidential election results. For every presidential year from 1920 to 1992, I regressed state-level Democratic share of the presidential vote on the average state-level Democratic vote share in the previous two presidential elections.[36] For each year, then, an estimate of the effect of the average previous presidential vote is generated. In the table, the yearly estimates are grouped into six periods of three or four presidential elections each, and the average parameter estimate is reported. Reading down the table, it is clear that the decline in the effect of state partisan composition on Senate elections shown in Figure 1 is not manifested in presidential elections. The smallest average estimates occur in the 1920–32 and 1936–44 periods. During this time, each percentage point of average previous presidential vote was translated into 0.64 percentage points in the current election. Since 1944, the average estimate of the effect of a state's previous presidential vote was never lower than 0.8. If anything, then, the effect of state partisan composition has modestly increased in presidential elections. This finding suggests that the declining effect of state partisanship may have been limited to Senate elections.

Like the effect of state partisan composition, the effect of incumbency has varied since 1920. Figure 2 shows the estimates and a LOWESS fit line. Between 1920 and 1948, although the variation in the estimates is not small, only modest time-dependent change in the incumbent advantage is apparent.[37] By pooling the biennial samples during this period and estimating a single incumbency effect, the hypothesis that there was no effect of incumbency between 1920 and 1948 can be tested. The pooled estimate of incumbency is 2.3 percentage points,

[36] Southern states were excluded from the analysis leaving thirty-seven observations per year from 1920 to 1964. In 1968, after the addition of Alaska and Hawaii to the country, there were thirty-nine observations per year. Although citizens living in Alaska and Hawaii began participating in presidential elections in 1960, only by 1968 did values for two previous presidential elections exist for these two states.

[37] The average of the yearly estimates of incumbency is 3. The standard deviation of the effect estimates is 2.

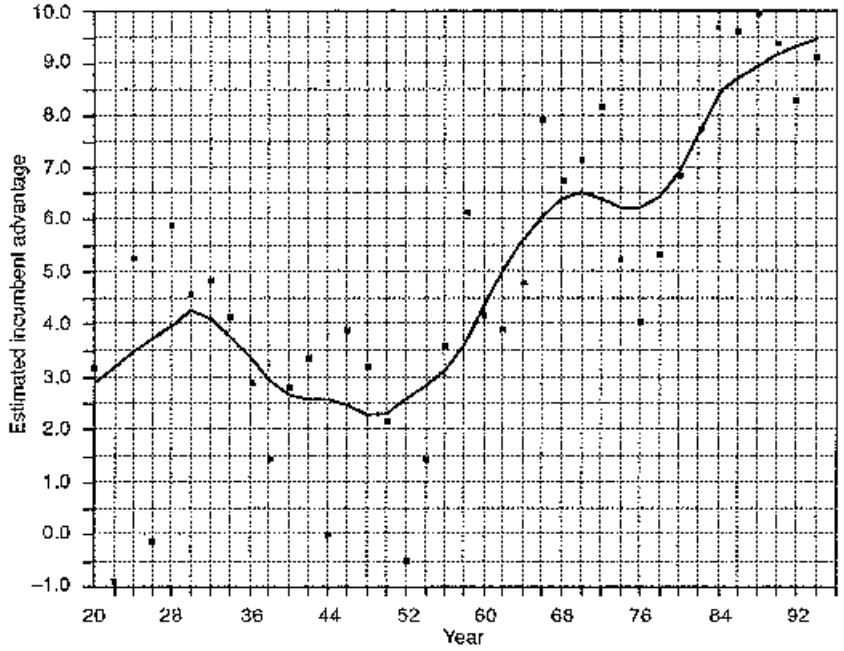

Fig. 2. Estimated incumbent advantage, 1920–94

with a standard error of 0.6. Thus one can be reasonably confident that there was an incumbent advantage in Senate elections during this period.

Perhaps the defining characteristic of Figure 2 is the rather steady, nearly uninterrupted increase in the incumbent advantage from approximately 1948 to 1994. A comparison of Figures 1 and 2 suggests that until 1976 the growing effect of incumbency occurred during the time of the diminishing impact of state partisan composition. Since the mid 1970s, however, the reversal in the decline of SPC was not matched by a similar break in the increase of the incumbent advantage. In fact, over the entire 1920–94 period, the six largest yearly estimates of the effect of incumbency are obtained in the six most recent election years. In each of these years, the estimated incumbent advantage exceeds 8 percentage points.

Like those of state partisan composition, greater perspective on the Senate incumbent advantage estimates may be gained by comparing them to elections for another office. In this case, a useful comparison is US House elections. By now, the growth of the incumbency advantage in House elections since the Second World War is well documented.[38] The parallel increase of similar

[38] See, for example, Mayhew, 'Congressional Elections: The Case of the Vanishing Marginals', and Gelman and King, 'Estimating Incumbency Advantage without Bias'. Jacobson, *The Politics of Congressional Elections*, 4th edn, chap. 3, provides a detailed review of the literature and evidence regarding the incumbency advantage in House elections.

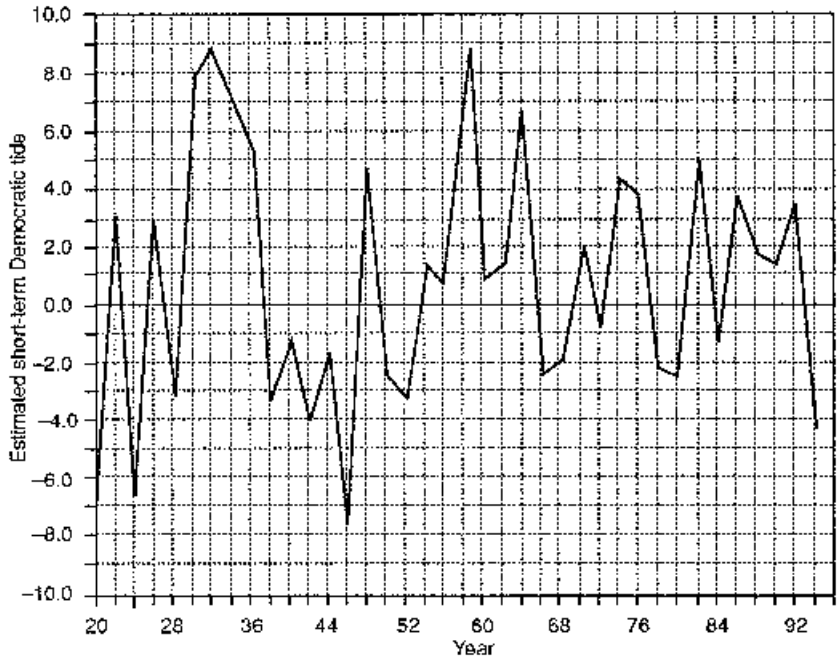

Fig. 3. Estimated short-term Democratic tides, 1920–94

magnitude in Senate elections reported here suggests that a common cause might lie behind the incumbent advantage in congressional elections.[39]

The final variable to consider is national partisan tides. Figure 3 reports the estimated yearly partisan tides. For the most part they fit with conventional wisdom. The best years for the Democrats were 1930, 1932 and 1958.[40] The Republicans fared best in 1920, 1924, 1946 and 1994. Table 5 reports the average absolute value of the short-term swings in six time periods. The data suggest diminishing volatility in Senate elections due to partisan tides. Between 1920 and 1934 the average partisan tide was 6 percentage points. In the 1984–94 period, the average magnitude was less than half its previous value, 2.7 percentage points.

It is interesting and worthwhile to note how the estimates of short-term partisan swings are affected by the decisions regarding the measurement of state partisan composition. Notice that in 1940 and 1944, years in which the

[39] This point is developed in Brady, Gaines and Rivers, 'The Incumbency Advantage in the House and Senate'.

[40] The 1930 and 1932 estimates may overestimate the short-term surge to the Democrats in these years because these good Democratic years were probably partly caused by the partisan realignment the country underwent during that time. The model employed in this article cannot distinguish in a single election year between the benefits from a short-term surge and those from realignment (a long-term change).

TABLE 5 *Estimates of the Magnitude of Short-Term National Partisan Tides in Senate Elections*

Period	Average magnitude of partisan tide	*N*
1920–34	6.0	8
1936–46	3.9	6
1948–58	3.6	6
1960–70	2.5	6
1972–82	3.1	6
1984–94	2.7	6
Total	3.8	38

Democratic party won the presidential election, the estimates suggest a modest, slightly larger than 1 percentage point Republican tide.[41] These two anomalies are due to the decision to base the presidential election indicator of state partisan composition on both the absolute and relative values of previous election outcomes.[42] Using only the relative measure, the model estimates that the Democrats were beneficiaries of a modest national swing in both 1940 and 1944. However, using only the relative measure also results in classifying 1926, a year in which the Democrats picked up seats in both the Senate and House, as a year in which the Republicans benefited from a 2 percentage-point surge. Also, the model using the pure relative measure estimates a 1 per cent shift towards the Democrats in 1938, a year in which the Republicans gained seventy-one House and six Senate seats. Employing the combined indicator leads to an estimate of a Democratic tide in 1926 and one favouring Republicans in 1938.

Perhaps the best conclusion to draw from the findings reported in the preceding paragraph is that no measure is perfect. For the reasons described earlier, the combined measure is preferable on theoretical grounds. Fortunately, since 1946, the estimates obtained from using the two measures have tracked very closely; they are always within 1 percentage point of each other. In no election during this time does the use of one measure indicate a Democratic tide while the other signals a Republican one.

[41] The estimates do suggest, however, that 1940 and 1944 were better Democratic years than 1938, 1942 and 1946.

[42] To state what may not be obvious, choosing between the use of absolute or relative (or some combination of the two) presidential results as an indicator of state partisan composition has *no* effect on the parameter estimates of the effect of state partisan composition. In any given year (i.e. cross-sectionally), absolute and relative presidential results are perfectly correlated. Thus the choice only affects the value of the intercept, the estimate of which I use to indicate short-term partisan tides.

SENATE ELECTION OUTCOMES, 1972–94

To this point, the analysis has focused on what Christopher Achen has termed the 'theoretical' significance of the independent variables.[43] To be sure, for obvious reasons this sort of analysis is important. However, focusing solely on the magnitudes of the parameter estimates leaves interesting and important questions unanswered. For example, what has been the contribution of state partisan composition to Senate candidates' margins of victory, and how might actual results have been different if state partisan composition exerted no influence over Senate outcomes?

This section focuses on the four six-year Senate election cycles beginning in 1972 and ending in 1994. During this time, the possibility that the effect of state partisan composition did not change cannot confidently be ruled out.[44] As a result, the estimates on which this section is based are from a model that specifies a constant effect of state partisan composition.

The effect of incumbency, by contrast, does appear to vary during the 1972–94 period. From 1972 to 1994 the electoral advantage of incumbency increased substantially. A model specification that includes incumbency and an interaction between incumbency and election year produces estimates of a 5.3 percentage point incumbent advantage in 1972 and an increase of 0.44 per cent in each successive election since 1972.[45] Over the entire 1972–94 period, the estimates indicate an increase of 4.9 percentage points in the incumbent advantage.[46]

Unlike the analysis based on the entire 1920–94 period, this section includes Senate elections in the eleven former Confederate states. Between 1972 and 1994, Senate elections in the South were much more competitive than they were previously. There were only thirteen uncontested races and the Republicans had substantially greater overall success, winning 40 per cent of the contests. Given this state of political affairs, the inclusion in the analysis of the southern Senate races appears warranted, though several special considerations concerning them will be discussed later.

In the following paragraphs, I consider, in turn, each of the independent variables and their impact on Senate election outcomes. One should keep in mind that statements like 'Barry Goldwater's margin of victory in 1980 was smaller than the contribution of Arizona's partisan composition to his vote total' does not mean that Arizona's Republican leaning electorate was responsible for Goldwater's victory. A candidate's vote share is caused by numerous factors (three significant ones being the focus of this article). One cannot say which single one caused victory or defeat. In Goldwater's case, for example, his victory

[43] Christopher H. Achen, *Interpreting and Using Regression*, Sage University Papers, Quantitative Applications in the Social Sciences, Number 07–029 (Beverly Hills, Calif.: Sage Publications, 1982), pp. 68–77.

[44] The evidence supporting this claim was provided in the previous section.

[45] The corresponding standard errors are 1.0 and 0.07.

[46] Moreover, the possibility that there was no increase in the incumbent advantage during this time can confidently be rejected ($p < 0.01$).

margin was not only smaller than the contribution of a favourable partisan electorate; it was also smaller than the Republican tide in 1980 and the effect of incumbency.

The first variable to consider is state partisan composition (SPC). Because SPC is coded so that a value of zero indicates no state compositional advantage for either party, the contribution of SPC to a specific election outcome may be calculated by multiplying the estimated effect of SPC by the value of SPC for that race. For example, in the 1974 Senate race in Kansas between Robert Dole and William Roy, the Republican party held a partisan advantage of 15.3 percentage points (the value of SPC was -15.3). Given an estimated SPC effect of 0.47, the estimated contribution to Dole's margin of victory is therefore 7.2 percentage points ($15.3 * 0.47 = 7.2$).[47] Dole's narrow victory with 50.9 per cent of the two-party vote would have been a loss without his party's strong presence in Kansas.

The contribution of state partisan distribution to the outcome of the 1974 Kansas Senate race was relatively substantial. The average effect of SPC on Senate races between 1972 and 1994 was 2.3 percentage points. Of course the largest effects were in races where one of the parties held a large compositional advantage such as Kansas and the smallest were in states like Illinois where the distribution of party strength was roughly even.

Candidates who won in states with favourable partisan distributions benefited from this factor. In all, 252 of the 391 Senate candidates who won were elected from such constituencies. Would these candidates have won without the electoral advantage accorded to them because of their states' partisan compositions? Most won by margins larger than the contribution of the SPC. However, in thirty of these races, 11.9 per cent, the winner's victory margin was smaller than the contribution of SPC to the outcome.[48] Considering that the effect of SPC during this period was on the small side, compared to its historical effects, this finding is modestly impressive.[49]

To gain a greater appreciation for the effects of the decline in the effect of state partisan composition on Senate elections, I used the parameter estimates to determine how outcomes during the 1972–94 period would be different if the effect of SPC during this time were equal to its peak immediately after the Second World War. In the absence of the decline, the outcomes of Senate races between 1972 and 1994 would have differed by 2.6 percentage points, on average. The decline also made incumbents somewhat more vulnerable; on average, it cost them 1.5 per cent of the vote.

[47] The value of 0.47 is the estimated effect of SPC during the 1972–92 period.

[48] The only candidate who won more than one election by a smaller margin than the contribution of SPC was Steve Symms (R-Idaho). In his 1980 defeat of incumbent Frank Church and his successful re-election campaign in 1986 against John Evans, he received 50.5 and 51.6 per cent of the two-party vote. In both elections the contribution of SPC to his vote share was greater than 4 per cent.

[49] Overall, the partisan effect of SPC on outcomes was minimal. Republicans gained, on average, less than 0.5 per cent of the vote as a result of the balance of state partisanship. In addition, incumbents received a small advantage, increasing their vote shares by 1.5 percentage points due to their states' partisan compositions.

Had the effect of SPC remained more substantial, candidates who won in states where the partisan balance favoured their opponent would have been more vulnerable; 139 winners fit this profile. Of these, 19 per cent would have lost if its effect had remained at its high point. For example, if the effect of state partisan composition had been at its peak, Republican John Chafee's victory in 1982 in heavily Democratic Rhode Island would have been a loss. Nor would Republican Alfonse D'Amato's narrow win over Robert Abrams in New York's 1992 Senate race have been observed. D'Amato won with 50.6 per cent of the vote, and would have lost 2 percentage points if the effect of SPC had not declined. Similarly, Tom Daschle benefited from weaker effects of state partisan composition, which otherwise would have cost him nearly 7 percentage points in his defeat of Republican James Abnor in South Dakota's 1986 Senate election with 51.6 per cent of the vote.

Whereas the impact of state partisan composition does not increase during the period under consideration, increasing effects of incumbency during the 1972–94 period are evident. As mentioned earlier, estimates of the incumbent advantage increase from 5.3 to 10.2 percentage points during the 1972–94 period. One way to understand better the substantive meaning of these estimates is to calculate the percentage of incumbents who won with margins smaller than the magnitude of the estimated incumbent advantage. In all, 35 per cent of winning incumbents (86 of 246) failed to win by a margin greater than the estimated effect of incumbency. Thus, if incumbency exerted no effect on election outcomes, these incumbents would have lost.

The effect of the estimated increase of 0.44 percentage points per election in the incumbent advantage can be interpreted in a similar fashion. Thirteen per cent of incumbents won by margins less than the estimated increase in the incumbent advantage. For example, in 1992, the estimated incumbent advantage had increased 4.4 percentage points from its level in 1972 ($10 * 0.44 = 4.4$). In that year five incumbents were re-elected with vote shares less than 54.4 per cent.[50] The increased incumbent advantage appears crucial, therefore, to their successful re-election campaigns.

The third factor to consider is partisan tides. The OLS results provide estimates of the magnitude and direction of any election-year specific partisan effects, in percentage points. The degree to which these tides affect actual outcomes depends not only on these estimates, but also on the nature of the contests in the group of states with Senate elections.[51] For example, a 5 per cent

[50] The five incumbents are Kit Bond (R-Missouri), Alfonse D'Amato (R-New York), Robert Packwood (R-Oregon), Arlen Specter (R-Pennsylvania) and Ernest Hollings (D-South Carolina).

[51] This point is often overlooked by observers of Senate elections. For example, it has been alleged that 'there was no national tide visible in Senate contests in 1982' (Mary Cohn, ed., *Congressional Quarterly 1982 Almanac*, vol. 38 (Washington, DC: Congressional Quarterly Inc., 1983)). This observation is apparently based on the fact that the partisan balance in the Senate was unchanged after the 1982 elections. However, a strong tide is visible in the elections. With a single exception, the OLS estimate of the magnitude of the tide favouring the Democrats in 1982, 4.6 percentage points, was the largest in the 1972–94 period.

Democratic tide might lower the vote share of a Republican incumbent from a heavily Republican state but not change the outcome, because even in a good Democratic year the seat may be sufficiently safe. Nevertheless, a smaller partisan tide might provide the margin of victory in a closely contested race.

Table 6 summarizes the effects of partisan tides in the races between 1972 and 1994. For each year, four pieces of information are provided. First, the actual overall seat change is listed. Positive numbers indicate Democratic gains, and negative ones indicate seats that Republicans picked up. The second column reports the estimated direction and magnitude, in percentage points, of the yearly partisan tides. The third column displays the number of winning candidates of the party favoured by the tide who won by a margin less than the estimated partisan tide. The fourth column displays the predicted seat change, if there had been no partisan tide in each year. For example, in 1980, the Republicans had a net gain of twelve seats. The estimated Republican tide was 3.2 percentage points. Ten Republican candidates had victory margins smaller than 3.2 per cent. Therefore, in the absence of the Republican tide, the Republicans would have only picked up two seats in 1980, according to the model estimates.

In general, the partisan tide estimates coincide with the expectations of conventional wisdom. With one exception, in presidential election years the winning presidential candidate's party benefited from a partisan tide. For 1988, the model's estimate of + 2.8, while not in the expected direction, is one of the smaller, in magnitude, of the presidential year estimates. In every mid-term year, the president's party faced a partisan tide against it.

The effect of the partisan tides on outcomes, of course, is contingent on the particular distribution of results in a given year. Overall, 51 of 231 races (22 per cent) won by the party favoured by the short-term tide were by margins smaller than the estimated magnitude of the swing. More than four seats were affected in four of the twelve years, 1972, 1974, 1980 and 1986. In two of these years, partisan control of the Senate would have been reversed in the absence of a national electoral tide.

In 1972, the Democrats picked up two seats, despite a 3.6 percentage point tide in favour of the Republicans. The electoral analyst Charles Cook has pointed to the election results in 1972 as evidence of a 'coattails myth'.[52] If there were coattails, he argues, then how could Nixon win in a landslide but his party lose seats in the Senate? The findings reported in Table 2.9, though, support the notion of coattails. In the absence of the Republican tide in 1972, Democrats would have picked up seven, rather than two, Senate seats. Nixon's 'coattails' rescued five seats from the Democrats.

After the 1980 election, the Republicans held a Senate majority for the first time since 1958. Overall, they picked up twelve seats, leaving them with a 53–47 majority. The results indicate that ten of the seats they picked up were won with

[52] Charles E. Cook Jr, 'The coattails myth,' *New York Times*, 4 November 1998, A17.

TABLE 6 *Partisan Tides in Senate Elections, 1972–94*

Year	Actual Democratic seat gain/loss	Estimated Democratic tide (percentage points)	Number of seats affected by tide	Predicted Democratic seat gain/loss if no partisan tide
1972	+2	−3.6	5	+7
1974	+3	+6.2	8	−5
1976	0	+3.1	4	−4
1978	−3	−0.5	2	−1
1980	−12	−3.2	10	−2
1982	0	+4.6	2	−2
1984	+2	−2.4	2	+4
1986	+8	+4.0	10	−2
1988	+1	+2.8	3	−2
1990	+1	+1.5	1	0
1992	0	+2.9	2	−2
1994	−8	−4.5	2	−6

a margin smaller than the estimated Republican tide. In its absence, then, the Republicans would have remained the minority party in the Senate after the 1980 elections.

In 1986, the Democrats regained control of the Senate with a 55–45 margin. Ten of their victories were by margins smaller than the estimated 4 percentage point Democratic tide. Four of these were seats that the Republicans won in 1980 by a margin smaller than the partisan tide in that year. Once again party control in the Senate depended on a national partisan tide.

The last election year to analyse is 1994, when the Republicans recaptured control of the Senate. After the elections, the Republican majority stood at 52–48.[53] The Democrats lost eight seats. Both Republicans Rick Santorum (Pennsylvania) and Rod Grams (Minnesota) won their races by less than the estimated Republican tide in 1994. Two other Republicans, Olympia Snowe (Maine) and Spencer Abraham (Michigan) won by margins less than 0.5 percentage points greater than the 4.1 percentage point tide. If the former two had lost, and Richard Shelby had decided not to switch parties, then Democratic Vice President Al Gore would have held the tie-breaking vote in the Senate. If, in addition, the latter two had lost, then even after the two Democratic party defections, the Democrats would have retained control of the Senate with Gore's vote.

The final topic to consider is the inclusion in the sample of the Senate elections in the eleven former Confederate states. A defining feature of southern politics is the history of Democratic party domination. Over the past thirty years the party has weakened as the Republican party has grown in strength.

Theoretically, the state partisan composition variable should capture the changing distribution of partisanship in the South. However, it appears to be inadequate for the task. Two important findings are revealed after estimating a model that in addition to including state partisan composition also permits outcomes to vary by region and for the regional effects to vary over time. The estimates indicate that in 1972, at the beginning of the period under investigation, southern Democratic candidates received 6.7 percentage points more of the vote than one would expect based only on the partisanship values in their respective states. In each successive election, the Republican candidates gained about 1 per cent of the vote.[54] Thus by 1994, the net advantage had turned towards the Republicans. At this time, the OLS estimates suggest that Republican candidates were receiving 3.4 percentage points more of the two-party vote than one would expect based only on the state partisanship indicator.

[53] The day after the election, their margin increased to 53–47 when Democrat Richard Shelby of Alabama announced that he would switch parties. The margin increased further when Ben Nighthorse Campbell of Colorado defected to the Republicans the following March.

[54] The OLS estimate is 0.92.

The effect of the Republican trend in the South on the composition of the Senate can be observed by focusing on the thirty-three (of seventy-six) contested races in the South that Republicans won. Of these, fourteen, or 42 per cent, were by margins that were smaller than the estimated magnitude of the Republican trend. For example, 1980 was the fourth election year after 1972. By that time, the Republicans were benefiting from a 3.7 percentage point trend in their favour ($4 * 0.92 = 3.68$). In 1980, four Republican Senate candidates in the South won their races with less than 53.7 per cent of the vote. Therefore, in the absence of the Republican trend, these candidates would have lost, leaving the Democrats with control of the Senate. Also of note, North Carolina's Senator Jesse Helms was the only candidate to benefit more than once from the increasing strength of the Republican party. He was re-elected in 1984 and 1990 with 51.9 and 52.6 per cent of the vote, respectively. Both margins of victory were smaller than the estimated cumulative Republican trend for each year.

SUMMARY AND CONCLUSION

Previous investigations have identified factors that are important for understanding Senate election outcomes. In this article, with the exception of including a variable to indicate the growth of the Republican party in the South, no new independent variables were introduced. Nevertheless, the article provides important insights. In contrast to earlier analyses, the model of Senate elections developed here does not employ the assumption that the effects of the independent variables remain constant from election year to election year. Instead, I tested the assumption and found it to be incorrect. The results show that the effects of both state partisan composition and incumbency have varied over the period of time that the US Constitution has mandated that Senators be elected by their states' citizens.

In the case of state partisanship, beginning shortly after the conclusion of the Second World War, its effect decreased in magnitude over nearly a thirty-year period. This trend is one factor that served to make Senate elections more competitive. Only relatively recently has the decline ceased, though it remains too early to tell if the effect of state partisan composition is on the rise. The pattern stands in stark contrast to the trend observed for presidential elections, where if anything, the effect of state partisan composition has modestly increased over time. Together, these findings suggest that when analysing the relevance of partisanship to election outcomes, the electoral office is an important conditioning factor; broad statements about the effect of partisanship are probably inappropriate.

Also beginning near the end of the Second World War, but continuing through 1994, was an increase in the incumbency advantage. This increase coincides with a similar one for House incumbents, leaving open the possibility that the causes of the trends in the incumbent advantage in both institutions are similar. Regardless of the causes of this electoral advantage, the findings indicate that

35 per cent of incumbent winners would have lost without the benefits of incumbency.

Even the effects of short-term partisan tides appear time-dependent. In terms of their magnitudes, partisan tides were greatest in the earlier periods covered in the analysis. Since 1960 they have averaged less than half the size of the tides observed from 1920 to 1934. However, despite their diminished size, short-term partisan tides have affected a substantial number of Senate election outcomes since 1972. In the absence of the national tides in 1980 and 1986, the switches in party control of the Senate would not have occurred. In 1994, a Republican tide contributed to that party's obtaining a majority. Without the electoral tide and defections of Senators Richard Shelby and Ben Nighthorse Campbell from the Democrats to the Republicans, the Democrats would have narrowly retained control of the Senate in 1994.

To conclude, there exists substantial variability in the effects of variables that explain US Senate election outcomes. In this article I developed a model that revealed the variability and then demonstrated the significance of the finding by showing how the variability has affected actual Senate election outcomes.

APPENDIX: MODEL AND ESTIMATION OF THE DETERMINANTS OF SENATE ELECTION OUTCOMES

The model of Senate election outcomes for the 1920–94 period includes three independent variables, state partisan composition, incumbency and short-term partisan tides. To obtain yearly parameter estimates, I estimated Equation 1 with OLS. In the model, *i* indexes states and *t* indexes years. V_{it} denotes the Democratic percentage of the two-party vote. SPC_{it} denotes state partisan composition. I_{it} indicates incumbency status. Short-term partisan forces are indicated the intercept, α_t

$$V_{it} = \alpha_t + \beta_{1t} * SPC_{it} + \beta_{2t} * I_{it} + \varepsilon_{it} \quad (1)$$

Table A1 reports the yearly OLS parameter estimates for each election year from 1920 through 1994.

A slightly different procedure was employed for the analysis of actual outcomes between 1972 and 1994. All the races were pooled, and a separate intercept was estimated for each year. To permit the effect of incumbency to vary with the passage of time, an interaction term, $I * T$, was included in the model. T was coded to range from 0 (1972) to 1 (1994). As described in the text, the possibility that there was no change in the effect of state partisan composition during the 1972–94 period cannot confidently be ruled out. Consequently, the model specified a single effect of SPC.

To allow for the possibility that the Democratic party decline in the South is not fully captured by the state partisan composition variable, two additional terms were added to the model. S indicates that a given race occurred in the South, defined as the eleven former Confederate states. The interaction between S and T, $S * T$, allows for the possibility that election outcomes in the South trended toward the Republicans during the 1972–92 period. This issue is discussed more fully in the main text.

The model is presented in Equation 2, where *i* indexes elections. Although yearly intercepts were estimated, they are not listed in equation two.

$$V_i = \alpha + \beta_1 * SPC_i + \beta_2 * I_i + \beta_3 * (I_i * T_i) + \beta_4 * S_i + \beta_5 * (S_i * T_i) + \varepsilon_i \quad (2)$$

The parameter estimates, including the yearly intercepts, are displayed in Table A2.

TABLE A1 *Parameter Estimates of Senate Election Outcomes, 1920–94*

Year	a	b_1	b_2	s.e.e.	adi. R^2	N
1920	41.3	0.69	3.2	5.7	0.53	25
	(1.2)	(0.21)	(1.5)			
1922	53.2	1.12	− 0.9	7.9	0.40	29
	(2.1)	(0.27)	(2.0)			
1924	43.3	0.35	5.3	8.3	0.17	23
	(2.2)	(0.39)	(2.7)			
1926	52.7	1.06	− 0.1	8.2	0.49	28
	(3.5)	(0.21)	(3.3)			
1928	47.0	0.65	5.9	6.4	0.64	28
	(2.1)	(0.18)	(1.8)			
1930	57.9	1.17	4.5	8.2	0.52	24
	(3.0)	(0.29)	(2.7)			
1932	58.8	0.51	4.8	6.8	0.49	26
	(2.0)	(0.19)	(1.7)			
1934	57.2	0.49	4.1	6.6	0.42	28
	(1.4)	(0.23)	(1.9)			
1936	55.2	0.46	2.9	6.2	0.28	22
	(1.3)	(0.31)	(2.0)			

TABLE A1—*Continued*

Year	a	b_1	b_2	s.e.e.	adi. R^2	N
1938	46.8	1.38	0.1	6.0	0.62	27
	(1.5)	(0.25)	(2.0)			
1940	48.8	0.93	2.8	5.3	0.68	29
	(1.1)	(0.15)	(1.4)			
1942	46.0	0.24	3.3	8.9	0.09	23
	(2.1)	(0.41)	(2.5)			
1944	48.3	1.05	− 0.0	4.6	0.69	28
	(0.9)	(0.18)	(1.4)			
1946	42.1	1.07	3.9	4.9	0.70	28
	(1.0)	(0.18)	(1.4)			
1948	54.8	1.17	3.2	7.1	0.39	21
	(1.9)	(0.36)	(2.2)			
1950	47.6	1.13	2.1	5.9	0.63	28
	(1.1)	(0.23)	(1.6)			
1952	46.9	0.98	− 0.5	4.8	0.62	29
	(1.0)	(0.15)	(1.2)			
1954	51.4	0.78	1.4	4.0	0.66	27
	(0.9)	(0.17)	(1.3)			
1956	50.8	0.44	3.5	5.2	0.47	27
	(1.2)	(0.20)	(1.4)			
1958	58.9	0.43	6.1	6.0	0.51	28
	(1.3)	(0.21)	(1.4)			
1960	50.8	0.53	4.1	5.1	0.56	23
	(1.1)	(0.24)	(1.5)			
1962	51.5	0.73	3.9	5.0	0.55	30
	(1.1)	(0.23)	(1.3)			
1964	56.4	0.86	4.8	7.3	0.44	28
	(1.6)	(0.31)	(1.8)			
1966	47.7	0.23	7.9	6.7	0.57	23
	(1.6)	(0.24)	(1.9)			
1968	48.1	0.54	6.7	7.9	0.39	26
	(1.7)	(0.33)	(2.0)			
1970	52.0	0.42	7.1	8.1	0.44	29
	(1.8)	(0.22)	(1.9)			
1972	49.3	0.00	8.2	9.2	0.31	23
	(2.3)	(0.34)	(2.6)			
1974	54.4	0.18	5.2	5.5	0.44	26
	(1.3)	(0.22)	(1.4)			
1976	53.6	0.65	4.0	9.5	0.21	27
	(1.9)	(0.31)	(2.3)			
1978	47.9	0.03	5.3	12.3	0.03	24
	(2.6)	(0.45)	(3.3)			
1980	47.5	0.46	6.8	10.1	0.26	27
	(2.3)	(0.45)	(2.5)			
1982	55.3	0.43	7.7	6.4	0.65	28
	(1.2)	(0.22)	(1.4)			
1984	48.6	0.87	9.6	9.4	0.67	23
	(2.1)	(0.41)	(2.9)			
1986	53.8	0.42	9.6	7.4	0.66	27
	(1.6)	(0.21)	(2.0)			

TABLE A1—*Continued*

Year	a	b_1	b_2	s.e.e.	adj. R^2	N
1988	51.8	0.18	10.0	9.8	0.49	28
	(1.9)	(0.29)	(2.2)			
1990	51.4	0.63	9.3	8.4	0.65	25
	(1.9)	(0.25)	(2.2)			
1992	53.5	0.55	8.2	5.8	0.70	28
	(1.2)	(0.17)	(1.4)			
1994	45.7	0.66	9.1	6.0	0.72	29
	(1.2)	(0.22)	(1.5)			

Note: Standard errors in parentheses.

TABLE A2 *Parameter Estimates of Senate Election Outcomes, 1972–92*

Variable	Parameter estimate	Standard error
State partisan composition	0.47	0.08
Incumbency	5.3	1.0
Incumbency * T	4.9	1.6
South	6.7	2.0
South * T	−10.1	3.5
1972	0.9	2.2
1974	10.8	2.2
1976	7.6	2.2
1978	4.0	2.1
1980	1.3	2.1
1982	9.2	2.1
1984	2.1	2.1
1986	8.5	2.1
1988	7.4	2.1
1990	6.0	2.1
1992	7.4	2.1
1994	—	—
Constant	45.5	1.5
s.e.e. 8.5		
Adjusted R^2 0.53		
Number of cases 391		