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Author(s): Charles H. Franklin

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ESCHEWING OBFUSCATION? CAMPAIGNS AND THE PERCEPTION OF U.S. SENATE INCUMBENTS

CHARLES H. FRANKLIN

Washington University

and

University of Wisconsin

Madison

Campaigns play a central role in a democracy. I examine the effect of campaigns on the perception of the ideological positions of incumbent senators. The results demonstrate that incumbents affect voter perception both through their actions in office and on the campaign trail. Using the 1988 Senate Election Study, I find that the perceived location of incumbents depends on their roll call voting records, the perceived position of their party and the voter's own position. More crucial is the finding that candidates can affect the clarity of these perceptions through their campaign strategies. Incumbents who stress issues increase the clarity of voter perceptions, while challengers' attacks on incumbents reduce clarity. While elections alone increase clarity, these effects are small in comparison to the effect due to candidate campaign strategies. The results remind us that to understand the politics of elections we must incorporate candidate strategy in our models.

Elections play a central role in democratic society. In addition to providing the mechanism for selecting representatives, election campaigns provide the stage on which the candidates play out the political drama. Sometimes comic, occasionally tragic, often melodramatic, the campaign lets the candidates present their chosen messages to the audience of citizens. At no other time are the choices put before the voters in so concentrated and deliberate a fashion. But at the end of the evening, when the curtain falls, are the voters better off for having witnessed the drama? Are their choices clearer or more clouded?

In this article I consider two aspects of elections that may or may not serve to inform voters about their choices. The first is institutional in nature while the

second rests on political judgments. First, elections are institutions of social choice that allow voters to choose among competing candidates. For these choices to be meaningful, the voters must possess sufficient information to make reasonable distinctions between the alternatives. The institution of competitive elections may provide this. Competition for office may induce candidates to reveal information about themselves in attempting to persuade voters to support them. However, competition alone may not be sufficient incentive to produce clear positions. Shepsle (1972) considers situations in which competitive candidates may have incentives to make their positions ambiguous, and Page (1978) argues that there are circumstances that promote obfuscation; but neither argues that this is

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necessarily always the case. Enelow and Hinich (1981) develop a model asserting that voters are risk-averse and that candidates should suffer from taking ambiguous positions. Bartels (1986) tests this proposition empirically and finds evidence to support it. Thus, we are left with an open question: Do competitive elections in themselves generally promote the clarity of political choices? This will be my institutional focus.

My second focus will be the effect of deliberate candidate choice on the clarity of citizen perceptions. Ultimately, candidates choose how to present themselves to voters. These choices may serve to enhance clarity of perception or to becloud the issues. George Bush, in 1988, was very clear when he declared, "No new taxes." Richard Nixon, 20 years earlier, was less than clear in his references to a secret plan to end the Vietnam War. In both cases, it is safe to assume that the candidates saw political advantage in their approaches. Precisely because the institution of competitive elections imposes so few constraints on candidates, the extent to which voters are informed by campaigns may rest more on the political judgments of the candidates than the formal institution itself. Thus my second concern is the extent to which clarity of citizen perceptions rests in the hands of candidates through their choices of campaign strategy.

There is a considerable body of scholarly work pointing to the incentives for candidates to present ambiguous positions (Page 1978; Shepsle 1972), moderate their positions as elections approach (Poole 1981; Wright and Berkman 1986), and emphasize constituent service over policy conflict (Fiorina 1977). Such strategies may serve the candidates' electoral ambitions; but for the public, the effect may be to obscure the policy choices available. Despite this, it is not clear that candidates always attempt to be ambiguous. Shepsle's work, for example, points out situa-

tions in which ambiguity should be avoided. If voters are risk-averse, then ambiguous "lottery positions" may hurt, rather than help, a candidate. And Enelow and Hinich (1981) argue that ambiguity is generally harmful to candidates. Unfortunately, the evidence available simply demonstrates that there are cases in which ambiguity appears to be the preferred strategy and others in which clarity may be favored. This reinforces the argument that such choices result from the political judgments of the candidates.

While there is substantial research on the incentives for candidates to obfuscate, there is less evidence concerning the effects of the campaign on the perceptions citizens have of the choice before them. One line of research has pursued the differences between the candidates, their strategies and resources. This work has examined the impact of campaign spending (Jacobson 1978); contact with constituents (Abramowitz 1980; Mann and Wolfinger 1980); political experience and viability of challengers (Hinkley 1980); and ideological distinctiveness of the candidates (Abramowitz 1981; Wright and Berkman 1986)—to name only a few. These studies do demonstrate that candidate characteristics and strategies affect voters' behavior but do not directly address the issue of the clarity or accuracy of voters' perceptions.

A different approach looks at presidential campaigns over the course of the election year. These studies assume that changes in perceptions and preferences during this period can be attributed, at least in part, to the influence of the campaign. These studies, however, are generally more concerned with the dynamics of attitudes during the campaign period than they are with the impact of the campaign as such. Lazarsfeld, Berelson, and Gaudet's early classic, *The People's Choice* (1944), attributes most perceptual change during the campaign to the re-

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awakening of partisan predispositions rather than the acquisition of new information. Markus (1982) shows that the proportion of respondents able to assign issue positions to Ronald Reagan increased during the 1980 campaign from around 60% to about 80%. The accuracy of these perceptions is called into question, however, by Markus's finding of a significant projection effect due to the respondent's own preferences and affect toward the candidate (pp. 546-49). While studies such as these can in principle address the influence of the campaign, this has been at best a peripheral concern in the literature.

I shall address the extent to which the campaign serves to increase the clarity of perceptions of incumbent senators' ideological positions. It is, of course, normatively desirable that campaigns enlighten voters. However, we know that rational candidates may sometimes have incentives to obfuscate, so the actual effects of campaigns may rest with the candidates' political judgments as to which strategy will benefit them. The model developed here allows us empirically to examine the extent to which campaigns promote clear perceptions of candidates' ideological positions and, by inference, serve to enlighten and inform voters.

Where To Look for Campaign Influences

Estimation of the influence of the campaign on the clarity of candidate perception requires a research design with two critical elements. First, there must be a measure of the candidate attribute being perceived. In this case, that means measures of the candidate's actual ideological behavior. Second, campaign influence can be estimated by comparing perception during a campaign with perception in the absence of a campaign. Ideally, this comparison should use the same set of respon-

dents in order to avoid possible compositional effects due to differences between citizens exposed to a campaign and those not exposed.

While most work on campaign influences has focused on elections for the U.S. House of Representatives or the presidency, these settings do not provide all the design elements needed for this research. In contrast, the Senate, with its dual-member districts and staggered terms is almost perfectly designed to meet our needs.

Senate elections provide crucial information on incumbents' actual policy positions in the form of roll call records. While candidates may duck-and-weave on the campaign trail, there is a paper trail in their wake showing what they were willing to stand up and be counted for over the past six years. This direct measure of policy behavior is not generally available for presidential candidates, making it harder to study campaign effects in presidential races.¹

Campaigns for the Senate also provide valuable leverage in the form of multiple races in a given year. In a presidential election, with only one nominee from each party, candidate differences are perfectly correlated with partisan differences. Therefore, we cannot tell if voters are seeing Michael Dukakis as more liberal because of something about his record or simply because he is a Democrat. In order to separate candidate influences from partisan influences, we need to study multiple Democratic candidates, all with different policy records, thus giving us variation within the category *Democratic candidate*; likewise for the Republicans. Unlike the presidential case, Senate elections provide a variety of candidates within each party, thus providing a fulcrum for our lever.

The House, like the Senate, provides roll call records and variation among party members; but it lacks, along with presidential elections, the final elements

that distinguish the Senate—staggered election cycles and dual-member districts. Because House members are all up for election at the same time, we cannot compare perceptions of House members who are campaigning with members not up. Thus we cannot compare a campaign setting with a noncampaign setting if we focus on the House (or the presidency). The Senate, with its peculiar structure, however, guarantees that we have voters presented with two incumbent senators—one running for reelection and the other not. This provides the crucial campaign variation we need. Senators vary not only in the type of campaign they run but also in whether there is any campaign at all. This allows us to compare the campaigning senator with his or her colleague from the same state who is blessed with a year off the hustings. If campaigns matter, we should be able to detect differences between these two situations.

A less crucial—but still desirable—aspect of the design is that because each voter has two senators, we can compare the perception of incumbents who are running with those not running using exactly the same set of respondents. This eliminates any confounding effects that could arise from differences in composition if we compared voters in states with Senate elections versus voters in states without Senate elections. Another happy feature of the design is that Senate elections are sufficiently visible that substantial proportions of citizens have developed perceptions of the incumbent while at the same time there is considerable variation in the competitiveness of the races.

In summary, the Senate's unique institutional design makes it an ideal setting for the study of campaign influences. Presidential and House elections, by comparison, are far less suited to such research questions.

Elements of a Model of Candidate Perception

In order to assess the impact of campaigns, we need to specify a model of perception and indicate how the campaign might influence this model. The two are intertwined, but I will start with the perceptual part of the model.

In developing perceptions of political figures, it is reasonable to expect citizens to rely on a mix of information sources. Given the limited information rational citizens acquire, we would expect voters to use a variety of shortcuts that allow reasonable inferences even under limited information (Downs 1957). The sorts of information that might be useful can be grouped into three main categories. The first is information about the object of perception itself. In the case of incumbent senators, voters may be exposed to information about the actions of the senator, such as his or her voting record. This is the most direct information about a senator's policy positions, but it also requires more attention and effort to interpret the raw information. Because it is costly, it is unlikely that voters will rely exclusively on this sort of information.

The second source of information is inferentially based. Citizens who have no information whatsoever about a candidate's policy proposals may nonetheless make some reasonable inferences based on known characteristics and the association of these characteristics with policy positions. Notable among these bases of inference is the partisanship of the incumbent. So long as party provides information (even if imperfect) about the likely policy positions of the candidate, it is rational for the voter to use this source of very inexpensive information.²

Finally, the voter may allow personal preferences to affect perceptions of the candidates. There are two possible inter-

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pretations of this influence. One is the well-known projection effect (Markus 1982; Markus and Converse 1979; Page and Brody 1972). If we adopt this interpretation, then projection is a systematic bias in perception. An alternative interpretation is that voters can use information about themselves to make inferences about the candidates. Brady and Sniderman (1985) show that citizens can estimate the positions of political groups based on their feelings toward the group and their own preferences. It is possible that voters infer that senators they like reflect their preferences. Empirically, there is little to distinguish these alternative interpretations. Regardless of which interpretation one prefers, it is likely that the voter's own preferences play a role in candidate perception.

These mechanisms—direct observation, inference from attributes, and inference from self—are the core of the perceptual model. One influence of the campaign is to be found in variation in the weight given to each of these elements due to the presence or absence of an election. For example, if obfuscation is rampant in a campaign year, but not in nonelection years (as evidence on policy moderation might suggest; see Wright and Berkman 1986), then we would expect that roll call voting would have less influence on perception in an election year than a nonelection year. Variation in the parameters associated with each of the three perceptual mechanisms is the first cut at estimating campaign influence.

These direct influences on perception do not exhaust the model, however. Other influences might play a less direct role in the perceived location of a candidate and yet contribute to the process of perception. The obvious sources of these influences are attributes of the voter and attributes of the environment.

The voter may be better or worse prepared to process the information received from the environment. This could come

from variation in the ability to process the information, due to lack of either cognitive capacity or contextual knowledge allowing for the interpretation of the information. The effect of such intrapersonal factors is not to shift the perceived location of the senator but, rather, to increase or decrease the stochastic variation in that perception.

The second influence on the stochastic noise that bedevils perception arises from the environment. If the environment is filled with spurious information about the candidate, it may be more difficult for the voter to sort the relevant from the irrelevant information. The nature of the campaign is one source of such environmental noise and allows us to introduce two more aspects of the campaign into the model.

A campaign produces a period of intense political debate, accompanied by both paid advertising and news coverage. This implies that the information stream about a candidate (or incumbent in this case) is vastly richer during an election than otherwise but it is unclear what effect this may have on voters. If the election contest is producing useful and relevant information about the candidates, then voters should develop more precise perceptions of the candidates. If, on the other hand, the campaign produces massive amounts of conflicting information that serves only to confuse the voter and increase his or her uncertainty as to the validity of any information, then the effect of the campaign would be to increase the noise in perceptions. While we do not have direct measures of the density of information in each campaign, we do have a measure of the competitiveness of the campaign. Hard-fought campaigns produce more news coverage, as well as generate more paid advertising, than do low-key contests (Westlye 1983). By estimating the effect of competitiveness on the stochastic component of the perception of incumbents, we can address this form of campaign influence.

The last part of the perceptual model concerns the effects of deliberate campaign strategy on voter clarity. As I have argued, candidates make conscious, considered decisions concerning how they present themselves to voters. These decisions rest on the candidate's beliefs about what approaches will provide political advantage. The task here is not to explain how they decide what is to their advantage, but rather to examine the impact of these choices on voters.

In considering the impact of strategy, I adopt a spatial model of candidates and voters. I assume that candidates may choose to inform voters of their locations along a liberal-conservative dimension. For some candidates, it may seem like a good idea to be clear about their position, while for others, this may seem a subject better avoided. In the former case, we would expect candidates to expend considerable effort informing voters of their positions, while in the latter the candidates would look for other things to discuss, such as personal qualities or constituent service. Thus, the emphasis a candidate gives to issue positions should indicate attempts to inform voters as to that location. We would expect that the more the campaign emphasizes issues, the more clearly voters will perceive the candidate's position.

Unfortunately for candidates, they have opponents who attempt to confound the candidate's strategy. An opponent can, for example, dispute the candidate's claims as to ideological location. A candidate may claim to be a moderate liberal, believing this provides an electoral advantage. The opponent, however, may counter by claiming that the candidate is in fact a far-left San Francisco Democrat. The more effort the opponent devotes to attacking the candidate's position, the more conflicting information voters will receive concerning the location of the candidate. We would expect this to lead to less certainty as to where the candidate

actually stands.

In a world of a single dimension, this model would suffice. However, the real world is not one-dimensional. Candidates, in fact, take positions on many issues. We are measuring candidate perceptions along a single, presumably summary, liberal-conservative dimension. When asked to assign a position to a candidate, voters must condense the several issues the candidate has espoused and map this onto a single point. This task should grow harder the more issues the candidate has addressed since these may fall at a variety of points along the liberal-conservative dimension. Thus, we should expect clarity to increase as the campaign focuses on a smaller set of issues and decrease as the campaign increases the number of issue topics it addresses.³

Taken together, these points claim that candidates and their opponents affect voter clarity through the emphasis they give to issues and the extent to which they focus the campaign on a few issues. The choices candidates make about these options reflect their judgment of the political consequences. In this sense, what voters learn about candidates is partially controlled by political strategies.

The model of perception developed here has two main components. A set of perceptual influences are assumed to affect the perceived location of the candidate directly. Another set of influences are assumed to affect the stochastic component of these perceptions. The influence of the campaign is found in the extent to which campaigns shift the weights accorded to the variables affecting perceived location of the candidate. Campaign influence is also found in the effect of the campaign on the variance of the stochastic component of these perceptions.

There is one remaining issue concerning the clarity of perception. As used here, clarity does not refer to the respondent's subjective assessment of how well he or

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she understands the incumbent's issue position. Rather, clarity is assessed by the predictability of perceptions, given the candidate's ideological behavior, party, and campaign and the respondent's characteristics. It is possible that respondents may believe they have very clear understandings of where candidates stand and yet assign locations to the candidates that have large stochastic components. It is also possible that respondents might feel very uncertain, while their responses are actually highly predictable.

These two conceptions of clarity and uncertainty are linked if we assume that respondents who are uncertain as to the candidate location are likely to draw their responses from a distribution of locations. In this case, the location is drawn from some distribution with mean θ and variance σ^2 . Then the location assigned by the uncertain respondent can be represented as $\theta + \epsilon$, where the variance of ϵ is σ^2 . If we assume that θ is a function of the elements of the model, then $\theta = x\beta + u$. The observed response $y = \theta + \epsilon$ then produces a model with measurement error in the dependent variable. In this case we estimate the model

$$\begin{aligned} y &= \theta + \epsilon \\ &= x\beta + u + \epsilon, \end{aligned}$$

where ϵ is simply absorbed into the disturbance term of the model and estimates of β remain consistent.⁴ We cannot separately estimate the variances of u and ϵ in this case. It is the variance of this compound disturbance that represents the clarity of perceptions as the term is used here. Thus, under one common conception of uncertainty, the model estimated here absorbs such effects into what is called clarity, along with the other stochastic elements of the model.

The Statistical Model

The statistical model takes advantage of the Senate's multimember district sys-

tem of representation. This means that each citizen in a state with a Senate election also has a senator not up for reelection. This allows us to capture campaign effects by comparing the perceptual model for those up for election with the model for those not running. This has the additional advantage that exactly the same set of respondents perceive both a campaign environment and a noncampaign case. Thus, there are no compositional differences between the campaign and noncampaign groups.⁵ The data are taken from the 1988 National Election Study's (NES) Senate Election Study (SES).

The dependent variable is the perceived incumbent's ideological position, as measured by a seven-point liberal-conservative scale.⁶ This is assumed to be a function of the three elements I have discussed: the incumbent's roll call record, the perceived party position, and the respondent's own preferred liberal-conservative position. The roll call record is measured by the senator's 1988 American Conservative Union (ACU) rating.⁷ The party position is the respondent's placement of the incumbent's party on the seven-point liberal-conservative scale. The respondent's position is also measured on this seven-point scale.⁸

The projection effect is slightly more complicated than just implied. We would expect voters who feel favorably disposed toward a candidate to give greater weight to their own preferences because they assume the liked candidate is similar to them. This is the mechanism assumed by both the projection effect model of Markus (1982) and the self-inference effect of Brady and Sniderman (1985). This is captured in the statistical model by including both the respondent's own position and an interaction of that position with a feeling thermometer score for the candidate. The feeling thermometer has been shifted to run from -50 to 50, where a score of zero represents indifference. This means that the coefficient on self-

location gives the projection effect for voters indifferent to the candidate, while the slope of the interaction term indicates how this slope changes for liked or disliked candidates.

The stochastic component of the model is a function of the respondent's education (measured by years of schooling), the presence or absence of a campaign, the competitiveness of the campaign if there was one (measured by *Congressional Quarterly's* preelection assessment),⁹ and the candidates' issue strategies. These were measured using variables taken from the SES contextual data.¹⁰ The SES data provide counts of the number of positive and negative themes for each candidate. I have distinguished between themes that are issue-oriented and those which are not. For the incumbent, I measure issue emphasis as the percentage of all positive themes that are issue-oriented. For the challenger, the emphasis measure is the percentage of all negative themes that are issue-oriented, since we are interested in what the challenger is saying about the incumbent. The final variable is simply the number of positive issue themes used by the incumbent.

The model, as I have described it, can be written as a regression equation in which the stochastic variance is a function of the education and campaign variables. Further, the coefficients in the location part of the model may be allowed to vary between campaign and noncampaign settings.

The model may be written as

$$y_1 = x_1\beta_1 + u_1 \quad (1)$$

$$y_2 = x_2\beta_2 + u_2, \quad (2)$$

where x_1 and x_2 are matrices containing the influences on the perceived location of the senators. Equation 1 refers to the incumbent seeking reelection, while equation 2 describes the senator whose term is not up. The subscript on β indicates that these coefficients can vary across the two

senators, reflecting the possible campaign effect. This part of the model is simply a pair of multiple regression equations.

The effects on the stochastic component discussed above are captured by assuming that

$$\sigma_{u1}^2 = \exp(z_1\gamma_1) \quad (3)$$

and

$$\sigma_{u2}^2 = \exp(z_2\gamma_2), \quad (4)$$

where z_1 is a matrix containing the education and campaign variables. Since campaign effects are assumed to affect perceptions only of the incumbent involved in the campaign, z_2 contains only education and an intercept, thus constraining the campaign effects to be zero for the senator not up for reelection. This part of the model is simply an explicit statement of the heteroscedasticity of the perceptions and a specification of the systematic influences on this variance.

Under this specification y_1 and y_2 are jointly distributed. If we assume the stochastic terms have a bivariate normal distribution, then the likelihood for each observation is given by

$$L(\beta_1, \beta_2, \sigma_1^2, \sigma_2^2, \rho | y_1, y_2) = \frac{1}{2\pi \sqrt{\sigma_1^2 \sigma_2^2 (1 - \rho^2)}} \times \exp \left\{ - \frac{1}{2(1 - \rho^2)} \left[\frac{(y_1 - x_1\beta_1)^2}{\sigma_1^2} - 2\rho \frac{(y_1 - x_1\beta_1)(y_2 - x_2\beta_2)}{\sigma_1 \sigma_2} + \frac{(y_2 - x_2\beta_2)^2}{\sigma_2^2} \right] \right\},$$

where ρ is the correlation between the stochastic components, once the systematic components have been taken into account.

Taking logs and substituting the right-hand sides of equations 3 and 4 for σ_1^2 and σ_2^2 gives the log likelihood:

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$$\begin{aligned} \ln L(\beta_1, \beta_2, \gamma_1, \gamma_2, \rho | y_1, y_2) = & \\ & - .5z_1\gamma_1 - .5z_2\gamma_2 - .5 \ln(1 - \rho^2) \\ & - \frac{1}{2(1 - \rho^2)} \left[\frac{(y_1 - x_1\beta_1)^2}{\exp[z_1\gamma_1]} \right. \\ & - 2\rho \frac{(y_1 - x_1\beta_1)(y_2 - x_2\beta_2)}{\exp[.5z_1\gamma_1] \exp[.5z_2\gamma_2]} \\ & \left. + \frac{(y_2 - x_2\beta_2)^2}{\exp[z_2\gamma_2]} \right]. \end{aligned}$$

Estimation of the parameters of the model is easily accomplished by maximizing this log likelihood with respect to the parameters β_1 , β_2 , γ_1 , γ_2 , and ρ . (For more details on maximum likelihood methods see King 1989). The estimation was carried out using Gauss-386 and the Gauss procedure Maxlik.

There are several hypotheses I wish to test with this model. Previous research leaves little doubt that the location portion of the model will predict perceived incumbent positions, so this is only a passing interest. More central to the present concerns are the effects of institutional arrangements and the role of candidate strategy.

Institutional effects are captured by the simple presence or absence of an election. It should be recognized that this is a weak test, because there may be differences between the two situations that are not due to the institution itself but, rather, to some other, unspecified influences. However, this approach does give us a bottom-line estimate of the net effect of holding an election—a fundamentally important issue. This also helps establish a basis for comparison with the effects of candidate strategy, insofar as we are able to distinguish between the net effects of elections and the effects that candidates may control.

The two tests of institutional effects concern the coefficients of the location component of the model and the variance of the stochastic term. As I have argued,

elections may shift the weights given to the various influences on perception. By providing increased information about the candidates, we might expect elections to increase the weight given to candidate records while reducing the use of the other perceptual strategies (inference from party and from self). On the other hand, one thing elections surely do is increase the salience of the candidates as perceptual objects. If the three mechanisms of perception specified in the model capture fairly common and fundamental methods people use in candidate perception, then the heightened salience brought on by the campaign may simply increase the weight given to each method of inference. To test this hypothesis, we simply need a two-tailed test of the change in parameter estimates between the election and nonelection situations. Specifically, we will ask if the elements of β_1 differ from the corresponding elements of β_2 .

The second test of the effect of elections is to compare the stochastic variances of the election and the nonelection situations. But this is a little tricky, because I have also specified several other influences on this variation, hypothesized to be due to candidate strategy and voter characteristics. In order to get a bottom-line estimate of the effect of elections on clarity, I simply reestimate the model by imposing homoscedastic assumptions (i.e., by ignoring all campaign and voter effects on the variance of the error term). This effectively forces the net strategy and voter effects into the intercept of the stochastic equation, that is, into the first element of γ_1 . It is simple to test for the equality of the variances in the two settings, and this provides a baseline for comparison with the effects due to candidate strategy.

Beyond simple campaign effects, the competitiveness of the election provides another influence, though it is neither solely institutional nor under the complete control of the candidates. If com-

Table 1. Incumbent Perception Model

Component Parameters	Election	No Election	$(\beta_i - \beta_j)$ $se(\beta_i - \beta_j)$
Location			
Constant	2.234 (.169)	2.377 (.174)	—
ACU score	.008 (.001)	.006 (.001)	1.55
Party location	.303 (.022)	.321 (.031)	-.49
Self-location	.097 (.025)	.052 (.031)	1.26
Self $\times$ thermometer	.003 (.000)	.003 (.000)	1.24
Stochastic			
Constant	.728 (.226)	.776 (.202)	—
Respondent's education	-.022 (.014)	-.016 (.015)	—
Competitiveness of race	-.084 (.065)	—	—
Incumbent issue emphasis	-.006 (.003)	—	—
Challenger issue emphasis	.004 (.002)	—	—
Incumbent issue themes	.115 (.046)	—	—

Note: $\rho = .286$ (se .037); log likelihood = -1,619.0; N = 1,086. White's heteroscedastic-consistent standard errors are in parentheses.

petition increases information, we would expect a negative relation between competitiveness and stochastic variance. If competition produces sound and fury—but little light—in November, then we would expect the opposite effect. This leads to a two-tailed test for the coefficient on competitiveness in the γ_1 vector.

The effects of candidate strategy are more straightforwardly assessed. My arguments imply that increased emphasis on issues by the incumbent should increase clarity of voter perceptions, while as the challenger increases issue emphasis in attacks on the incumbent, clarity should decline. Perceptual variance

should increase as the incumbent increases the number of issues discussed. These hypotheses are easily rendered as one-tailed tests of the coefficients in the stochastic component of the model, that is, tests about the elements of γ_1 .

Empirical Results

Table 1 presents the estimates for the fully specified model. The standard errors are White's (1982) heteroscedastic-consistent standard errors. These are more robust under some types of model misspecification than are the usual estimated

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standard errors. They also run a little larger than the usual estimates, so their use is conservative. I want to consider first the basic perception model and then the effect of candidate strategy on the stochastic component—and finally return to the impact of the election–no election distinction.

First, as expected, the variables in the location component of the model exert significant effects on candidate perception. All coefficients, except self-location in the no-election case, are much more than twice their standard errors; and all have the expected sign. It is perhaps noteworthy that the influence of roll call record on perception is significant, even when the other perceptual mechanisms are taken into consideration. This is a clear demonstration (if one was needed) that voters respond to what candidates actually do. Similar perceptual models that focus on presidential candidates (e.g., Markus 1982; Markus and Converse 1979) have been unable to address this effect, due to the lack of candidate variance within presidential elections.

The projection, or self-inference, effect varies depending upon the respondent's feelings for the candidate. During an election, the coefficient on self-location varies from $-.063$ to $.257$ as the feeling thermometer ranges from -50 to 50 . At its highest, this coefficient still falls below that for inference from party ($.304$).

Second, let us consider the stochastic component of the model and the role of candidate strategy. As incumbents increase their emphasis on issues in the campaign, the clarity of voter perceptions increases. (The negative coefficient indicates declining perceptual variance as issue emphasis increases.) Challengers can have the opposite effect on clarity. The more the challenger emphasizes issues in attacking the incumbent, the greater the variance in perceptions of the incumbent. Finally, as the incumbent increases the number of issue themes, the variance

increases and clarity declines. Each of these coefficients is in the predicted direction and is at least twice its standard error. Thus, it appears that candidate behavior has a substantial impact on the clarity of citizen perceptions.

The competitiveness of the race is less important in determining clarity. While the coefficient has the expected negative sign, it is less than 1.3 times its standard error. It appears that competition is not sufficient by itself to clarify perceptions of the candidates significantly.

Finally, the respondent's education plays, at best, a supporting role in determining the variance of perceptions. While negative, as expected, the education coefficient is 1.55 times its standard error. Since this is a one-tailed test, this gives $p = .061$.¹¹ The education effect in the absence of an election is even less impressive, with a coefficient barely equal to its standard error. While education appears likely to play some role in candidate perception, at least during elections, the effect is by no means strong.¹²

Finally, let us turn to the differences between the election and the nonelection setting. First, consider the shifts in the coefficients in the location component of the model. The tests for differences of individual coefficients all fall short of conventional significance.¹³ Despite this shortfall in attained significance levels, it is interesting to note that the effect of roll call voting appears to increase during the campaign, as does the projection (or self-inference) effect. The effect of perceived party position drops slightly. We can test the hypothesis that the coefficients are all constant between election and nonelection settings by constraining them to be constant and conducting a likelihood ratio test. The result of such a test produces a chi-squared statistic of 7.78 with four degrees of freedom ($p = .100$). Thus, while it is premature to conclude that elections produce shifts in these coefficients, there is sufficient support for that hypoth-

Table 2. Homoscedastic Incumbent Perception Model

Component Parameters	Election	No Election	$(\beta_i - \beta_j)$
			se $(\beta_i - \beta_j)$
Location			
Constant	2.250 (.168)	2.381 (.175)	—
ACU score	.009 (.001)	.006 (.001)	1.80
Party location	.294 (.026)	.321 (.031)	-.78
Self-location	.098 (.029)	.051 (.031)	1.31
Self × thermometer	.003 (.000)	.003 (.000)	1.47
Stochastic			
Constant	.493 (.048)	.582 (.048)	—

Note: $\rho = .276$ (se .038); log likelihood = -1,626.8; N = 1,086. White's heteroscedastic-consistent standard errors are in parentheses.

esis not to dismiss it entirely. Perhaps with additional data from the 1990 Senate Election Study, it will be possible to refine this test.

In order to assess the effect of the election on clarity, Table 2 presents the model with the stochastic component constrained to a constant variance. The result is that the estimated variance is $\exp(.493) = 1.64$ for the election case and 1.79 for the nonelection case. An F-test for the equality of these variances yields an F-ratio of 1.093 with degrees of freedom of 1,080 for both numerator and denominator ($p = .022$).¹⁴ We can reject the null hypothesis that the two variances are equal. It appears, then, at least on average, that elections do act to clarify perceptions of incumbents. However, the reduction in variance, though statistically significant, amounts to only a little more than 9%. I will consider below how we should view this.

As a side benefit, Table 2 also lets us consider the importance of recognizing the systematic influences on the stochastic

component. The likelihood ratio test comparing the stochastic component specification of Table 1 and the constrained version of Table 2 produces a chi-squared statistic of 15.6 with six degrees of freedom ($p = .016$). Clearly perceptual variance is not homoscedastic—campaign strategy and characteristics have substantial influence on the clarity of candidate perception.

The results presented in Tables 1 and 2 are based on maximum likelihood estimation that requires the specification of a specific probability distribution, the bivariate normal in this case. If the distributional assumptions are wrong, the results may be affected (though *how much* is a matter of some debate; see King 1989, 68-72). As a check on the robustness of the maximum likelihood results, it is possible to redo the analysis using ordinary least squares and some two-step estimates for the stochastic component. While less efficient and not as coherent a procedure, this approach has the advantage of known robustness under a variety

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Table 3. Expected Location Effects

Variables	Standard Deviation	Election Expected Effect	No Election Expected Effect
ACU score	35.5	.29	.21
Party location	1.8	.55	.58
Self-location (mean)	1.5	.20	.12
Self-location (warm)	1.5	.27	.17

of distributional assumptions. The results of this alternative approach are presented in the Appendix. The substantive conclusions from the ordinary least squares results agree with those of the maximum likelihood estimates. As an example, the ordinary least squares estimate of the variances presented in Table 2 are 1.643 and 1.796, while the maximum likelihood estimates are 1.638 and 1.790 for the election and no-election cases, respectively. The interested reader is referred to the Appendix for a complete discussion.

Discussion

The coefficients of the previous section provide tests of the hypotheses, but they do not convey much of a feel for the data. I now want to elaborate on the analysis and give some perspective to the results, beginning with the location model.

I have noted that incumbent senators' roll call records influence voter perceptions. However, since the scales of the variables are not comparable, the coefficients cannot be directly compared. An alternative way to look at the effects of these variables is to consider how much change they produce in perceptions, given a plausible shift in each independent variable. For this purpose, a plausible shift will be taken as a move of one standard deviation on the independent variable. Table 3 gives the standard deviations of the independent variables and the expected change in perceived location for a

one-standard-deviation shift in both an election and nonelection situation. Since the effect of self-location depends on feelings toward the candidate, I have given two estimates: one for the mean feeling toward incumbents in contested races (11.5) and one for warm feelings for the incumbent (25). Recall that the thermometer scores have been shifted by 50 points, so these correspond to scores of 61.5 and 75 on the raw thermometer.

The table shows that the largest likely effects come from party location, followed by roll call record and then projection effects. The expected shifts may appear small in light of the seven-point ideology scale, but the standard deviation of the ideology scale is only about 1.5. Hence, these are fairly sizable shifts, relative to the variability in perceptions of incumbents. The large party location effect is not surprising, given the ubiquity of party as a political cue. It is more surprising to find that variation in actual roll call behavior has as substantial an effect as it does. While about half the size of the party effect, roll call voting nonetheless appears to play a substantial role in developing perceptions of incumbents' ideological leanings. The projection effect is smaller than the roll call effect, even when the candidate is warmly embraced. This indicates that while projection is a significant influence, it has less impact than the effects due to actual behavior in Congress. Clearly, our models of candidate perception would benefit from the addition of measures of actual candidate behavior, since these results make clear

that voters can discriminate between candidates of the same party.

While the shifts in coefficients between election and nonelection fell short of statistical significance, they came close enough to deserve some discussion. The effects of roll call record and projection drop by about a third from election to nonelection. The rise in the ACU coefficient in election years is easily compatible with the notion that candidates do things during elections that inform voters of where they stand ideologically. The effect of roll call records does not mean the voters are rushing to read the latest ACU ratings. Rather, it seems likely that candidates generally reflect, in their campaigns, their tendencies while on Capitol Hill. Voters then pick up these messages and incorporate the signals in their perceptions of the candidates. More detailed measures of candidate campaign behavior would allow further specification of this notion but are unavailable at present.

The rise in the projection or self-inference effect is somewhat more puzzling. Two reasonable explanations are available, but there is little empirical evidence to support any choice between them. First, the rise in projection could be due to simple dissonance reduction. In an election campaign, the salience of the object (the incumbent) is substantially increased. When the object is less salient, there is less need for dissonance reduction; but when the campaign raises salience, voters tend to reduce dissonance by increasing projection of their own preferences onto the incumbent. This is substantially aided in the case of a positively valenced candidate and is reduced as affect moves through neutral and on to negative values. The important point to be made is that this explanation rests entirely on individual psychology and depends not at all on the behavior of the candidate.

A second explanation is much more political in nature. Fenno (1978) tells us in *Homestyle* that many candidates adopt a

style that emphasizes ties to the constituency. "I'm one of you," the incumbent says in speeches, personal conversations, and advertising. During the election campaign, this message is likely to be repeated many times. To the extent that it is convincing to voters, they may come to believe that the incumbent really is "like" them and thus use their own preferences as a way of estimating the preferences of the incumbent. The important implication of this explanation is that it is testable in principle. Unlike the dissonance reduction explanation, this one depends on the actions of the incumbent. Incumbents who stress ties to the state should produce greater projection effects than incumbents who place greater emphasis on other topics. Fine-grain measures of candidate behavior would again allow the testing of this hypothesis, were they available.

Next, let me turn to the stochastic component of the model. The results in Table 1 show that the clarity of perceptions varies with incumbent and challenger issue emphasis and the number of issue themes and is weakly related to education and even more weakly to competitiveness. I shall use the standard error of perceptions, rather than the variance, as the measure of clarity, because the standard error is in the same units as the dependent variable, making substantive assessments easier.

To consider the effects of each variable on clarity, I take all other variables at their mean, then compute the predicted standard error for low and high values of the variable of interest. Low values are one standard deviation below the mean, high values one standard deviation above the mean. I also compute the percentage increase from the smaller predicted standard error to the higher, to give a feeling for the magnitude of the effects. The results are presented in Table 4, along with the mean and standard deviations of the variables appearing in the stochastic model.

It is apparent from Table 4 that shifts

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Table 4. Expected Stochastic Effects

Variables	Mean z	SD z	Predicted se(y)		Difference (%)
			Low z	High z	
Incumbent issue emphasis	60.2	27.9	1.38	1.17	17.9
Challenger issue emphasis	43.0	28.2	1.20	1.35	12.6
Incumbent issue themes	2.3	1.4	1.18	1.38	17.5
Years of school	12.4	3.6	1.33	1.22	8.3
Competitiveness of race	.7	.8	1.32	1.23	6.9

in issue emphasis and number of issue themes can have significant effects on the clarity of perceptions, while holding all other variables constant. The incumbent's issue emphasis and the number of themes each leads to shifts of about 17% in the clarity of perceptions. The challenger's issue emphasis has a bit less impact, about 13%. Note that these are not maximum possible effects but, rather, effects for a reasonable amount of change in the independent variables. The maximum impact of incumbent issue emphasis, for example, would be predicted standard errors of 1.52 for issue emphasis of zero and 1.13 for emphasis of one hundred, a change of 35%.

The candidates, of course, do not act independently; and it is instructive to consider their joint impact on clarity. For example, compare a race in which the incumbent puts low emphasis on issues and the challenger high emphasis with a race in which candidate strategies are reversed. Here again, low and high are one standard deviation below and above the mean, respectively. In the first case, the predicted standard error of perceptions is 1.47; for the second, 1.11, a shift of 32%.

These joint effects are presented in Figure 1 as two contour plots of the predicted standard error as a function of two variables. The diagonal lines show combinations that produce constant standard error contours. The top panel of the figure shows clarity as a function of incumbent and challenger issue emphasis. The bot-

tom panel shows clarity as a function of incumbent issue emphasis and number of incumbent issue themes. Clarity is greatest at the lower right corners and least at

Figure 1. Predicted Clarity for Combinations of Incumbent and Challenger Issue Emphasis and Number of Incumbent Issue Themes

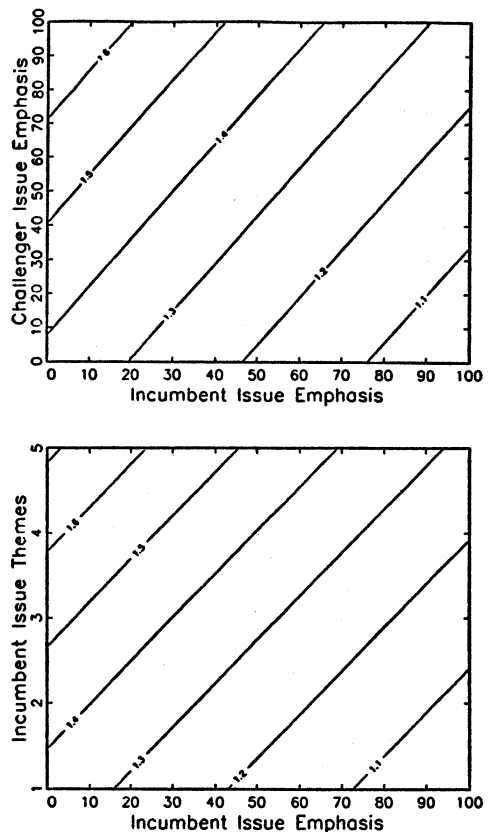
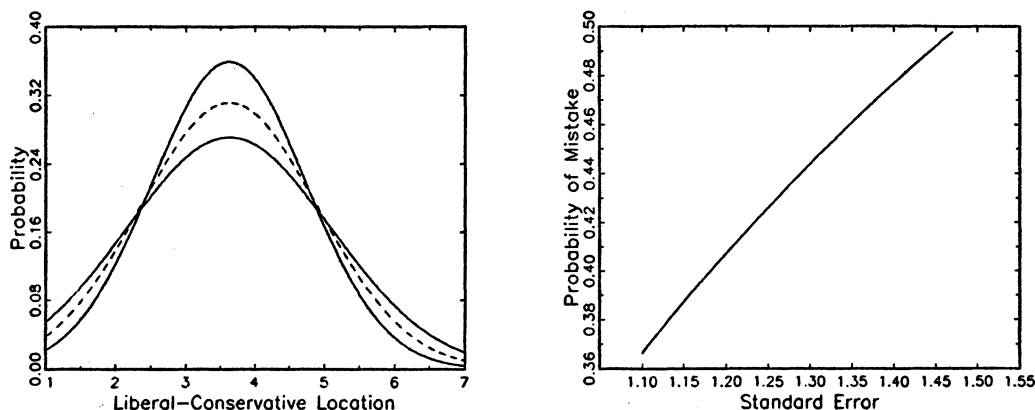


Figure 2. Distribution of Voter Perceptions for Three Levels of Clarity and Probability of Inaccurate Assignment of Candidate Location As a Function of Clarity



the upper left. The range of clarity possible in these figures is substantial. This range overstates the actual combinations present in the data but gives a feel for the limits on high and low clarity based on the estimated model.

Effects such as these beg the question, How much real difference does it make? A way to get a sense of the practical impact of this range of standard errors is to look at several probability densities over the seven-point liberal-conservative scale. As an example, take a Democratic senator with a 30 ACU score, a respondent who sees the Democratic party at a 2 on the liberal-conservative scale and herself at a 4 and who places the senator at the mean (11.5) on the feeling thermometer. The predicted location of this senator is 3.62. First, we can look at the distribution of expected responses about this predicted value for various levels of clarity. The top panel of Figure 2 shows this for three races—a very clear race, an average race, and a rather muddled race—corresponding to standard errors of 1.11, 1.28, and 1.47, respectively. The shift in the curves is obvious.

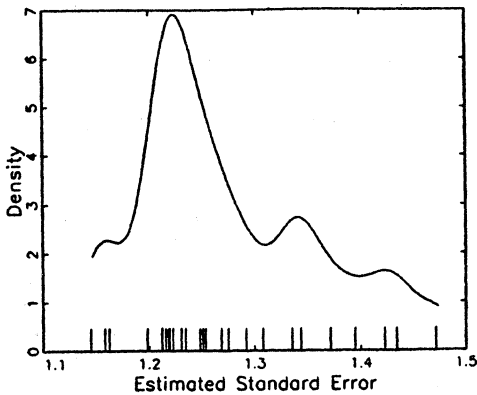
Another way of looking at this is to ask

how likely it is that the respondent will place the senator close to the expected location. In this case the predicted location is 3.6, so either a 3 or a 4 on the liberal-conservative scale would seem reasonable. How likely is it that the respondent will place the senator at 1, 2, 5, 6, or 7 instead of 3 or 4? And how does this vary with the standard error? The lower panel of Figure 2 shows the probability of such a mistake in placement for standard errors from 1.11 to 1.47.¹⁵ For races with high clarity, the probability of a mistake is just over one-third (.37), while for the least clear races, the probability is .49. In other words, the respondent goes from a two-thirds chance of a correct placement to a fifty-fifty chance.

To see how the actual campaigns are distributed, Figure 3 presents a density plot of the estimated standard errors. A density plot is a smoothed version of a histogram retaining some of the details that are usually lost due to the fixed intervals characteristic of histograms (Silverman 1986). The whiskers along the x-axis indicate each actual observation. The 27 observations are the estimated standard errors for each race for a respondent with

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**Figure 3. Distribution of Clarity
in 27 Senate Races**



a 12th-grade education. The estimates range from 1.15 to 1.47. It is apparent from the density plot that there are a large number of cases in the 1.2–1.3 range but also a long tail to the right.

The four peaks evident in this plot raise the possibility that the races are a mixture of up to four distinct populations. The number of cases is far too small to put much faith in this impression, but the notion is intriguing. If candidates adopt strategies based on simple rules of thumb or typologies, then this might give rise to campaigns that cluster into a few distinct types, which are then reflected in the density plot. For example, incumbents might base strategy on simple questions, such as, Am I safe or threatened? and Is my strength issues or personal appeal? The answers may suggest one of a small number of “types” of campaign strategies. Such simplification might be especially likely with professional campaign consultants, who may simplify their decision making by thinking in terms of case studies, where the object is to match the current situation with a known example from past campaigns. Data on more races may allow a test of this.

The range of estimated standard errors

is instructive. This variation is totally due to variation in campaign strategy and, to a lesser extent, competitiveness. Respondent variation has been removed by assuming a constant education. Compare this range (1.15–1.47) with the difference found earlier between the average election and the nonelection case. The estimated standard errors are 1.28 for an election and 1.34 in the absence of an election. This difference due to the net effect of elections is dwarfed by the variation due to campaign strategy. The import of this is that while elections do produce a statistically significant reduction in perceptual variance, the dominant elements in determining the clarity of candidate perception rest with the candidates themselves.

This result may disappoint those who look to institutional arrangements alone to produce desirable clarity of candidate positions. Yet we should not be surprised. The electoral institution is a very unstructured one and imposes few constraints save competition alone. From this perspective, it is remarkable that we can detect any effect at all. In contrast, candidates have every incentive to devise political strategies that will help them win office. If, in their judgment, a campaign of issues will do so, then that is what they will supply. If obfuscation is called for, then obfuscate they will. The impact of the issue emphasis variables supports the notion that these effects on voter perceptions do result from deliberate decisions concerning the stress given to issues.

It is less clear what role the number of issue themes has in the candidate's strategic plan. The results show that as the number of issues increases clarity declines. But is this deliberate on the candidate's part, or is it an unforeseen consequence? First, this could be a simple artifact of the measure of ideological position used here. Several issues may be harder to reduce to one dimension (even if each issue position is perfectly clear) than are one or two. Second, candidates might

deliberately attempt to appeal to voters by taking popular positions on issues that cut the liberal-conservative dimension at different points. For example, a senator might take both a proenvironment and an anticrime position. The intent is not to confuse voters; but when asked where the senator is on the seven-point ideology scale, voters may be justifiably uncertain. Third, candidates may adopt several consonant issue themes in an effort to clarify their ideological position. Here, the key is consistency across issues. High consistency would be expected to increase clarity. Unfortunately, we lack measures of this. The empirical results suggest that this is not a common pattern, however, or else that the result is perverse. Finally, campaigns that focus on a small number of themes appear to encourage clarity in voter perceptions. This could be the sign of a well-orchestrated campaign, hammering away on one or two themes, in contrast to a campaign out of control, lurching from one issue to the next. The former produces clarity, the latter confusion.

It seems unlikely that campaigns deliberately adopt a large number of issue themes just to confuse voters. However, it seems very plausible that they adopt a narrow focus in an attempt to drive home one or two messages. While I lack convincing empirical evidence, my speculation is that large numbers of issue themes is more often a sign of a campaign that is searching for a message, rather than one that has a coherent story to tell. This accounts for the observed relationship between number of themes and clarity.

Conclusions

These results should remind us of the dominance of politics over institutions. Recent years have seen a renewed appreciation for the role of institutions in structuring political choice. This is an impor-

tant role and should not be discounted. But we must not lose sight of the ability of politicians to maneuver within institutional settings. As Riker (1986) delightfully illustrates, politicians exploit the loopholes, as much as they are bound by the constraints, of institutions.

The electoral arena does not provide politicians with simple incentives to move to the median voter and accept a tie but, rather, pushes them to search for ways to exploit weaknesses of opponents while promoting their own virtues. As with Riker's "herestheticians," the art of politics is finding a winning electoral strategy. For some candidates, this strategy will place great emphasis on issue positions, while others will shun specificity. Current theories of political ambiguity, which treat all candidates as essentially identical, miss this critical point.

We have seen that candidate campaign strategies have significant effects on the clarity of voter perceptions. The extent to which elections help voters clarify their perceptions of the candidates thus rests substantially on the candidates' political judgments about effective electoral strategy. This fact means that we cannot rely on the institution of competitive elections alone to produce an informed electorate. Institutional incentives, though important, are not sufficiently strong to induce uniformity in candidate strategies. As we saw, the variation in clarity accounted for by elections was dwarfed by that attributable to candidate strategy. The urge, present since the founding, to find institutional mechanisms that will ensure desirable political behavior is unfortunately utopian.

If the ball is back in the politician's court, it is also back in the political scientist's. The political nature of elections lies in the choices candidates make about strategy. How to present oneself and one's opponent to the voters is the critical electoral heresthetic. At present, the spatial model is the closest thing we have to an

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explanation for candidate behavior. Yet we have very little empirical work on campaign behavior with which to test the predictions from this or any other model. As we have become adept at studying voters, it is ironic that we have virtually ignored the study of candidates. Yet it is in candidate behavior that politics intrudes into voting behavior. Without the candidates, there is only the psychology of the vote choice and none of the politics. I have demonstrated that we can learn about the impact of politics, but only if we stop ignoring the politicians.

Appendix

The model can be estimated using ordinary least squares, which does not require

the assumptions of bivariate normality. In order to estimate both the location and stochastic components of the model, a two-step procedure is required. In the first step, the location component is estimated as a simple regression equation. In the second step, residuals are saved, then squared and regressed on the systematic influences of the stochastic component of the model. The results of these two steps are combined and presented in Table A-1, which mirrors Table 1.

The location coefficient estimates from the ordinary least squares model are in close accord with those from the maximum likelihood model. The estimates of the coefficients in the stochastic component are more variable, with the education and competitiveness coefficients

Table A-1. Incumbent Perception Model, Ordinary Least Squares Estimates

Component Parameters	Election	No Election
Location		
Constant	2.157 (.153)	2.300 (.156)
ACU score	.009 (.001)	.005 (.001)
Party location	.311 (.023)	.345 (.027)
Self-location	.099 (.026)	.051 (.027)
Self × thermometer	.003 (.000)	.003 (.000)
Stochastic		
Constant	-1.174 (.308)	-.921 (.274)
Respondent's education	.017 (.020)	.002 (.021)
Competitiveness of race	.034 (.106)	—
Incumbent issue emphasis	-.011 (.004)	—
Challenger issue emphasis	.006 (.003)	—
Incumbent issue themes	.186 (.076)	—

Note: $q = .270$; $N = 1,086$. Ordinary least squares standard errors are in parentheses.

shifting sign. However, these coefficients have large standard errors in the ordinary least squares estimation. Further, the coefficients on issue emphasis and incumbent issue themes retain the proper sign and exceed twice their standard errors. This increases confidence that the assumptions of the maximum likelihood model are reasonable and the estimates believable.

The one substantive difference between the two estimation approaches is that the ordinary least squares test for equality of coefficients in the location component leads to rejection of the null hypothesis of equality ($F = 2.44$, $df = (4, 2162)$, $p = .045$). The parallel test in the text produced a $p = .100$. However, the two are not strictly comparable. The maximum likelihood test is from a model that includes the stochastic component, while the ordinary least squares estimates omit this specification, since the two-step estimation procedure is used. If we perform exactly the same test with maximum likelihood, by forcing homoscedasticity assumptions on the variances, the likelihood ratio test produces a chi-squared of 9.89, four degrees of freedom, and $p = .042$. It seems clear that the discrepancy comes from the fact that the ordinary least squares model is ignoring the parameters included in the stochastic component of the model.

Notes

I am indebted to Larry Bartels, John Gilmour, Gary King, and Jack Knight for helpful suggestions. This research was supported by a John M. Olin Foundation Faculty Fellowship. I remain responsible for errors and interpretations.

1. A direct measure of policy behavior is also lacking for most challengers to incumbent senators. For this reason, I focus exclusively on the perception of Senate incumbents.

2. This easy information can be quite efficient. The correlation between party and conservatism as measured by 1988 ACU scores is about .75, with the average Democrat at 16.5 and the average Repub-

lican at 75.6. Clearly, knowledge of party is highly informative in this case.

3. A reviewer pointed out to me that candidates might select several issues, each of which reinforces the others to produce a clear picture of the candidate. In terms of the model here, the several issues would project onto the same point of the liberal-conservative scale. This is certainly the case sometimes; and we would expect that consistency across issues would produce greater clarity than would inconsistency across the same number of issues. Unfortunately, we lack measures of consistency. In the absence of such measures, we must let the data speak. If, in fact, large numbers of candidates use many, consistent issue themes to project a single image, then the hypothesis presented will be rejected and we will find a positive association between number of themes and clarity, rather than the expected negative relation. It should be noted, however, that by including candidate issue emphasis in the model, we are controlling for the campaign's apparent attempt to communicate issue positions to the public. This may vitiate the problem, because we will be looking at the effect of number of issues, holding constant the effort of the candidate to communicate issue positions.

4. This is easily seen from the fact that x is uncorrelated with both u and ϵ . See Franklin and Jackson 1986.

5. Respondents in states without a Senate election or without an incumbent seeking reelection are omitted from the analysis.

6. The basic question is, "We hear a lot of talk these days about liberals and conservatives. Think about a ruler for measuring political views that people might hold, from liberal to conservative. On this ruler, which goes from one to seven, a measurement of one means very liberal political views, and a measurement of seven would be very conservative. Just like a regular ruler, it has points in between at 2, 3, 4, 5 or [sic] 6. Where would you place yourself on this ruler, remembering that 1 is very liberal and 7 is very conservative, or haven't you thought much about this?" Respondents are asked to place themselves, the incumbent senators from their state, and the parties on this scale.

7. The ACU and Americans for Democratic Action (ADA) ratings are very highly correlated with each other and over time. The correlation between 1988 ADA and ACU scores is $-.97$ for incumbents with a reelection campaign and $-.92$ for those whose seats were not up in 1988. Since there seems little to be gained from further processing of these scores, I simply chose a convenient year. Arguably, 1987 might have been used as a year untainted by election year shifts. However, the correlation of 1987 and 1988 ACU scores was .965 for incumbents seeking reelection and .961 for those not up, so this seems a minor issue.

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8. Respondents who initially failed to position themselves on the scale were asked whether, if they had to choose, they would consider themselves liberal or conservative. These responses have been coded as 2, 4, and 6 for liberal, moderate, and conservative responses to the probe, respectively, and combined with the other seven-point scale responses.

9. *Congressional Quarterly* rated each election as *safe Democrat*, *Democrat favored*, *leans Democratic*, *no clear favorite*, etc. These codes were folded to measure competitiveness. The codes were assigned values of one to four for *safe* to *no clear favorite*. In the Senate campaigns used here, none were coded four.

10. The campaign content codes were devised by Richard F. Fenno, Jr., Gary C. Jacobson, Jonathan Krasno, Thomas E. Mann, and Raymond E. Wolfinger. Coding was done by Jonathan Krasno with the assistance of James Glaser of the State Data Program at the University of California, Berkeley. See the NES contextual data code book for a more complete description of the coding procedure.

11. In this and all other tests of individual coefficients or their differences, I am using the normal approximation for the distribution of the coefficients, rather than a t-distribution. With the large number of degrees of freedom involved, the approximation should be excellent.

12. Other plausible respondent variables, such as political interest and attention to news, were tried in place of, and in combination with, education. All fared worse than education alone.

13. Note that the standard error of the difference of two random variables is determined from the formula $\text{var}(\theta_1 - \theta_2) = \text{var}(\theta_1) + \text{var}(\theta_2) - 2\text{cov}(\theta_1, \theta_2)$. The ratio of the difference in coefficients to standard error reported in the table is, of course, based on this calculation.

14. The test is $F = (S_1/df_1)/(S_2/df_2)$. Most tables do not extend the range of the F-distribution to such a large number of degrees of freedom. The calculation here was carried out in Gauss using the cumulative F-distribution function, CDFFC.

15. The calculation is $\text{CDFN}[(2.5 - 3.62)/\text{se}] + 1 - \text{CDFN}[(4.5 - 3.62)/\text{se}]$, where CDFN is the cumulative distribution function for a normal distribution and se is the standard error. Since the liberal-conservative scale is, in fact, discrete, the midpoints 2.5 and 4.5 were chosen as thresholds separating responses of 2 and 3 and of 4 and 5, respectively.

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Charles H. Franklin is Assistant Professor of Political Science, Washington University and University of Wisconsin, Madison, WI 53706.