

Political Knowledge and the 2004 Presidential Election*

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Abstract

Political knowledge is an important factor in understanding voting behavior, particularly when voters' policy positions conflict with those of their favored candidate. In this paper, we use the National Annenberg Election Survey (NAES) for the 2004 U.S. election to directly estimate voters' ideological positions, candidates' ideological positions, and voters' knowledge of candidates' ideological positions. We then analyze the relationship between these estimates and the individual's vote in the 2004 presidential election. The NAES asks voters for their own stances and for the candidates' stances on specific policy issues. Because candidates' stances on these policies are known, the data allow us to (1) estimate voters' knowledge levels using item response theory, and (2) simultaneously estimate the positions of voters and candidates on the same spectrum. Typically, in the empirical literature, individuals' ideological positions are taken from self-reported placement on an ideological spectrum. Here, we use Poole and Rosenthal's (1985, 2000) spatial model to estimate ideological positions, treating individuals' opinions as Poole and Rosenthal treat roll-call data for legislators. This method recovers the underlying ideological space while avoiding the perception issues associated with self-placement. Assuming that voters prefer to vote for the candidate whose ideological position is closer to their own, we find that more knowledgeable individuals are far less likely to vote for the candidate farther from them. Moreover, significantly more voters vote "mistakenly" for Bush than for Kerry. Though a majority of voters have ideological positions closer to Kerry, Bush receives more votes due to this pattern of mistakes.

JEL classification: C13, D72, D82, D83.

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In view of the fact that very few Americans have any deep interest in politics, it is a mild paradox that party loyalties should be so widespread. A partial key to this puzzle is that these identifications perform for the citizen an exceedingly useful evaluative function. To the average person the affairs of government are remote and complex, and yet the average citizen is asked...to decide how he will vote, what choice he will make between candidates offering different programs and very different versions of contemporary political events. In this dilemma, having the party symbol stamped on certain candidates, on certain positions, on certain interpretations of political reality is of great psychological convenience.

-Donald E. Stokes, *Elections and the Political Order*¹

1 Introduction

For many years, an overwhelming majority of Americans have called themselves either Democrats or Republicans. Even among individuals who claim to be independent, most have acknowledged having some one-sided party loyalty. Campbell et al. (1966, pg. 126) observe that “not more than a tenth of the public sees itself at the point of full independence.” Almost 40 years later, Romer et al. (2006) still find that 90% of Americans either call themselves Democrats or Republicans or lean towards one of the parties.

On the other hand, very few Americans have deep-seeded interest in the political process, and most know very little about government policies. Campbell et al. (1960) describe “...an electorate almost wholly without detailed information about decision making in government, [which] knows little about what government has done...or what parties propose to do...knowing little of particular policies and what has led to them.”

Indeed, many voters are unaware of what the relevant issues are surrounding a political campaign.² Even many of those who can identify the issues do not take the time to learn candidates’ proposed policies or positions regarding those issues. This behavior does not imply that voters are incapable of making decisions using complex information regarding policies. Many voters may be unwilling to pay the cost of gathering such complex information. According to Campbell et al. (1960, pg. 543–544), very few people are “motivated strongly enough to obtain the information needed to develop a sensitive understanding of decision making in government.”

One explanation for this lack of motivation is the presence of simpler pieces of evidence—labels such as political party—which voters can use to infer conclusions about candidates’ policy positions. In conjunction with the unawareness regarding issues, the high level of party identification suggests that many individuals form opinions about candidates based only on their political party, rather than their positions on specific policy issues. In an experimental study, Rahn (1993) found that individuals are perfectly capable of using complex evidence to form accurate opinions about policy positions of candidates when this complex evidence is all they have on which to rely. However, given the same complex evidence *and the political party of the candidates*, people use the political party to stereotype the candidates, even in cases of extreme

¹Campbell et al. (1966, pg. 126)

²Delli Carpini and Keeter (1996, pg. 10) write that “the concept of political knowledge is at the center of the critique of the promise and performance of American democracy”, adding that they are joining many political theorists and practitioners throughout the ages in making such a claim.

party-issue inconsistency. Even when information is available for free, people tend to use labels to draw conclusions about candidates' positions.³

Voters forming opinions about candidates based only on political party can partially explain why party identification is such a strong indicator of voting behavior. Perhaps more importantly, the use of such a short cut suggests that there may be a disconnect between a voter's opinion of a candidate and her opinion of the candidate's actual policy positions. There are several empirical studies of voter behavior which have relied on voters' self-reported political positions. Of these empirical studies, Palfrey and Poole (1987) is the best example of a paper which analyzes the relationship between knowledge, ideology and voting behavior. While providing several useful insights, Palfrey and Poole (1987) and others shed no light on the relationship between voters' opinions and knowledge regarding specific policy issues.

In this paper, we aim to analyze the relationship between political knowledge, ideological position and voting behavior using *data regarding specific policy issues* to measure both *political knowledge* and *political knowledge levels* of individuals. To do so, we use the 2004 National Annenberg Election Survey (NAES) to directly measure (1) citizens' knowledge of candidates' positions on specific policy issues and (2) citizens' and candidates' ideological positions. The NAES asks individuals their opinions regarding a set of policy issues relevant to the 2004 presidential election. Furthermore, it asks the same individuals what they think the candidates' positions are on some of the very same issues. Because the candidates' actual positions are known, it is possible to assess individuals' political knowledge regarding the specific policies. Just as significantly, the candidates' known positions allow us to also estimate the candidates' political positions, treating them just like the other citizens and yielding a political position on the same scale as those of the other individuals.

To estimate individuals' ideological positions, we use the W-NOMINATE algorithm developed by Poole and Rosenthal (1985) to construct measures of legislators' ideological positions from their voting records. To apply this method, we treat citizens as legislators and their opinions on policy issues as roll call votes. Though this and related methods are commonly applied to the U.S. Congress and other legislative bodies,⁴ we believe that this is the first application of the method to data on citizens.

We construct a continuous measure of individuals' overall knowledge of candidates' policy positions. These estimates are calculated using each surveyed individual's answers to a series of questions regarding candidates' opinions on particular policy issues.⁵ To ease analysis of voting patterns, we use cluster analysis on these scores to differentiate between information status groups. Because the NAES wrote questions to reflect the issues being discussed in the campaign at that moment in time, individuals were asked different questions depending on the time of

³The Rahn (1993) experiment suggests that the cost of gathering information does not fully explain why voters use labels to draw conclusions about candidates. While the relevant fact for our purposes is that many voters rely on labels (rather than *why* they rely on them), the results in Rahn (1993) are useful in highlighting that the phenomenon of not *using* information regarding specific policies is not restricted to those voters who do not *have* the information.

⁴See Poole and Rosenthal 1985; Poole and Rosenthal 1991; Poole and Rosenthal 2001; Poole and Rosenthal 2004

⁵Nearly all of the questions are of the form "Does Bush or Kerry favor...". Implicit in the question is the suggestion that only one of the two candidates supports the policy. Indeed, this is true in all instances save one, and that question was the most commonly missed. Therefore, we cannot distinguish between knowledge of Kerry's and Bush's opinions.

their interview. Item Response Theory (IRT) allows us to compare scores for individuals who took different tests.⁶

It is important to highlight the difference between our methods and those in the existing literature. We recover individuals' ideological position from opinions regarding policy issues. This is in contrast to the abstract political spectra used by Palfrey and Poole (1987) which are independent of actual policies. In their study, the only indicator of individuals' political position other than party identification is their so-called "thermometer scores", which are individuals' self-assessments of their position on a left-right scale. One known shortcoming of relying on thermometer scores is that surveyed individuals may not have the same perception of the left-right scale. For example, voters may assess where they stand relative to others they know and have very different views of what is "normal". While methods have been developed to deal with such "distortion" issues, it is still impossible to tell how two such voters would compare in an abstract ideological space with a standardized scale.⁷

Furthermore, we directly measure individuals' political knowledge of candidates' positions. In Palfrey and Poole (1987), political knowledge does not come from an individual's level of awareness of policy issues. Instead, they use "perceptual data"—individuals' thoughts as to how liberal or conservative certain politicians are on an abstract left-right scale. Both Palfrey and Poole (1987) and several other studies use data from the National Election Survey (NES), which does not question citizens regarding candidates' positions on specific policy issues. In contrast, because both citizens' opinions and their knowledge of candidates are solicited by the NAES through questions about specific policies, we can finally shed some light on the relationship between voters' opinions and knowledge regarding these issues.

Our results can be summarized as follows. Of the 3,148 individuals for whom we estimate ideological position and political knowledge, 1,608 voters (51.1%) voted for Bush, closely matching the 50.73% from the actual election results. We find that 78% of voters are closer to Kerry than to Bush in their estimated ideological position. Overall, 65% of individuals vote for the candidate closer to them in the ideological space. This proportion differs greatly across individuals with different ideological positions and different levels of political knowledge. Of the individuals who vote for the candidate who is ideologically farthest from them, 91% are closer to Kerry and vote for Bush, while only the remaining 9% are closer to Bush and vote for Kerry. This striking difference in turn leads to the discrepancy between the fraction of voters closer to Kerry (78%) and the fraction of voters who actually for Kerry (49%). Significantly, political knowledge plays a large role in the proportion of voters who vote for the candidate closest to them. When divided into five groups based on level of political knowledge, the proportion voting for the closer candidate strictly increases from 42% for the least informed group to 85% for the most informed group.

Individuals' party identification is related to their voting behavior as expected: Republicans are much more likely to vote for Bush and Democrats for Kerry. Indeed, of the many Bush voters who are ideologically closer to Kerry, 81% identify as Republican or lean Republican. Finally, we investigate the relationship between demographic variables and voting for the far-

⁶Item response theory is a class of models used in the construction of psychometric measures and analysis of test score data. We employ the most basic, single parameter model. See (Baker 2001) for an introduction to item response theory.

⁷One method which deals with distorted perceptions is the Aldrich-McKelvey Scaling Procedure, used by Palfrey and Poole (1987).

ther candidate. Surprisingly, correlation for many demographic variables is not distinguishable from zero in all specifications. While it is well established that demographic variables and party identification predict voting behavior, it is noteworthy that our estimates of ideological position and information status have explanatory power beyond these measures.

The paper proceeds as follows. Section 2 introduces the empirical model and the methods we use for estimating both ideological position and political knowledge. Section 3 describes the data and interprets our estimates of ideological position and information status. Our results analyzing voting patterns across information groups and ideological position are presented in detail in section 4. Section 5 concludes. Tables not included in the body of the paper can be found in the Appendix.

2 Empirical model

The National Annenberg Election Survey (NAES) has an unusual structure that will affect our identification of the theoretical model.⁸ Individuals $i \in N = \{1, \dots, n\}$, were interviewed before the election using different, overlapping questionnaires.⁹ Some of these individuals $N' \subset N$ were re-interviewed after the election. This structure requires us to adopt methods that deal well with missing data.

We observe voting behavior v_i for those individuals who were re-interviewed after the election and voted. We estimate individual information status s_i for all individuals in the pre-election sample and estimate ideological position y_i —taking both to be exogenous latent variables—for all individuals for whom we have voting data. Using observations of y_i , s_i and v_i , we investigate the proposition that individuals vote for the candidate they believe to be closer to them in our policy metric by examining relationships between these variables.

Discussion of the estimation techniques for ideological position and information status follow in section 2.1 and 2.2, respectively.

2.1 Ideological Position

To estimate individuals' ideological positions, we use the W-NOMINATE algorithm developed by Poole and Rosenthal (1985) to construct measures of legislators' ideological positions from their voting records. To apply this method, we treat citizens as legislators and their opinions on policy issues as roll call votes. Though this and related methods are commonly applied to the U.S. Congress and other legislative bodies, we believe that this is the first application of the method to data on citizens.

The 2004 NAES codebook contains information on the candidates' positions on many of the same policy issues on which citizens were polled. Therefore, we can construct observations of opinion data for the two candidates and, treating them as citizens, estimate their ideological positions as we estimate the citizens' ideological positions.

We present the algorithm generally, assuming a multi-dimensional policy space. Suppose that individuals' ideological positions $\mathbf{y}_i \in \mathbf{Y}$ are vectors of length Q . Individuals' opinions on

⁸See Romer et al. (2006) for details of the survey design and suggested analysis.

⁹The questionnaires varied according to the date of interview, which was randomly distributed over the sample.

policy issues ρ_{ik} , are observed for issues $k = 1, \dots, K$, where 0 and 1 represent opposing and favoring the issue, respectively. Each of these issues k is associated with two potential policy outcomes, O_{0k}, O_{1k} , which lie in the ideological space \mathbf{Y} .

Individual i favors issue k if the utility from favoring exceeds the utility from opposing. Individual i 's utility from favoring k follows a random utility model

$$\begin{aligned} U(O_{1k}; \mathbf{y}_i) &= u(O_{1k}; \mathbf{y}_i) + \epsilon_{1ik}, \quad \text{where} \\ u(O_{1k}; \mathbf{y}_i) &= \beta \exp\left\{-\frac{1}{2} \sum_{q=1}^Q w_q^2 (y_{iq} - O_{1kq})^2\right\}. \end{aligned} \quad (1)$$

Utility from opposing is defined analogously. Notice that the deterministic portion of the utility function is an exponential transformation of a distance metric. This specification implies that $u(O_{1k}; \mathbf{y}_i) \geq u(O_{0k}; \mathbf{y}_i)$ if \mathbf{y}_i is closer to the outcome position O_{1k} than it is to O_{0k} in terms of this metric. Moreover, the exponential transformation implies that the individual does not distinguish as carefully between outcome positions that are far from her bliss point.

We assume a logit specification, so that

$$\Pr\{\rho_{ik} = 1\} = \Pr\{\epsilon_{0ik} - \epsilon_{1ik} \leq u(O_{1k}; \mathbf{y}_i) - u(O_{0k}; \mathbf{y}_i)\} \quad (2)$$

$$= \frac{\exp\{u(O_{1k}; \mathbf{y}_i)\}}{\exp\{u(O_{1k}; \mathbf{y}_i)\} + \exp\{u(O_{0k}; \mathbf{y}_i)\}}. \quad (3)$$

In expectation, the difference between the error terms is zero and the individual is more likely to favor the outcome that is closer to her. The two outcome positions define a cut-plane that separates the ideological positions expected to favor and oppose the issue. Notice that the cutting planes for all the different issues divide up the space into regions.

Since both the individual position and issue outcome parameters are unobserved, the algorithm to estimate the parameters is iterative. After finding some starting value for ideological position and assuming some starting values for β and w , we estimate the parameters of the issues. Taking these parameters as given, we re-estimate the ideological positions. Then we estimate the utility parameters. Having estimated each set of parameters, we re-estimate them in the same way. We continue in this process until the parameters converge. To calculate standard errors, we use parametric bootstrapping.¹⁰

2.2 Knowledge of Candidates' Policy Positions

Each individual answered a series of questions measuring her knowledge of candidates' opinions on particular policy issues. From these data, we construct a continuous measure of individuals' overall knowledge of candidates' policy positions.¹¹ We assume that individuals who have the

¹⁰Lewis and Poole (2004) introduce and analyzes using parametric bootstrapping to measure uncertainty in ideological positions. The W-NOMINATE program with parametric bootstrapping can be found at http://voteview.com/w-nominate_Parametric_Bootstrap.htm.

¹¹Nearly all of the questions are of the form "Does Bush or Kerry favor...". Implicit in the question is the suggestion that only one of the two candidates supports the policy. Indeed, this is true in all instances save one, and that question was the most commonly missed. Therefore, we cannot distinguish between knowledge of Kerry's and Bush's opinions.

same distribution of beliefs over candidates' ideological positions will have similar knowledge scores. Therefore, we use cluster analysis on these scores to differentiate between information status groups.

Because the NAES wrote questions to reflect the issues being discussed in the campaign at that moment in time, individuals were asked different questions depending on the time of their interview. Item Response Theory (IRT) allows us to compare scores for individuals who took different tests.¹²

Let $j = 1, \dots, J$ index the set of all knowledge questions, and denote the knowledge questions individual i was asked by $\mathcal{J}_i \subset \{1, \dots, J\}$. Individual i 's score for her answer to question $j \in \mathcal{J}_i$ is denoted by $x_{ij} \in \{0, 1\}$, where 0 is correct and 1 is incorrect.

Suppose that each individual's underlying knowledge of candidates' opinions on policy issues is some value $\theta_i \in \mathbb{R}$, that each question j has a level of difficulty b_j , and that the probability that individual i answers question j correctly follows the logistic distribution

$$\mathbb{P}\{x_{ij} = 1\} = \frac{1}{1 + e^{-(\theta_i - b_j)}}.$$

This specification has two latent variables: knowledge (θ_i) and the difficulty of the question (b_j).

Given estimated levels of difficulty \hat{b}_j for $j = 1, \dots, J$, we can estimate θ_i for each i ; similarly, given estimates of each person's knowledge $\hat{\theta}_i$ for $i = 1, \dots, n$, we can estimate b_j for each question j :

$$\mathcal{L}(\theta_i | \{(\hat{b}_j, x_{ij}) : j \in \mathcal{J}_i\}) = \prod_{j \in \mathcal{J}_i} \left[\mathbb{I}\{x_{ij} = 1\} \cdot \frac{1}{1 + e^{-(\theta_i - \hat{b}_j)}} + \mathbb{I}\{x_{ij} = 0\} \cdot \frac{e^{-(\theta_i - \hat{b}_j)}}{1 + e^{-(\theta_i - \hat{b}_j)}} \right], (4)$$

$$\mathcal{L}(b_j | \{(\hat{\theta}_i, x_{ij}) : i \in \mathcal{I}_j\}) = \prod_{i \in \mathcal{I}_j} \left[\mathbb{I}\{x_{ij} = 1\} \cdot \frac{1}{1 + e^{-(\hat{\theta}_i - b_j)}} + \mathbb{I}\{x_{ij} = 0\} \cdot \frac{e^{-(\hat{\theta}_i - b_j)}}{1 + e^{-(\hat{\theta}_i - b_j)}} \right], (5)$$

where $\mathcal{I}_j \subset \{1, \dots, n\}$ is the set of individuals who answered question j .

As in the W-NOMINATE algorithm, we estimate both latent variables iteratively, according to the following algorithm:

1. Choose a starting value of b_j , denoted \hat{b}_j^0 , for $j = 1, \dots, J$.
2. Given $\{\hat{b}_j^{m-1}\}_{j=1}^J$, estimate $\hat{\theta}_i^m$ by maximizing equation (4) for $i = 1, \dots, n$.
3. Given $\{\hat{\theta}_i^m\}_{i=1}^n$, estimate \hat{b}_j^m by maximizing equation (5) for $j = 1, \dots, J$.
4. Repeat steps 2 and 3 until the estimates no longer change.

The trick to applying this algorithm is selecting a starting point. We do this by normalizing the mean level of knowledge to 0, defining \hat{p}_{0j} to be the proportion of people correctly answering

¹²Item response theory is a class of models used in the construction of psychometric measures and analysis of test score data. We employ the most basic, single parameter model. See Baker (2001) for an introduction to item response theory.

question j , and solving equation (??) as follows:

$$\hat{p}_{0j} = \mathbb{P}\{x_{ij} = 1 | \theta_i = 0\} \quad (6)$$

$$= \frac{1}{1 + e^{b_j}} \quad (7)$$

$$\implies \hat{b}_j^0 = \log \left(\frac{1 - \hat{p}_{0j}}{\hat{p}_{0j}} \right) \quad (8)$$

for $j = 1, \dots, J$.

Because this iterative approach does not allow us to use the standard errors from the maximum likelihood estimations, we bootstrap standard error perimetrically, using a similar approach as we did for the ideological position estimates.

3 Data and Estimation

The 2004 National Annenberg Election Survey interviewed 81,422 people between October 7, 2003 and November 16, 2004. The entire sample is called the National Rolling Cross-Section, where "rolling" indicates that interviews were ongoing and that the survey questions changed over time to reflect campaign issues. The interviews were conducted by random digit dialing with a response rate of 22%. Of the 34,062 interviewed between July 14, 2004 and the election, 20,000 people were randomly selected to be reinterviewed after the election as part of the Election Panel. Re-interviews were completed with 8,664 people, which is a 43% response rate. Because we only need pre-election data to estimate ideological position and information status, we can use the larger National Rolling Cross-Section sample for these estimates.

The general election campaign effectively started on March 9, 2004 when Kerry mathematically secured the Democratic nomination. Ideally, we would estimate ideological position y_i from opinion data on the 24,224 people who were interviewed from March 9 to November 1 and who provided at least 10 responses to opinion questions. However, getting starting values for that many people proved infeasible for this version of the paper, and we present today estimates of y_i from opinion data on the 3,100 people who were interviewed from March 9 to November 1, provided at least 10 responses to opinion questions and were reinterviewed after the election. Because the knowledge survey questions changed abruptly over over the general election campaign period, we only consider people interviewed from April 19 to November 1 and who provided at least 7 responses to knowledge questions. Because the irt algorithm does not allow us to estimate the knowledge parameters for people who scored 0% or 100%, we estimate values for the remainder of the remaining 25,217 people.

Of the people whose voting decisions we observe, we have estimates of θ_i and y_i for 3,148 people. Using these observations y_i , s_i , and v_i , we analyze the relationship between voting behavior, ideological position, and political knowledge. These results are presented in Section 4.

3.1 Ideological Position

We estimate two-dimensional ideological positions for citizens (y_i) and candidates (y_p) using opinions on policy issues including various tax issues, minimum wage, union organizing, free

trade, health insurance, prescription drugs, military issues (not focused on Iraq), abortion, same-sex marriage, gun control and lawsuits.¹³ In addition to these policy positions, we estimate the parameters of the distance metric for ideological space and the outcome positions for each of the issues. These parameters allow us to interpret the meaning of regions in the ideological space.

To understand the orientation and interpretation of the dimensions of the ideological space, we investigate the cutplanes that separate those policy positions more likely to favor from those more likely to oppose a particular issue. Our specification of the utility function in equation (1) implies that individuals are more likely to favor the outcome that is closer to them in the distance metric

$$d(\mathbf{y}, \mathbf{O}) = (y_1 - O_1)^2 + w^2(y_2 - O_2)^2,$$

which allows us to define the cutplane as the set of points in the ideological space equidistant from the two ideological positions. We can use a similar approach to define the set of policy positions that are equidistant between the two candidates.

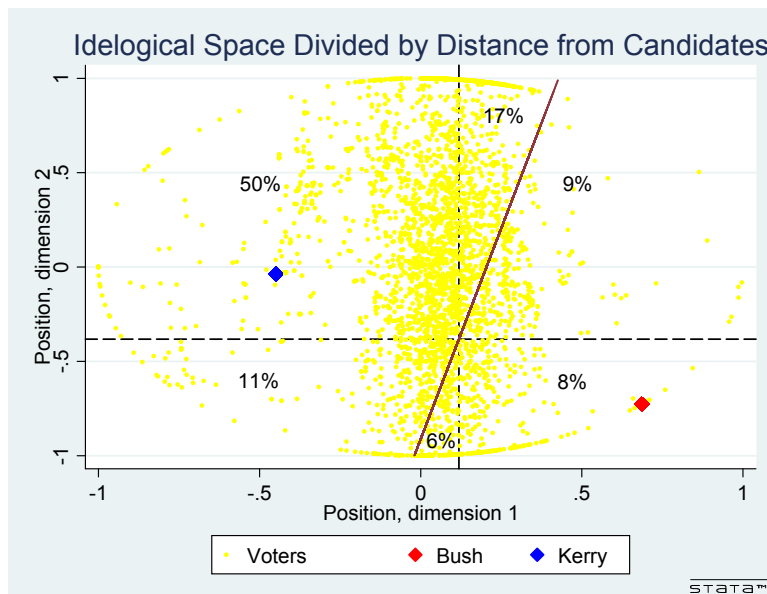


Figure 1: *Ideological space divided by distance from candidates. The dashed lines are the midpoints between candidates position in each dimension. The red line is the cutplane generated by treating candidates' positions as policy outcomes*

Our estimates show that Bush is extreme in both dimensions: he is far to the right on the first dimension and down in the second dimension. Kerry, meanwhile, is pretty far to the left on the first dimension ideological spectrum but moderate in the second dimension. Figure 1 provides more details on the candidates' ideological positions. As you can see in this figure, the vast majority of voters (78%) are closer to Kerry than to Bush using the estimated distance metric. Considering only the first dimension, this proportion falls: 67% of voters are closer to Kerry than to Bush in the first dimension.

¹³Wording of these policy questions can be found in the Appendix, Table 9

We interpret the first dimension as the left-right ideological spectrum with which we are familiar. The second dimension serves to rationalize common inversions in opinion. In particular, it allows some individuals to be generally liberal but conservative on social issues and vice versa. Figure 2 shows issues' cutplanes dividing the ideological space, the distribution of voters within that space and the location of the two candidates. As you can see in Table 8 and Figure 2, social issues tend to have negative slopes while issues like raising the minimum wage have positive slope.

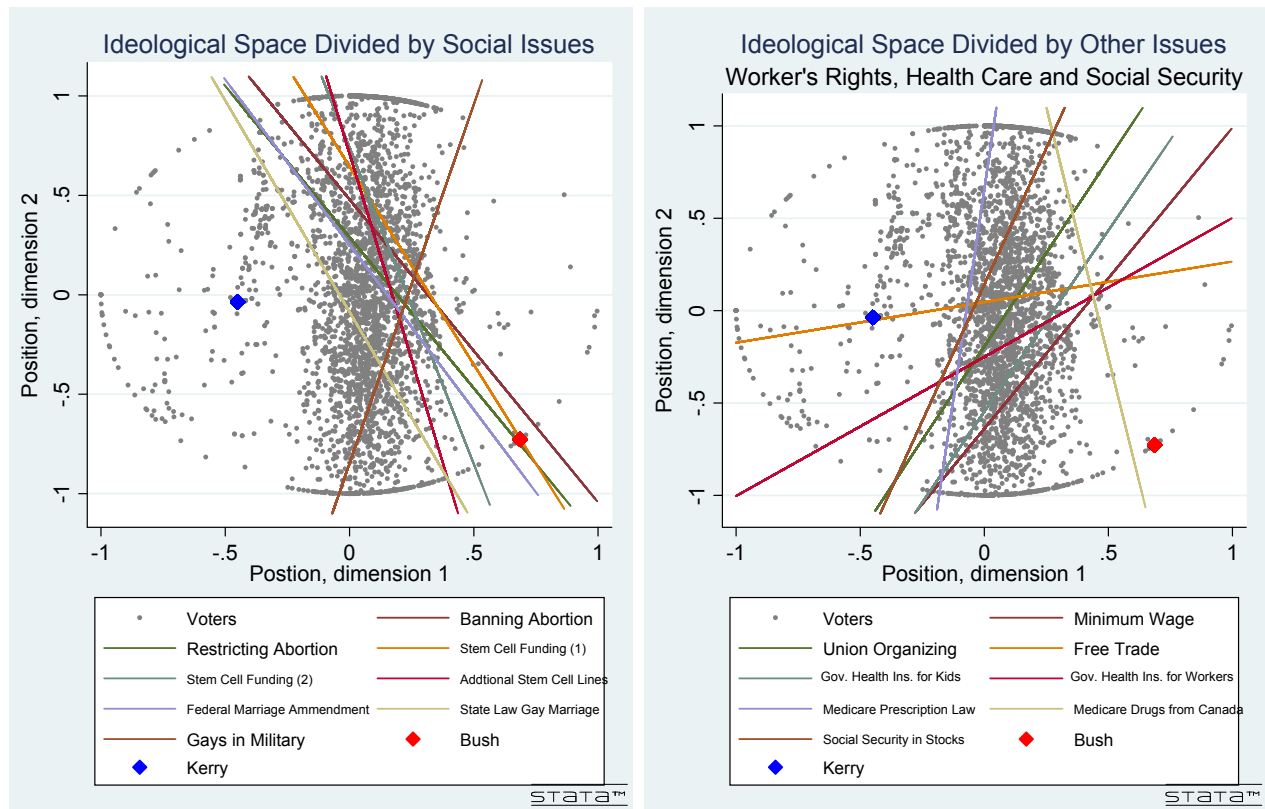


Figure 2: *Ideological space divided by issue cutplanes*

Voters' policy positions are distributed very close to zero in the first dimension and widely dispersed in the second. To summarize voters' policy positions, we ran a cluster analysis identifying similar subgroups within the ideological space. Figure 3 displays the regions occupied by these clusters, and Table 1 summarizes the expected opinions of individuals in each cluster. Clusters 1-3 are center to right in the first dimension, differing primarily along the second dimension. Clusters 4 and 5 are left on the first dimension, with cluster 4 above 5 in the second dimension.

Moving from cluster 1 to cluster 3, i.e. decreasing the value of y_2 , individuals are more likely to favor federal funding of research using stem cells from human embryos and less likely to favor increasing the minimum wage. Though clusters 4 and 5 clusters agree on most issues, cluster 4 is more likely to favor restricting abortion and moving troops currently stationed in Europe and Korea to other locations. Moving left, from from clusters 1-3 to clusters 4 and 5, decreases

the probability that the individual favors making union organizing easier and opposes investing social security in the stock market.

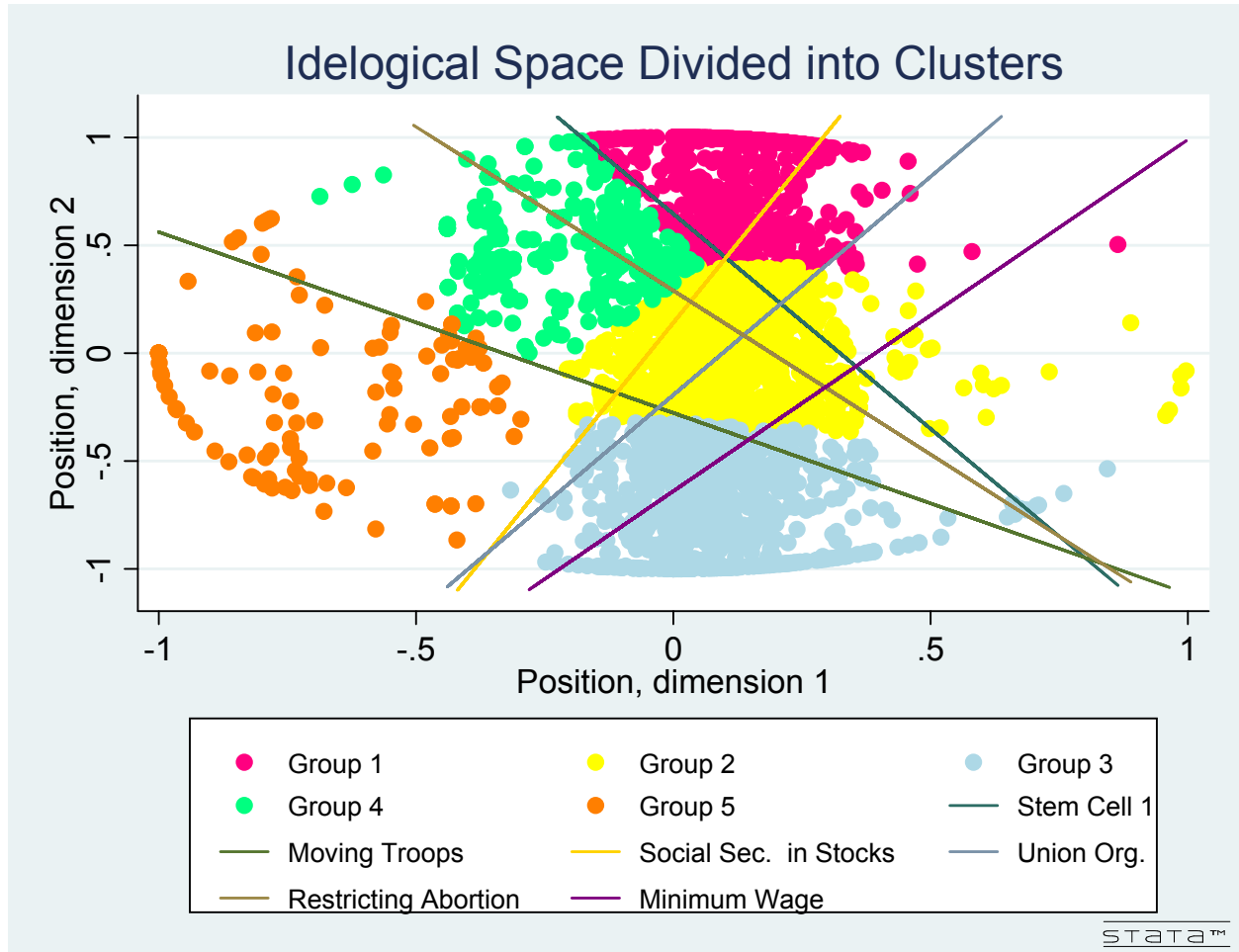


Figure 3: *Ideological space divided by ideological clusters*

To summarize the uncertainty in our estimates of ideological position, we calculate classification rates that measure the probability that an individual who truly falls in a given cluster will be estimated to be in another. Table 2 presents these statistics, summarizing the results of the parametric bootstrap. Recall that each individual's position is estimated from as few as 10 opinions. The classification rates quantify the error in the estimates from this and other sources. These rates demonstrate that the first dimension is estimated much more precisely than the second dimension.

3.2 Political Knowledge

We estimate a continuous measure of citizens' knowledge of candidates' ideological position using 30 questions on candidates' positions on an overlapping set of issues from the opinion data. Citizens answered between 7 and 14 questions, with the average citizen answering 10. The

Table 1: *Average probability of favoring an issue by ideological cluster*

	Ideological Cluster					
	1	2	3	4	5	all
$\mathbb{P}\{\text{Favor Stem Cell Funding (Wording \#1)}\}$	0.23	0.78	0.97	0.84	1.00	0.73
$\mathbb{P}\{\text{Favor Moving Troops From Europe and Korea}\}$	0.91	0.68	0.34	0.78	0.31	0.64
$\mathbb{P}\{\text{Favor Social Security in Stock Market}\}$	0.32	0.76	0.93	0.08	0.04	0.60
$\mathbb{P}\{\text{Favor Making Union Organizing Easier}\}$	0.83	0.49	0.22	0.92	0.90	0.56
$\mathbb{P}\{\text{Favor Making Abortion More Difficult}\}$	0.94	0.39	0.04	0.41	0.01	0.40
$\mathbb{P}\{\text{Favor Increasing Minimum Wage}\}$	0.99	0.84	0.39	1.00	0.99	0.78

Table 2: *Summary of voter's ideological position by cluster*

The “classified in cluster” column gives the average proportion of bootstrap iterations that fall within a particular cluster. Hence row 1 can be interpreted as the probability that an individual who truly falls within cluster 1 will be estimated to be in each of the other clusters.

Ideological Cluster	Freq.	Prop	$\mathbb{E}(y_1)$	$\mathbb{E}(y_2)$	Classified in Cluster				
					1	2	3	4	5
1	663	0.21	0.121	0.807	0.30	0.18	0.18	0.07	0.04
2	1,162	0.37	0.111	-0.004	0.31	0.42	0.30	0.16	0.11
3	815	0.26	0.079	-0.665	0.26	0.26	0.38	0.19	0.18
4	379	0.12	-0.201	0.480	0.12	0.12	0.10	0.37	0.33
5	131	0.04	-0.647	-0.180	0.01	0.02	0.04	0.22	0.34
Total	3,150	0.00	0.036	0.046					

variation in the number of questions answered is entirely due to the date that the individual was interviewed. If an individual either said she did not know the answer to or refused to answer a knowledge question, we mark that question as incorrectly answered.¹⁴

The questions with the highest degree of difficulty (highest value of b) include several issues for which at least one of the candidates’s positions is not consistent with party stereotypes. The question regarding the assault weapons ban is particularly difficult, mostly because the correct answer—that both candidates favor it—is not one that most individuals expect to be correct for any of the questions. Questions about candidates’ signature issues, like Bush’s tax cuts and funding for the Iraq war, are among the easiest. Table 10 presents the proportion of people who answered the question correctly, estimated level of difficulty \hat{b} , standard error of the estimate, and the topic of the question.¹⁵

Since both the level of difficulty and knowledge parameters are latent variables, they are only identified up to scale. Hence the value of b is only meaningful in relation to values of θ . Figure 4 presents the distribution of knowledge scores and several item response curves. When comparing values of θ to values of b , it is useful to recall that an individual with $\theta = b$ has a 50% probability of correctly answering the question.

To segment the sample into information groups $s = 1, \dots, S$, we use cluster analysis. After inspecting the distribution of $\hat{\theta}$, we set $S = 5$ and run Stata’s kmeans function on the ability measure. Table 3 demonstrates that the estimation procedure for θ recovers values very similar to citizens’ raw score on all knowledge questions. Since the estimation procedure effectively equates scores across different sets of knowledge questions, this similarity indicates that individuals surveyed on different dates face comparably difficult questions. Note that the spread in raw scores among the information status groups is quite large—individuals in the least informed group, $s = 1$, answer 20% of the question correctly on average compared to the 88% average of the most informed group, $s = 5$.

Table 3: *Information status groups and raw scores*

s_i	Summary of theta			Summary of raw score		
	Mean	Min	Max	Mean	Min	Max
1	-1.719	-2.907	-1.131	0.198	0.071	0.300
2	-0.521	-1.104	-0.086	0.401	0.275	0.500
3	0.360	-0.077	0.775	0.589	0.500	0.667
4	1.223	0.807	1.751	0.746	0.667	0.833
5	2.388	1.808	3.149	0.878	0.800	0.929
All	-.004	-2.907	3.149	0.506	0.071	0.929

Since individuals’ knowledge scores are estimated by running separate logit regressions with between 7 and 14 observations, measuring the uncertainty in the estimates of θ is very important. Table 4 summarizes uncertainty in the estimates of knowledge scores. The “Classified in

¹⁴Because we are trying to determine whether the individual “knows” the candidates’ positions, we feel that it is natural to treat an individual who simply admits that they “do not know” the same as one who had demonstrated they do not know by answering incorrectly.

Very few individuals refused to answer: all of the questions had fewer than 0.6% of all respondents refuse to answer.

¹⁵See Table 11 in the Appendix for the wording of the question and the correct answer.

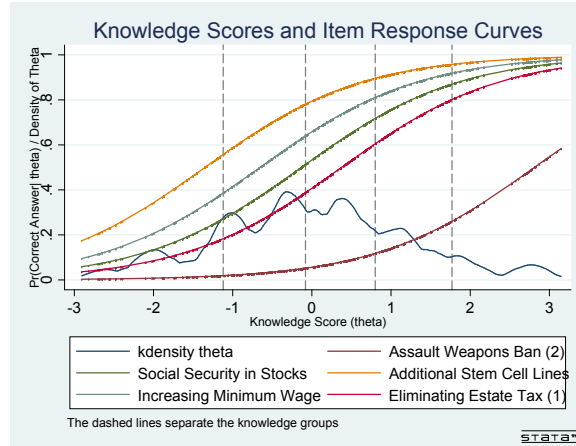


Figure 4: *Knowledge scores and item response curves*

Group” columns give the average proportion of bootstrap iterations that fall within a particular information group. The classification for the group 1 row can be interpreted as the probability that an individual actually in group 1 is estimated to be in each of the other groups. Though some groups are poorly distinguished from neighboring groups, all are well distinguished from groups that are not adjacent to them.

Table 4: *Information status groups and classification rates.*

Group	Freq.	Percent	Classified in Group				
			1	2	3	4	5
1	4,549	18.72	0.786	0.188	0.023	0.003	0.000
2	7,630	31.39	0.236	0.519	0.195	0.044	0.006
3	6,082	25.02	0.030	0.256	0.420	0.234	0.060
4	4,232	17.41	0.002	0.043	0.215	0.453	0.287
5	1,812	7.46	0.000	0.001	0.029	0.198	0.771

4 Results

There are 3,148 individuals for whom we have estimates of ideological position \hat{y}_i , and knowledge $\hat{\theta}$. Of these, 1,608 voters (51.1%) voted for Bush. This proportion closely matches the 50.73% from the actual election results.¹⁶ We find that 78% of voters are closer to Kerry than to Bush in ideological position. Overall, 65% of individuals vote for the candidate closer to them in the weighted distance metric. However, this proportion differs greatly across the information status groups, strictly increasing from 42% for the least informed group to 85% for the most informed group.

¹⁶Official result as reported by the Federal Election Commission (<http://www.fec.gov/pubrec/fe2004/tables.pdf>).

Consider the hypothesis that individuals' vote is determined through a process analogous to the model of opinion formation presented in Section 2.1: consider a random utility model where the citizen's deterministic utility from each candidate is a function of the perceived distance between their own ideological position and the candidate's. Though we cannot directly validate such model, the observed patterns of voting behavior by information status group are consistent with the hypothesis. Table 5 presents voting behavior by closer candidate and information group.

The most informed group might be considered to be correctly perceiving the candidates' ideological position and systematically voting for the closer candidate. Because a classification rate of 85% is comparable to the rates for the policy issues presentable in Table 8, one could reasonably attribute the 15% of votes given to the farther candidate to the random portion of the utility function.

The least informed individuals who are closer to Kerry may be just as likely to vote for Bush as the members of their group who are closer to Bush.¹⁷ The observed pattern is not inconsistent with the hypothesis that citizens vote for the candidate they *perceive* to be closer to them: it is reasonable for individuals who do not know where candidates stand on issues, and therefore in the ideological space, to fail to vote systematically for the closer candidate.

Table 5: *Voting by ideological position and information group*

Group	Closer to Kerry		Closer to Bush		Vote Closer
	Vote Kerry	Vote Bush	Vote Kerry	Vote Bush	
1	82	153	17	43	125
	27.80	51.86	5.76	14.58	42.37
2	279	317	25	109	388
	38.22	43.42	3.42	14.93	53.15
3	360	281	33	172	532
	42.55	33.22	3.90	20.33	62.88
4	413	174	14	187	600
	52.41	22.08	1.78	23.73	76.14
5	292	60	5	84	376
	66.21	13.61	1.13	19.05	85.26
all	1,444	1,005	96	603	2,047
	45.87	31.93	3.05	19.16	65.03

If citizens are all perfectly informed and voting according to a random utility model analogous to the model of opinion formation, equation 1 implies that a logit regression of the dummy variable vote bush on $u(y_B|y_i)$ and $u(y_K|y_i)$ should give us coefficients of one and negative one, respectively, and a zero constant term. Regression (1) in Table 6 rejects this scenario at any level of significance, supporting the conclusion we drew from the descriptives: information status matters and individuals are on average more likely to vote for the candidate closer to him in

¹⁷For all other information status groups, people closer to Bush are more likely to vote for Bush than those closer to Kerry at any level of significance.

Table 6: *Predicting voting behavior using ideological position and knowledge. Demographic variables are measures of sex, age, race, education, income, religion, marital status, union membership, and military participation.*

	(1)	(2)	(3)	(4)	(5)	(6)
Logit	votebush	votebush	votebush	votebush	votebush	votebush
$u(y_B y_i)$	1.292 (0.070)**		0.806 (0.087)**		0.864 (0.096)**	
$u(y_K y_i)$	-3.166 (0.129)**		-2.413 (0.168)**		-2.163 (0.186)**	
$u(y_B y_i) * \mathbb{I}(s_i = 1)$		-0.001 (0.172)		-0.251 (0.239)		-0.454 (0.269)
$u(y_B y_i) * \mathbb{I}(s_i = 2)$		0.89 (0.122)**		0.595 (0.163)**		0.726 (0.182)**
$u(y_B y_i) * \mathbb{I}(s_i = 3)$		1.515 (0.131)**		1.13 (0.171)**		1.149 (0.189)**
$u(y_B y_i) * \mathbb{I}(s_i = 4)$		2.122 (0.169)**		1.654 (0.212)**		1.617 (0.234)**
$u(y_B y_i) * \mathbb{I}(s_i = 5)$		2.578 (0.299)**		1.783 (0.351)**		1.987 (0.413)**
$u(y_K y_i) * \mathbb{I}(s_i = 1)$		-0.645 (0.174)**		-0.114 (0.22)		0.075 (0.25)
$u(y_K y_i) * \mathbb{I}(s_i = 2)$		-1.482 (0.141)**		-0.895 (0.156)**		-0.967 (0.175)**
$u(y_K y_i) * \mathbb{I}(s_i = 3)$		-2.053 (0.141)**		-1.399 (0.162)**		-1.355 (0.179)**
$u(y_K y_i) * \mathbb{I}(s_i = 4)$		-2.626 (0.167)**		-1.899 (0.194)**		-1.808 (0.214)**
$u(y_K y_i) * \mathbb{I}(s_i = 5)$		-3.051 (0.268)**		-2.048 (0.309)**		-2.188 (0.365)**
Constant	10.097 (0.576)**	3.758 (0.461)**	8.483 (0.821)**	2.07 (0.391)**	6.958 (0.972)**	1.684 (0.528)**
Demographic Variables	No	No	No	No	Yes	Yes
Party Identification	No	No	Yes	Yes	Yes	Yes
Observations	3148	3148	3142	3142	2876	2876
McFadden's R^2	0.34	0.32	0.61	0.61	0.63	0.63

Standard errors in parentheses

* significant at 5%; ** significant at 1%

the ideological space.¹⁸

To capture the variation across information status groups, regression (2) allows the coefficients of utility to differ across information status groups by interacting the utility terms with indicator variables. The coefficients on utility increase in magnitude as individuals become more informed—the differences between coefficients are significant at the 1% level for all pairs of successive groups except for groups four and five. These results indicate utility from candidates’ policies is more correlated with voting behavior for more informed individuals.

Adding party identification does not change the results discussed above. Though the coefficients on party identification are suppressed in Table 6, party identification behaves as expected: Republicans are much more likely to vote for Bush and Democrats for Kerry. Including both party id and demographic variables preserves the patterns and the significance of the coefficients. Though coefficients of utility increase in magnitude as individuals become more informed, the level of significance for the difference between successive pairs of coefficients falls from 1 to 12%. It is well established that demographic variables and party identification predict voting behavior. Hence, it is noteworthy that our estimates of ideological position and information status have explanatory power beyond these measures.

It is possible that demographic variables and party identification are correlated with unobserved factors that cause individuals to vote for the candidate farther from them. Though we cannot identify such a causal link, we investigate the relationship between demographic variables and the probability of voting for the farther candidate. The results of these regressions are presented in Table 7.

Surprisingly, the coefficients on many of the included demographic variables are not distinguishable from zero in all specifications. Sex, age, and income are never significant, nor is residence in a union or military household. Coefficients on race and marital status are significant in some but not all specifications. Religion and party identification tell a consistent story.

Notice that Republicans closer to Kerry are much more likely to vote for the candidate farther from them. Indeed, of the votes for the more distant candidate, 74% were cast by individuals who are closer to Kerry and identify as Republican or lean Republican.

Born again Christians are more likely to vote for Bush independent of candidates’ distance from their ideological position: 60% of born again Christians *closer to Kerry* voted for Bush and 89% of those *closer to Bush* voted for Bush.

5 Conclusion

Political knowledge is an important factor in understanding voting behavior, particularly when voters’ policy positions conflict with those of their favored candidate. In this paper, we use the National Annenberg Election Survey (NAES) for the 2004 U.S. election to directly estimate voters’ ideological positions, candidates’ ideological positions, and voters’ knowledge of candidates’ ideological positions. We then analyze the relationship between these estimates and the individual’s vote in the 2004 presidential election.

¹⁸To spatially interpret the coefficients reported in Table 6, notice that introducing coefficients on $u(y_B|y_i)$ and $u(y_K|y_i)$ shifts the cutplane up and down, in the absence of a constant term. Adding a constant term changes the shape of the set of policy positions from a line to a curve.

Table 7: *Predicting the probability of voting for the more distant candidate*

Logit	(1)	(2)	(3)
$u(y_B y_i)$	0.461 (0.088)***	1.072 (0.134)***	-3.757 (0.941)***
$u(y_K y_i)$	-1.087 (0.133)***	-2.524 (0.245)***	2.179 (0.893)**
θ_i	-0.335 (0.051)***	-0.255 (0.072)***	0.017 (0.169)
Democrat	-1.354 (0.207)***	-1.703 (0.234)***	2.300 (0.629)***
Republican	1.460 (0.206)***	2.197 (0.238)***	-1.693 (0.605)***
Female	0.144 (0.115)	0.039 (0.162)	0.545 (0.412)
Age	-0.002 (0.004)	-0.001 (0.005)	0.016 (0.013)
Black	0.034 (0.241)	-1.350 (0.365)***	1.864 (0.812)**
Hispanic	0.388 (0.256)	0.699 (0.338)**	-0.512 (0.948)
Asian	0.507 (0.522)	-0.162 (0.753)	1.915 (1.374)
Education \leq HS diploma	0.180 (0.147)	0.108 (0.203)	-0.008 (0.496)
Education \geq bachelor's degree	-0.278 (0.134)**	-0.392 (0.194)**	-0.285 (0.446)
Income $<$ 25k	-0.015 (0.167)	-0.093 (0.229)	0.509 (0.516)
Income $>$ 100k	0.065 (0.153)	-0.006 (0.221)	0.222 (0.519)
Religious service attendance \geq weekly	0.213 (0.120)*	0.275 (0.168)	-0.010 (0.409)
Born again Christian	0.187 (0.122)	0.508 (0.175)***	-1.372 (0.450)***
Not married, cohabitating	0.027 (0.375)	-0.302 (0.495)	0.736 (1.289)
Married	-0.163 (0.145)	-0.023 (0.199)	-1.409 (0.500)***
Divorced	-0.048 (0.188)	-0.291 (0.257)	-0.543 (0.560)
Military household	0.123 (0.122)	0.114 (0.174)	-0.159 (0.417)
Union household	-0.151 (0.153)	-0.224 (0.210)	0.375 (0.505)
Closer to Kerry	3.989 (0.204)***		
Constant	-0.617 (0.715)	7.807 (1.092)***	7.161 (4.845)
Observations	2834	2201	633
Sample Restriction	None	Closer to Kerry	Closer to Bush
McFadden's R^2	0.39	0.60	0.57

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

The NAES asks voters for their own stances and for the candidates' stances on specific policy issues. Because candidates' stances on these policies are known, the data allow us to (1) estimate voters' knowledge levels, using item response theory, and (2) simultaneously estimate the positions of voters and candidates on the same spectrum. Typically, in the empirical literature, individuals' ideological positions are taken from self-reported placement on an ideological spectrum. Here, we use Poole and Rosenthal's (1985, 2000) spatial model to estimate ideological positions, treating individuals' opinions as Poole and Rosenthal treat roll-call data for legislators. This method recovers the underlying ideological space while avoiding the perception issues associated with self-placement.

Assuming that voters prefer to vote for the candidate whose ideological position is closer to their own, we find that more knowledgeable individuals are far less likely to vote for the candidate farther from them. Moreover, significantly more voters vote "mistakenly" for Bush than for Kerry. Though a majority of voters have ideological positions closer to Kerry, Bush receives more votes due to this pattern of mistakes.

To put our results into a broader context, consider the exercise of placing actual voters *who identify with a party* into three simplified categories: there are (1) voters who accurately know a candidate's policy positions, agree with them simply because they identify with the candidate's party, and vote for that candidate, (2) voters who accurately know a candidate's policy positions, form their own independent opinions which happen to correspond to those of the candidate, and vote for that candidate, and (3) voters who form their independent opinions regarding policies, assume incorrectly that a candidate agrees with them since they identify with the candidate's party, and vote for that candidate. *This paper provides an estimate of how many voters fall into the third category*; these are the voters who vote for the candidate *farthest* from themselves on the ideological spectrum while displaying low knowledge scores. However, our data do not allow us to distinguish between voters in the first two categories. Both the first and second sets of voters should, theoretically, vote for the ideologically closer candidate while receiving a high knowledge score.

6 Appendix

Table 8: *Classification rates and cutplanes for policy issues*

Topic		Predict favor		Predict oppose		$\mathbb{P}\{\text{favor}\} > 0.50$ if
		favor	oppose	favor	oppose	
1	Bush Tax Cuts	0.49	0.09	0.07	0.35	$y_2 < 218.79y_1 - 8.61$
2	Estate Tax	0.67	0.14	0.03	0.16	$y_2 > -1.96y_1 - 0.30$
3	Estate Tax	0.44	0.20	0.10	0.26	$y_2 > -4.14y_1 - 0.08$
4	Overseas Tax Breaks, Job Creation	0.80	0.12	0.02	0.06	$y_2 > 0.21y_1 - 0.51$
5	Minimum Wage	0.79	0.08	0.02	0.11	$y_2 > 1.63y_1 - 0.64$
6	Union Organizing	0.51	0.13	0.10	0.26	$y_2 > 2.03y_1 - 0.19$
7	Trade Agreements	0.35	0.15	0.15	0.35	$y_2 < 0.22y_1 + 0.05$
8	Government Health Insurance for Children	0.75	0.09	0.03	0.12	$y_2 > 1.96y_1 - 0.55$
9	Government Health Insurance for Workers	0.65	0.12	0.05	0.18	$y_2 > 0.75y_1 - 0.25$
10	Medicare Drug Coverage	0.45	0.22	0.08	0.25	$y_2 < 9.11y_1 + 0.66$
11	Medicare Drugs from Canada	0.83	0.14	0.01	0.02	$y_2 < -5.42y_1 + 2.46$
12	Social Security in Stock Market	0.50	0.16	0.07	0.27	$y_2 < 2.96y_1 + 0.14$
13	School Vouchers	0.36	0.12	0.11	0.41	$y_2 > -62.48y_1 + 4.49$
14	Recalling Troops From Europe and Korea	0.68	0.20	0.03	0.09	$y_2 > -0.84y_1 - 0.28$
15	Reinstating Draft	0.01	0.01	0.19	0.79	$y_2 > -2.53y_1 + 1.55$
16	Banning All Abortions	0.20	0.02	0.08	0.70	$y_2 > -1.52y_1 + 0.48$
17	Restricting Abortion	0.32	0.06	0.08	0.55	$y_2 > -1.52y_1 + 0.29$
18	Stem Cell Funding (1)	0.73	0.09	0.02	0.16	$y_2 < -1.99y_1 + 0.65$
19	Stem Cell Funding (2)	0.67	0.10	0.04	0.19	$y_2 < -3.18y_1 + 0.74$
20	Additional Stem Cell Lines	0.64	0.09	0.04	0.23	$y_2 < -4.14y_1 + 0.71$
21	Federal Marriage Amendment	0.33	0.07	0.09	0.50	$y_2 > -1.66y_1 + 0.25$
22	State Law on Same-Sex Marriage	0.26	0.06	0.11	0.56	$y_2 < -2.13y_1 - 0.09$
23	Gays in Military	0.69	0.13	0.05	0.13	$y_2 > 3.61y_1 - 0.85$
24	Assault Weapons Ban	0.67	0.13	0.05	0.14	$y_2 > 0.80y_1 - 0.28$
25	Limiting Lawsuits	0.72	0.17	0.02	0.10	$y_2 < 3.11y_1 + 0.69$
26	Limiting Malpractice Awards	0.63	0.22	0.05	0.10	$y_2 > -3.76y_1 - 0.45$

The “Predict favor, oppose” column displays the proportion of voters who oppose the issue but are calculated to be more likely to favor the issue.

Table 9: *Wording of policy issue questions in the NAES survey*

Issue	Wording, followed by “do you favor or oppose this?” unless noted with *
1	Making recent federal tax cuts permanent
2	Completely eliminating the estate tax, that is, the tax on property left by people who die
3	Completely eliminating the estate tax, that is, the tax on property left by people worth more than \$1.5 million who die
4	Eliminating tax breaks for overseas profits and using money to cut taxes for businesses that create jobs in the United States
5	Do you favor or oppose increasing the \$5.15 minimum wage employers now must pay their workers?*
6	Making it easier for labor unions to organize
7	The federal government negotiating more free trade agreements like NAFTA—do you favor or oppose the federal government doing this?*
8	The federal government helping to pay for health insurance for all children
9	The federal government helping employers pay the cost of their workers’ health insurance
10	The Medicare prescription drug law that was recently enacted
11	Changing the recently passed Medicare prescription drug law to allow re-importing drugs from Canada
12	Do you favor or oppose allowing workers to invest some of their Social Security contributions in the stock market?*
13	The federal government giving tax credits or vouchers to help parents send their children to private schools
14	Moving 60,000 to 70,000 troops stationed in Europe and South Korea to other locations, including the United States, in the next decade
15	Do you think the United States should put the military draft back into operation?*
16	The federal government banning all abortions—do you favor or oppose the federal government doing this?*
17	Laws making it more difficult for a woman to get an abortion
18	Federal funding of research on diseases like Alzheimer’s using stem cells taken from human embryos
19	Federal funding of research on diseases like Parkinson’s using stem cells taken from human embryos
20	Making additional stem cell lines from human embryos available for federally funded research on diseases like Parkinson’s
21	Would you favor or oppose an amendment to the U.S. Constitution saying that no state can allow two men to marry each other or two women to marry each other?*
22	Would you favor or oppose a law in your state that would allow two men to marry each other or two women to marry each other?*
23	Should gays and lesbians be allowed to serve openly in the military, or shouldn’t they be allowed to serve openly?*
24	Extending the federal law banning assault weapons
25	Limiting the amount of money people can be awarded in lawsuits
26	The government placing limits on how much people could collect when a jury finds that a doctor has committed medical malpractice

Table 10: *Estimated difficulty of knowledge questions.*

	Prop. Correct	Difficulty	Std. Err.	Topic of Question: Know if Bush or Kerry Favors...
1	0.667	-0.885	0.027	Tax Cuts
2	0.402	0.375	0.018	Eliminating Estate Tax (Wording #1)
3	0.459	0.431	0.019	Eliminating Estate Tax (Wording #2)
4	0.203	1.257	0.079	Reducing Estate Tax
5	0.344	0.479	0.031	Overseas Tax Breaks, Create Jobs (Wording #1)
6	0.531	-0.092	0.007	Overseas Tax Breaks, Create Jobs (Wording #2)
7	0.660	-0.655	0.022	Increasing Minimum Wage
8	0.581	-0.544	0.029	Making Union Organizing Easier (Wording #1)
9	0.629	-0.715	0.023	Making Union Organizing Easier (Wording #2)
10	0.488	-0.298	0.017	Government Health Insurance for Kids & Workers
11	0.560	-0.254	0.009	Government Health Insurance for Kids & Workers
12	0.565	-0.686	0.037	Medicare Prescription Law
13	0.548	-0.290	0.011	Drugs from Canada
14	0.516	0.097	0.011	Negotiating With Drug Companies
15	0.507	-0.132	0.005	Social Security in Stock Market
16	0.468	0.276	0.011	Moving Troops From Europe and Korea
17	0.480	0.102	0.014	Reinstating Draft
18	0.554	-0.070	0.015	Reinstating Draft
19	0.718	-1.678	0.112	Spending on Iraq and Afghanistan
20	0.669	-0.990	0.036	Patriot Act (Wording #1)
21	0.573	-0.344	0.018	Patriot Act (Wording #2)
22	0.194	1.842	0.074	*Know if Kerry Favors 9/11 Recommendations
23	0.715	-1.124	0.032	Making Abortion More Difficult
24	0.613	-0.629	0.022	Stem Cell Funding (Wording #1)
25	0.623	-0.668	0.022	Stem Cell Funding (Wording #2)
26	0.766	-1.350	0.041	Additional Stem Cell Lines
27	0.155	1.692	0.104	Assault Weapons Ban (Wording #1)
28	0.105	2.812	0.139	Assault Weapons Ban (Wording #2)
29	0.483	0.097	0.010	Limiting Lawsuits (Wording #2)
30	0.486	0.257	0.013	Limiting Malpractice Awards

Table 11: *Wording of knowledge questions in the NAES survey*

	Wording: To the best of your knowledge,... – George W. Bush, John Kerry, both, or neither?	Answer
1	Who favors making the recent tax cuts permanent	Bush
2	Who favors completely eliminating the estate tax, that is, the tax on property left by people who die	Bush
3	Who favors completely eliminating the estate tax, that is, the tax on property worth more than \$1.5 million left by people who die	Bush
4	Who favors reducing the estate tax, the tax on property left by people who die	Bush
5	Who favors eliminating tax breaks for overseas profits of American corporations and using the money to cut corporate income taxes	Kerry
6	Who favors eliminating tax breaks for overseas profits of American corporations and using the money to cut taxes for businesses that create jobs in the United States	Kerry
7	Who favors increasing the \$5.15 minimum wage employers must pay their workers	Kerry
8	Who wants to make it easier for unions to organize	Kerry
9	Who wants to make it easier for labor unions to organize	Kerry
10	Who favors the federal government helping to pay for health insurance for all children and helping employers pay the cost of the workers' health insurance	Kerry
11	Who favors a health insurance plan that would do both of the following—help to pay for health insurance for all children and help employers pay the cost of the workers' health insurance	Kerry
12	Who favors the Medicare prescription drug law that was recently enacted	Bush
13	Who favors changing the recently passed Medicare prescription drug law to allow re-importing drugs from Canada	Kerry
14	Who favors allowing the federal government to negotiate with drug companies for lower prescription drug prices for senior citizens	Kerry
15	Who favors allowing workers to invest some of their Social Security contributions in the stock market	Bush
16	Which candidate proposes moving 60,000 to 70,000 troops stationed in Europe and South Korea to other locations, including the United States, in the next decade	Bush
17	Who favors reinstating the military draft	Neither
18	which candidate has stated he favors reinstating the military draft	Neither
19	who favored spending \$87 billion on Iraq and Afghanistan last fall	Bush
20	Who wants to extend all provisions of the USA Patriot Act in order to fight terrorism	Bush
21	Who wants to extend all provisions of the USA Patriot Act	Bush
22	* As far as you know, does John Kerry favor adopting all of the 9/11 Commission's recommendations, most of them, just some of them, or none of them?	Favors All
23	Who favors laws making it more difficult for a woman to get an abortion	Bush
24	Who favors federal funding of research on diseases like Alzheimer's using stem cells taken from human embryos	Kerry
25	Who favors federal funding of research on diseases like Parkinson's using stem cells taken from human embryos	Kerry

Table 11: *Wording of knowledge questions in the NAES survey continued*

	Wording: To the best of your knowledge,... – George W. Bush, John Kerry, both, or neither?	Answer
26	Which candidate wants to make additional stem cell lines from human embryos available for federally funded research on diseases like Parkinson's	Kerry
27	Who favors extending the federal law banning assault weapons	Both
28	Who urges Congress to extend the federal law banning assault weapons	Both
29	Who wants to limit the amount of money people can be awarded in lawsuits	Bush
30	Who favors placing limits on how much people can collect when a jury finds that a doctor has committed medical malpractice	Bush

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