Party Identification: Efficient Heuristic of Systematic Bias?

Stephen Jessee

Abstract

Using a new dataset that takes advantage of a novel survey design, I accomplish a joint estimation of citizens' policy views and legislators' ideal points on the same scale. I analyze several important questions about people's preferences, perceptions and voting behavior using the case of the 2004 presidential election. In contrast to many earlier works, I show that most people do in fact have some level of policy ideology that has an important effect on their voting behavior. The influence of party identification, however, is also quite strong. Judging from the baseline of Downsian policy voting, I show that independents, even those with lower levels of political sophistication, perform quite well on average, and engage in essentially unbiased spatial policy voting. Partisans of similar levels of sophistication, by contrast, are systematically pushed away from more rational decision rules and seem to be making biased choices in translating their policy preferences into vote choices. On the whole, it seems clear that party identification operates more as a systematic bias than a profitable heuristic.

The basic principles of democratic governance rest on the idea that citizens will tend to select leaders who will act in accordance with the views of the majority. In the end, a government lives up to this ideal (or doesn't) through the execution of specific policies and decisions. How, then, do citizens' votes relate to their own preferences over government policy outputs? What intervening factors either assist or interfere with voters' selection of candidates who espouse views closest to their own?

This paper employs a novel survey design which polls respondents on their views regarding concrete policy proposals that have also been considered in the United States Senate. The central advantage of this design is that it allows for the estimation of policy ideal points for respondents on the same scale as the positions taken by senators and the President in their legislative voting. These new measures solve what has until now been a large and persistent problem in testing accounts of citizen voting decisions, namely that direct comparisons between voter policy views and candidate positions has not been possible. Using these measures, I investigate how closely different classes of voters approximate the ideal of spatial policy voting and, more specifically, whether identification with one of the two major parties provides a useful anchor or tool for voters to make rational, unbiased decisions, or whether party identification leads to biased decisionmaking. Focusing on the 2004 presidential election, I find that the vast majority of voters do have meaningful policy views that powerfully affect their vote choices. In addition to this, though, party identification exerts a significant influence on citizens' decision process, having its largest effects (as judged by the amount of divergence between the voting behavior of Democrats, Republicans and independents with similar policy views) among those with lower levels of political sophistication. The effect of voters' identifying with one of the two major political parties is shown to be large in magnitude and to dominate the effect of policy views over most of the range of ideal points found within each party. This lends credibility to arguments that party identification has a profound effect on the

way in which citizens view politics and incorporate information into their political beliefs. It is shown that while independents, even most lower sophistication ones, engage in essentially unbiased spatial policy voting, partisans of all levels of sophistication fall short of this mark, exhibiting systematic bias. This provides support for the so called "Michigan Model" of political behavior including the argument that party identification "raises a perceptual screen through wich the individual tends to see what is favorable to his partisan orientation" (Campbell et al 1960:133). These findings also suggest that Bartels' (2002) results about perceptions of government performance and the suggestions of experimental work by Van Houweling and Sniderman (2006) and others also apply to actual electoral behavior in a powerful way. Citizens' perceptions of the political world are profoundly affected by their partisan attachments. Furthermore, it seems clear that party identification operates more as a bias than a profitable heuristic.

1 Previous Work

Beginning with Converse's (1964) seminal work, many scholars have argued that the vast majority of citizens give little or no thought to the political issues of the day. The prevalence of such "nonattitudes" has been cited as evidence that people are not capable of casting votes based on their beliefs and preferences. Under this view, around ninety percent of people, it is argued, make political decisions with little or no thought.

Painting a much rosier picture of voters' abilities, scholars such as Key (1966) and Fiorina (1981) argue that voters use information and past performance in a mostly rational fashion. People learn about the two parties through observing their actions while in office and continually update their records of how well they have done. They then vote for the party that, based on its past record, is expected to provide them with

the most utility based, at least in part, on this mental record of past performance.

Finally, other scholars depict citizens as "cognitive misers"—using rough rules of thumb to make approximately rational and unbiased decisions from the little information that they encounter (Lupia and McCubbins 1998; Popkin 1991). Because citizens must pay costs in order to obtain and analyze relevant information about politics, it is argued, they use shortcuts in order to make "mostly correct" decisions without having to become fully informed. Under this view, less informed people may make less accurate decisions, but they use the information they have along with sensible heuristics in order to get things right on average and make essentially unbiased decisions in elections.

A further debate in the literature involves party identification's role in the political reasoning of citizens. The concept of party identification is most famously defined by Campbell et al. (1960) as the "affective orientation" of an individual toward political parties. Most individuals identify with one of the two major parties in this country and, it is argued, thus have their perceptions of the political world profoundly shaped by this trait. The evidence for party identification's correlation with voting behavior is overwhelming. Around ninety percent of party identifiers have voted for their party's candidate in recent presidential elections (National Election Studies 1992-2004). What exactly party identification is and how it operates, however, have been the subject of considerable controversy in the political science literature.

More recently, scholars such as Gerber and Green (1999) have argued that voters update their beliefs in a mostly unbiased way regardless of their party affiliation. For the most part, disagreement between these scholars and those sympathetic to Campbell et al.'s view centers around a "chicken or egg" sort of debate between political views and party identification. One school sees party identification as informing and shaping people's views of the political elements they encounter—a lens through which citizens see the political world. The other side, by contrast, sees party identification

as a product of citizens' experiences with the two parties. It is an accounting tool rather than an emotional attachment.

In a reply to Gerber and Green, Bartels (2002) refutes the claim that people incorporate new information into their political beliefs in a rational, mostly unbiased manner. He argues that Republicans and Democrats differ in the way in which they update their beliefs based on new information. In addition to this, Bartels demonstrates that this phenomenon cannot be solely the result of differing preferences, since respondents' statements about objective facts, such as whether unemployment increased or decreased during the Reagan administration, are also heavily colored by party identification. Earlier claims by Zaller (1992) support this argument by stating that many voters fail to incorporate information that does not agree with their partisan predispositions. Furthermore, Van Houweling and Sniderman (2006) show in an experimental setting that while respondents are more likely to select a candidate who takes a policy position closest to their own, party labels can exert a significant effect on people's choices as well. This result begs the question of how large in magnitude these party effects are when taken from an analytically clean but obviously simplified experimental setting to the real political world of high-profile elections.

My aim in this paper is to move from looking at the effects of party identification on people's responses to survey questions about political events and to examination how (and how much) party identification impacts citizens' actual voting behavior. The 2004 presidential election provides a particularly good opportunity to investigate this question for several reasons. First, it provides a clear and simple setting since all Americans are asked to choose between the same two choices.[1] Second, presidential election campaigns generally involve a relatively high level of information about candidate positions compared with other elections. Furthermore, despite Ralph Nader's

[1]I set aside considerations about minor party and independent candidates since none came anywhere near viability in the 2004 election. Furthermore, I take the candidate choices as exogenous, and do not consider how these two choices have been arrived at in this election.

comments about choosing between "Tweedledee and Tweedledum(b)" in 2000, presidential elections tend to offer voters two rather distinct choices along most major issues.[2] These factors make presidential elections, and the 2004 contest in particular, ideal for the purposes of evaluating the effects of party identification on citizens' voting behavior.

Despite the prominence of political parties in the United States, politics in the end is about making decisions regarding the course of government policy. Elections are designed to select officials who will exercise the will of the people, or at least oust those who have not done so. If this will is to mean anything, people's voting decisions must somehow be related (hopefully in a very strong and meaningful way) to their views about what the government should actually be doing about various situations, issues and problems that face the country and its citizens. In the end, governments are selected to make policy. Therefore, in order for a democracy to function in an ideal manner, voters must be able to discriminate between candidates or parties based on their policy views.

One of the most influential concepts in the study of American politics has been the idea of spatial or proximity voting (Hotelling 1929; Black 1948; Downs 1957; Davis, Hinich and Ordeshook 1970). This general framework has spawned a multitude of theories, arguments and more elaborate models (statistical as well as formal) to describe and account for voting behavior both in elections and in institutions such as Congress and the courts. Perhaps the most prominently cited example of issue or policy voting in political science is Downs' 1957 book in which he outlines a rational choice framework for voting and explores its consequences for political competition. Under Downsian voting, each voter has preferences in a (usually) one-dimensional space. Candidates choose their position in the space and voters tend to choose the

[2]It should be noted that while Nader emphasized the lack significant differences between George W. Bush and Al Gore in the 2000 presidential election, he did not use this specific phrase in the 2004 election between Bush and John Kerry. Instead, he focused more on what he called President Bush's poor performance.

candidate whose position is closest to their own.

In this paper, I investigate how well voters approximate a baseline, idealized, model of spatial policy voting in which they tend to choose the presidential candidate who takes a position closest to their own. I examine to what extent citizens engage in such policy voting by obtaining measures of respondent policy views on the same scale as the positions taken by senators and the President. This setup allows for the evaluation of party identification as a tool for voters. Is it a mental construct that facilitates better decision making based upon prior beliefs, a useful heuristic for making decisions with little information, or a perceptual filter that biases citizens' views? In the following section, I propose a direct and simple definition of unbiased policy voting and briefly outline several simple models of voting and examine their predictions. These models will serve as starting points from which to evaluate the paper's later results. Section 3 describes the survey data used in the analysis and formally lays out the statistical model from which my inferences are made. Section 4 presents the results of my analysis and their implications for debates over the role of policy views, party identification and political sophistication. Finally, Section 5 discusses the significance of these results in the context of the larger literature on party identification.

2 Baseline Models of Voting

In order to start our analysis of voting, we need some sensible baselines. What should we expect under an idealized version of party voting or policy voting? How might these two factors combine in practice, and what would we observe in such a case? In this section, I state my criteria for unbiased spatial policy voting and outline several possible models of citizen vote choice. These models and their implied predictions for voting behavior will serve as a reference point for interpretation of the paper's later

results.

To facilitate an examination of bias in voting decisions, we must first have a formal definition of biased (or, by contrast, unbiased) voting. To derive such conditions, I begin with a standard spatial voting setup for a two candidate election. Since I focus on the 2004 presidential election, we have George W. Bush and John Kerry taking positions at θ and ψ respectively. Under perfect spatial voting, there would be a cutpoint midway between the two candidates at $\frac{\theta+\psi}{2}$, with every voter to the left of this cutpoint voting for Kerry and every voter to the right of it voting for Bush. Clearly, this sort of errorless spatial voting is unrealistic. What we should expect, however, is unbiasedness in people's decisions—while any one person may make a mistake, people should, on average, be using decision rules that allow them to reach the correct decision given rational expectations formed from information they have. The central prescription of spatial policy voting is that voters tend to choose the candidate whose position is closest to their own. Liberal voters should be more likely to vote for Kerry than are conservative voters. Furthermore, citizens to whom each of the candidates are equally close should be indifferent between the two choices and hence should be equally likely to choose either one.

Because we observe only the actual vote choice of each individual and not the underlying decision rule used to make the choice, we cannot asses bias in the vote choices made by each individual. Each person's actual decision is either "correct" in the sense that she votes for the candidate whose position is closest to her own policy preferences or "incorrect" because she chooses the other candidate. Knowing this, however, does not give us enough information to make statements about the presence of bias in an individual voter's decisiomaking process. There are two main obstacles that prevent us from directly inferring bias or lack of bias in a specific respondent's decision rule, even in a hypothetical situation in which we know both the respondent and candidate positions with certainty.

First, if we allow for the possibility that the decision process is subject to some random error, there is no way for us to separately estimate an individual's bias and the error's realization for that person. After observing a citizen choosing correctly and voting for the candidate whose position is closest to her own, we cannot necessarily conclude that she is using an unbiased decision rule. It could be the case that her decision rule was seriously biased but that a random error happened to push her toward the correct choice. Similarly, an individual respondent's incorrect decision could be the result of a either biased decision process or of a random error. There is no way to separate out these two things for a given individual.

Second, even ignoring the obvious presence of random error in people's decision-making processes, we do not directly observe the underlying decision rules used by citizens. We merely observe how these decision rules map the candidate and citizen views into voting decisions. As an example, assume that a given citizen has an ideal point of 1 and is choosing between a Democratic candidate at -2 and a Republican candidate at 2. Assume further that we observe this citizen voting for the Republican candidate. Since his ideal point is closer to the Republican than to the Democrat, we can conclude that he made the right choice by spatial voting standards. What we cannot conclude, however, is that his vote decision rule is unbiased. It could be the case that he is actually biased toward choosing the Republican candidate and would have voted for him even if the Republican candidate's position was moved to 5. By contrast, it could be that he is actually biased toward voting for Democratic candidates, but that in this specific case, the difference between his proximity to the Democrat and to the Reublican candidate was sufficiently large to overrride this bias. In other words, this voter may have voted for the Democrat if either candidate were moved slightly to the right, even when the Republican candidate's position may actually be closer to his own ideal point. Because we only observe what the respondent's decision rule yeilds for this particular configuration of candidate ideal points, we cannot make

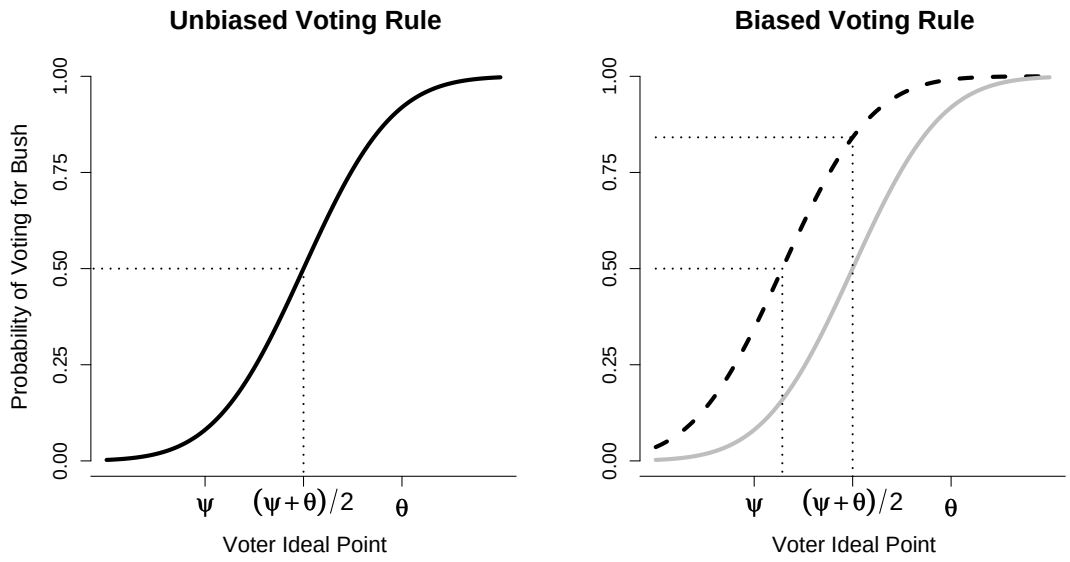
statements about this voter's decision rule as biased or unbiased on the whole.

In order to avoid these complications, I focus on the decision rules being used on average by different classes of voters. Specifically, I examine the decision rules used by Democrats, Republicans and independent voters to translate their policy views into vote decisions between Bush and Kerry in the 2004 presidential election. By observing many voters choosing between the two candidates, we can determine what components of their decisions are likely to be due to random errors and which are most likely to be consequences of the voting rules used. Furthermore, we can move from observing specific vote decisions by individual citizens to uncovering the relationship between voters' policy views and vote choice probabilities.

With this in mind, I now propose a definition of bias in voting decision rules. Formally, I define unbiased voting as occuring when more conservative voters are more likely to vote for the more conservative candidate (in our case, George W. Bush) and voters are, on average, indifferent between the two candidates at the true midpoint between the candidates' positions. This would imply that people with policy views to the left of this midpoint will tend to vote for Kerry and those to the right will be most likely to vote for Bush. Figure 1 shows two examples of voting rules that people could possibly use in order to make voting decisions based on their policy preferences. In the left pane, an unbiased voting rule is shown. In this case, voters are indifferent between Bush and Kerry—having a fifty percent chance of voting for each—when their policy views fall at the actual midpoint between the two candidates' positions. In the right pane, the dashed line depicts a biased voting rule in which respondents' indifference point falls well to the left of the true midpoint between the two candidates. As a consequence of this, respondents whose policy views fall at the actual midpoint between the two candidates are much more likely to vote for Bush than for Kerry.

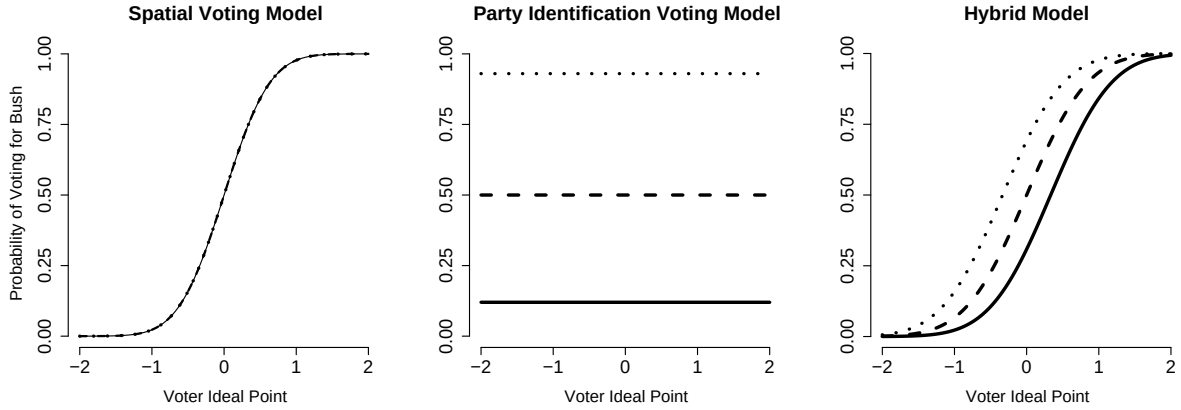
Before moving on, it is informative to examine how the relationships between re-

Figure 1: Examples of Possible Voting Rules



The above figures show examples of possible decision rules used by voters in order to translate their policy views (also called ideal points) into vote probabilities between Bush and Kerry. The left pane shows an unbised decision rule in which voters who have policy views located at the midpoint between the two candidates are indifferent between Bush and Kerry—having a fifty percent chance of voting for each one. The dashed line in the right pane plots a biased decision rule. The unbiased decision rule is shown by the grey line for comparison. Under the biased decision rule, voters at the midpoint between between the two candidates are much more likely to vote for Bush than for Kerry. Voters using this decision rule would have to have policy views much closer to Kerry's position than to Bush's in order to be indifferent between the two candidates.

Figure 2: Baseline Models of Vote Choice



These figures plot the predictions of three possible probabilistic voting models for the 2004 presidential election between John Kerry, located at θ, and George W. Bush, located at ψ. Solid lines represent independent respondents, dashed lines represent Republican respondents and dotted lines represent independents. In the center panel (Unbiased Spatial Voting Model), the predicted behavior or Democratic, independent and Republican identifiers conditional on ideology is the same.

spondent policy views and vote choice would look under certain baseline decision rules. Figure 2 shows the expected predictions of three idealized voting models for voters choosing between Bush and Kerry in the 2004 presidential election. The leftmost panel depicts a caricature of the Michigan party identification model. This model implies that respondents vote by party identification alone. Respondents within each party have a fixed probability of voting for their own party's candidate (probably well above one half), and their vote probabilities are thus unrelated to their or the candidates' ideal points except through party affiliation. Citizens are not voting based on their policy views and, hence, the definition for an unbiased voting rule is not satisfied. The center pane shows a setting in which Democrats, Republicans and independents all use an unbiased voting rule. According to the definition above, voters of all three classifications use voting rules that predict a fifty percent chance of a Bush vote and a fifty percent chance of a Kerry vote for a citizen whose policy views falls midway bettween the positions of the two candidates. Under this setting, voting decisions are independent of party identification, controlling for policy views. In other words,

while a randomly selected Republican may be more conservative than a randomly selected Democrat or independent and hence more likely to vote for Bush, partisans of all stripes will have identical vote probabilities if they have the same policy views. Finally, the rightmost panel shows the results of a model in which people vote based on their ideal points for the candidate closest to them, but also have a preference for their own party's candidate independent of ideal point proximity. Thus, for a Republican and a Democratic respondent with the same ideal point, the Republican will be more likely to vote for the Republican candidate, but both will be influenced by their own ideology in relation to the two candidates. It is important to note that while the center pane depicts an unbiased voting rule being used for all voter types, the right pane shows severe bias for partisans. This can be seen, again, by noting that the point at which Democrats will be indifferent between Bush and Kerry falls well to the right of the true midpoint between the two candidates, and the reverse is true for Republicans. This means that a Democrat whose policy views are equally close to Bush and Kerry will be overwhelmingly likely to vote for Kerry, and a Republican with the same issue beliefs will be very likely to vote for Bush. Under unbiased voting, both should actually be indifferent between the two candidates.

We now have the basic tools to asses bias in citizens' decisionmaking rules. In the following section, I describe the survey data to be used and propose a Bayesian hierarchical model of voter decision making in the 2004 presidential election. In this model, voters' decisions are a product of their policy ideal views relative to the positions taken by the two candidates—in our case Bush and Kerry.. These relationships are allowed to vary by party so that we may make inferences about the nature of party identification's influence on voter decisions and the extent to which voters are approximating spatial policy voting.

3 Data and Model

Although media pundits and others often focus on electoral horse races and candidate personalities or appearances, governments are ultimately selected in order to make policy. Therefore, we should hope for at least some sort of relationship between voters' own views on policy matters and their electoral behavior. Ideally, that relationship would resemble spatial policy voting in which citizens select the candidates who espouse positions closest to their own. In order to answer questions about policy voting and partisanship, we need a suitable measure of respondents' views on matters of federal policy. Furthermore, we need these measures of citizen views and of candidate positions to be directly comparable on the same scale.

Previous studies have faced difficulty when trying to directly compare the positions of legislators or candidates for office with the views of constituents. The main obstacle centers around the differing measures that we have for these two quantities. Researchers typically measure citizens' views by having them answer general survey questions, usually giving their responses on vague ordinal scales. These scales are vague and unclear, only being defined in respondents' heads. Examples include issue questions about, for example, assistance to the poor, with responses ranging from one to five. With such questions, there is no way to tell, for example, whether two respondents view a response of two as meaning the same thing because the response categories are not pinned down to any real, concrete values or options.

Further complicating the comparison of citizen and legislator ideology is the fact that data on legislator positions involve up or down votes on specific, concrete proposals. Comparing these two sorts of measures directly necessarily involves a heroic set of assumptions and, even then, is a difficult exercise. More generally, consider the example of two students. Each one takes a test in order to determine which one is smarter. If the two tests are identical, a sensible answer to this question simply involves looking at which student answered more questions correctly. This person is

most likely to be the smartest. If, however, the students are given two different tests, this problem becomes considerably more difficult. Even if one student, for example, gets nine out of ten questions right and the other student only answers half of his questions correctly, it is unclear who is smarter. Perhaps one of the tests was considerably more difficult than the other. It is difficult to estimate which student is smarter without having them take the same test. The survey design used in this paper is essentially getting citizens and senators to "take the same test." Once we have done this, direct comparison becomes possible without having to resort to artificial assumptions.

3.1 Survey and Roll Call Data

With the aim of obtaining directly comparable measures of citizen policy views and legislator policy positions, the Polimetrix Senate Representation Study was conducted.[3] In this survey, fielded between December 2005 and January 2006, a total of 5,871 respondents were asked to state their positions on concrete policy proposals that had come before the federal government, specifically the U.S. Senate.[4] This allows us to measure individuals' policy views on the same scale as the positions taken by senators and the President. A list of thirty-three significant and important Senate votes was compiled by examining all roll calls during 2004 and 2005 (the one question that did not come from this time period was the confirmation of Samuel Alito to the Supreme Court, which took place on January 31, 2006). These votes were chosen because of their relation to significant political issues that citizens would likely be

[3]This survey was written and executed in collaboration with Douglas Rivers, Stanford University and Polimetrix Inc.

[4]Because one of the aims of this study was to make inferences about the relationship between senators and their constituents, the sampling design was such that at least one hundred respondents were obtained from each state. Although the sample over-represents those from less populous states, is somewhat overeducated and under-represents minorities and the poor, it corresponds well with national measures of partisanship and 2004 presidential vote when compared with other surveys, such as the 2004 National Election Studies. Furthermore, since my aim in this study is to make inferences about the determinants of individual, rather than aggregate, behavior, the survey's lack of representativeness on these criteria is less of a problem.

aware of and care about. Consideration was also given to the ease with which information about the vote could be summarized on a questionnaire and communicated to respondents. For this reason, important votes on things such as complex appropriations bills were left off the survey. The chosen votes—on twenty-one amendments, ten bills, and two Supreme Court nominations—were selected from a variety of issue areas such as national security, the environment, lawsuit reform and tax rates. A list of the votes used can be found in Table 1 along with Senate yea and nay totals for each vote.

Each respondent in the survey was given a random sample of fifteen from the thirty-three Senate vote descriptions. For each bill or amendment selected, the respondent was given a bullet point description of the proposal and its key components and then was asked how he would vote—"Yes", "No" or "Don't know." Respondents were also asked for each proposal, how they thought each of their senators would have voted—"Probably for", "Maybe for", "Maybe against", "Probably against" or "Not sure" (see Figure 3 for examples of the question format). For this paper, I focus on respondents' views on these policy matters and the perceptions of senators' positions are not used.[5]

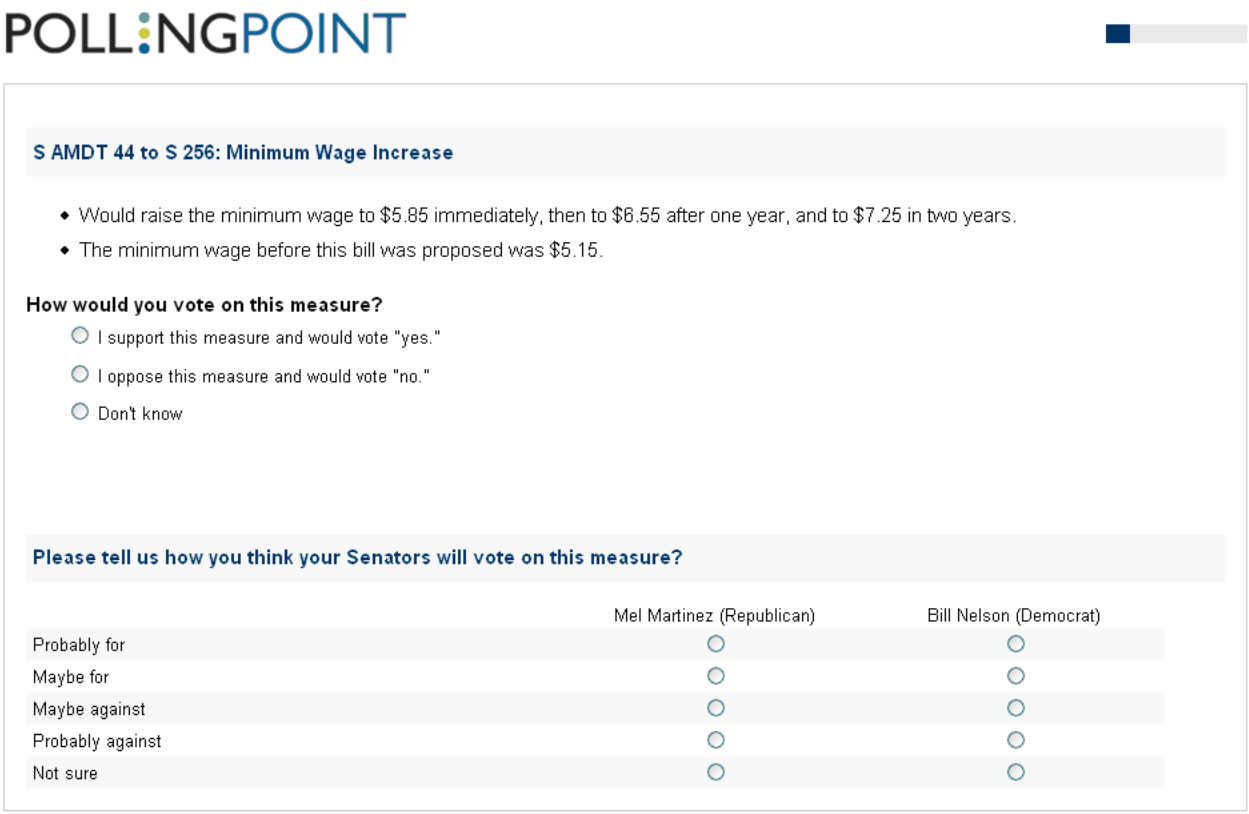
Some researchers have suggested that the effects of both policy ideology and party identification are mediated by respondents' political sophistication. Knight (1985), for example, argues that policy views have a significant effect only for the most politically sophisticated voters. Certainly, we may expect that more sophisticated voters would make more use of their position relative to other candidates than someone who was less sophisticated. Furthermore, we may expect that less sophisticated voters may rely more on the heuristic of party identification. Therefore, any model of the effects of ideology and party on voting behavior should be sufficiently flexible to accommodate

[5]See Jessee and Rivers (2006) for a study in which respondents' perceptions of their senators' positions are shown to depend heavily (and jointly) on their own ideal point and whether or not they identify with the senator's political party.

Table 1: List of Senate Votes Used in Senate Representation Survey

Bill or Amendment Number	Title	Vote Margin
S. Amdt. 1645 to S. 397	Increase Criminal Penalties for Armor Piercing Ammunition	87-11
HR 4250	Jumpstart Our Business Strength Act	78-15
S. Amdt. 1085 to HR 2419	Remove Funding for "Bunker Buster" Nuclear Warhead	43-53
S 1307	Central American Free Trade Agreement	61-34
S 2061	Healthy Mothers and Babies Access to Care Act	Only Cloture
SJ Res. 40	Federal Marriage Amendment	Only Cloture
	Confirmation of Samuel Alito to Supreme Court	58-42
S 256	Bankruptcy Abuse Prevention and Consumer Protection Act	74-25
S. Amdt. 367 to HR 1268	Remove Funding for Guantanamo Bay Detention Center	27-71
HR 1308	Working Families Tax Relief Act	92-3
S. Amdt. 2937 to HR 4	Child Care Funding for Welfare Recipients	78-20
S. Amdt. 1026 to HR 2161	Prohibiting Roads in Tongass National Forest	39-59
S. Amdt. 1626 to S 397	Child Safety Locks Amendment	70-30
S. Amdt. 3584 to HR 4567	Stopping Privatization of Federal Jobs	49-47
S. Amdt. 3158 to S 2400	Military Base Closure Delays	47-49
HR 3199	USA Patriot Act Improvement and Reauthorization Act of 2005	Only Cloture
S. Amdt. 44 to S. 256	Minimum Wage Increase	46-49
S 397	Protection of Lawful Commerce in Arms Act	65-31
S. Amdt. 2799 to S. Con. Res. 95	Cigarette Tax Increase	32-64
S. J. Res. 20	Disapproval of Mercury Emissions Rule	47-51
S. Amdt. 278 to S. 600	Family Planning Aid Policy (Mexico City Policy)	52-46
	Confirmation of John Roberts as Chief Justice of U.S.	78-22
S. Amdt. 2708 to S. 600	Raise Tax Rate on Income over One Million Dollars	40-57
S. Amdt. 3379 to S. 2400	Raise Tax Rate on Highest Income Bracket	44-53
HR 1997	Unborn Victims of Violence Act	90-9
S. Amdt. 3183 to S. 2400	Federal Hate Crimes Amendment	65-33
S. Amdt. 902 to HR 6	Fuel Economy Standards	28-67
S. Amdt. 826 to HR 6	Greenhouse Gas Reduction and Credit Trading System	38-60
S. Amdt. 1977 to HR 2863	Banning Torture by U.S. Military Interrogators	90-9
S. Amdt. 1615 to S. 397	Broaden Definition of Armor Piercing Ammunition	31-64
S. Amdt. 168 to S. Con. Res. 18	Prohibit Drilling in Arctic National Wildlife Refuge	49-51
S. Amdt. 3107 to S. 1637	Overtime Pay Regulations	52-47
S. 5	Class Action Fairness Act	72-26

Figure 3: Example of Question Format



Above is an example of one of the thirty-three proposals presented to respondents. Each respondent was shown fifteen of these thirty-three, randomly selected.

differing effects of these two variables depending on respondents' level of sophistication. To investigate this question, I construct a measure of political sophistication by asking each respondent nine questions about general political matters such as whether taxes have gone down or up since the year 2000, who controls the two branches of Congress, and who pays the majority of funds used to run public schools—the federal government or state and local governments. These questions are designed to measure people's understanding of and attention to the political landscape.

Basic demographic and background questions were also asked of respondents. These include vote in the 2004 presidential election and party identification, which was measured, following the National Election Studies, by the question: "Generally speaking, do you think of yourself as a [Democrat, Republican or Independent]" with a follow up question about strength of identification for partisans or direction of leaning (if any) for independents. For the purposes of this study, leaners were treated as partisans. Therefore, independents are those respondents who indicate that they do not think of themselves as a member of either party or as an independent leaning toward one party or the other.[6]

3.2 Ideal Point and Political Sophistication Estimation

In order to obtain estimates of the ideology of respondents regarding federal policy, I employ the technique of ideal point estimation. Under this framework, actors (in this case, citizens, senators, and the President) are each assumed to have some underlying level of a policy ideology. Their answers to questions or their decisions on roll call votes are generated stochastically from these underlying levels of ideology based on the character of the bill or question under consideration. We do not observe the actors' ideal points or the bill or question parameters, but only see the decisions made, which

[6]Alternate versions of the statistical model presented in this paper were run treating each of the seven party ID categories separately. The substantive results of these models were identical to the three-category model presented below. Therefore, I present the results of the more parsimonious model.

are analyzed in order to learn about these underlying quantities.

The foundation of ideal point estimation is a spatial model of voting in which, when faced with a decision, people tend to pick the alternative that is closest to their most preferred outcome. Voters each have an ideal point describing their most preferred policy outcome and a utility function that describes how much value they get from an alternative as a function of its distance from their ideal point. In general, this process is assumed to be subject to some error. The most common way this error is introduced is for people's utility from each alternative to be altered by some random mean zero error, where the random error is independently drawn for each vote by each person. People then make their choice by voting for the alternative they derive the most utility from.

Ideal point estimation techniques vary in two main respects. The first is the shape of respondents' utility functions. While it is generally assumed that respondents receive the most utility from the enactment of policy located at their own ideal point, the exact shape of these utility functions can vary. Some common choices are quadratic (Heckman and Snyder 1997 and Clinton, Jackman and Rivers 2004a) and normal (Poole and Rosenthal 1997). Second, researchers have chosen error distributions that correspond to the normal, type 1 extreme value and uniform distributions. The consequences of these two decisions, however, are generally minor (see Clinton, Jackman and Rivers 2004a for a direct comparison of these three measures applied to the same data). I follow Clinton, Jackman and Rivers in assuming quadratic utility functions for all actors and errors that follow the normal distribution, yielding a probit link model.

Formally, the ideal point model is fit to a dataset of $i = 1, ..., N$ actors (I use this generic term since it will later be used to refer to senators, survey respondents and the President) with ideal points x_i voting on $j = 1, ..., M$ questions or roll calls, each of which has a 'Yea' alternative located at the point ζ_j and a 'Nay' alternative

located at ψ_j. The actors have quadratic utility functions subject to errors η_{ij} and ν_{ij}, which are drawn from the normal distribution so that $U_i(\zeta_j) = -(x_i - \zeta_j)^2 + \eta_{ij}$ and $U_i(\psi_j) = -(x_i - \psi_j)^2 + \nu_{ij}$.[7] Legislator i votes 'Yea' if $U_i(\zeta_j) > U_i(\psi_j)$ and 'Nay' otherwise. With some manipulations, it can be shown that this yields a probit model setup in which the probability of a 'Yea' vote by legislator i on proposal j is $P(y_{ij} = 1|\gamma, \alpha, x) = \Phi(\gamma_j x_i - \alpha_j)$ where $\gamma_j = 2(\zeta_j - \psi_j)$ and $\alpha_j = \zeta_j^2 - \psi_j^2$.

The roll call voting dataset used here consists of two different partitions. First, we have the roll call voting records of all senators from January 1, 2004 through February 16, 2006 as well as President Bush's stated positions for all measures on which he publicly took a stand.[8] Second, we have survey respondents' stated positions on thirty-three significant roll calls during this time period. The key advantage of this survey design is that the questions were written so as to simulate as closely as possible the process of roll call voting on these same bills and amendments. Respondents were given a concise, but accurate description of a proposal and then asked how they would vote on it—for or against. Therefore, we can assume that the positions of the two alternatives that respondents are choosing between are identical to ζ_j and ψ_j—the 'Yea' and 'Nay' positions on the Senate roll call vote that corresponds with the survey question. It immediately follows, then, that the bill parameters γ_j and α_j in the ideal point model are the same for a respondent answering a question as for a senator voting on the corresponding proposal. By imposing these restrictions in the estimation procedure, we are able to estimate ideal points for survey respondents and senators on the same scale, thus bridging the comparability gap that has, up until

[7]For the purpose of identification, the dispersion parameter on these distributions is fixed such that the difference between the two errors—η_{ij} and ν_{ij}—has variance one across all i and j.

[8]The President's position was coded from Congressional Quarterly's online database of Senate votes (http://cq.com). The President is coded as voting "yea" if he took a public position supporting a given measure, "nay" if he publicly opposed a measure. His position is coded as a missing value for the majority of votes on which he took no public position. In total, 607 Senate votes were used. The President took a public position on 85 of these votes. The CQ codings were taken from Keith Poole's congressional voting datasets for the year 2004. These data were hand coded from the CQ database for 2005-2006.

this point, hindered direct inference in this area.

In addition to measuring policy ideology, I also an item response model to estimate respondents' political sophistication. Our task is similar here to measuring policy ideology. To begin, I assume that political sophistication is a latent trait with different values held by each person. An individual i with higher levels of political sophistication, which is represented by the variable δ_i, will be more likely to give correct responses to our questions about the political and policy system. Each question is assumed to give us information about respondents' levels of sophistication, but they may differ in the quality and character of information they provide. Some questions may be more challenging, with higher difficulty parameters, providing a stronger signal of sophistication for those who answer them correctly, while some may be easier. Others may be more noisy, having some high sophistication individuals giving incorrect answers while some lower sophistication respondents may get it right. These questions will have discrimination parameters closer to zero. As it happens, this setup yields a latent traits model for political sophistication that is of the same form as the ideal point model used to measure policy ideology. The model is well suited to this task since an equivalent specification is commonly used in educational testing. In that setup, what political scientists call the "bill parameters" are used to measure the difficulty and the discrimination of a given question.

We now have the basic tools to measure the quantities of inference for our study—the policy views of citizens and the policy positions taken by senators and the president (all of which are directly comparable on the same scale) as well as the political sophistication level of each respondent. We also have survey measures of respondents' party identification and of their vote choice in the 2004 presidential election. I now move on to the task of building a multi-level model of citizen vote choice in order to investigate whether voters are able to approximate the ideal of unbiased spatial policy voting and whether or not having an identification with one of the two major

parties assists or hinders that ability.

3.3 A Multi-Level Model of Policy and Party Voting

The end objective of this paper is to test hypotheses about the influence of party identification, policy ideology, and political sophistication on presidential vote choice. Therefore, I construct a Bayesian multi-level model that estimates the effects of these variables on respondents' vote in the 2004 presidential election. For simplicity, I analyze only the two party vote, coding respondent votes v_i as 1 if they voted for George W. Bush and 0 if they voted for John Kerry. Votes for other candidates or abstention are coded as missing values. The hierarchical model I propose for presidential vote choice has four levels: ideal point estimation for Senators and President, ideal point estimation for survey respondents, political sophistication estimation for the respondents, and finally the estimation of a probit regression equation predicting respondents' presidential vote choice. All of these levels are estimated simultaneously in a single Bayesian hierarchical model.

The main reason for combining all parts of the model into one simultaneous estimation procedure is to allow uncertainty about various parameter values to propagate appropriately throughout the different levels of the model. As an illustration, consider a hypothetical example in which we first estimate respondent ideal points through some technique, then run a simple probit regression using the ideal point estimates as independent variables to predict vote choice, treating them as fixed data and ignoring the fact that they have been estimated with some degree of error. While the ideal point estimates will generally give a good sense of who is more liberal and who is more conservative, there is likely to be considerable error in the ideal point estimate of any particular individual. This error has consequences for the second step probit model we would run such as introducing attenuation bias in which the coefficients involving the ideal points are biased toward zero. The same would be true if we simply

took estimates of political sophistication and treated them as fixed in a second stage regression. By combining the various components into one simultaneously estimated model, we avoid such issues.

The first stage of the model is the estimation of the ideal points of the senators, including President Bush in his public "voting" on Senate proposals. This section of the model uses the voting records of all senators and the President on all roll calls from January 2004-February 2006. As discussed above, this *Senator Roll Call Equation* fits a probit link ideal point model where, for each senator s on each roll call j

$$P(SenRollCall_{s,j} = \text{"}Yea\text{"}) \quad = \quad \Phi(\gamma_j SenIdeal_s - \alpha_j).$$

Because we have respondent opinions on actual proposals that have been voted on in the Senate, I employ the same ideal point model to estimate respondents' ideal points in the same policy space as senators. To do this, I simply restrict the parameters for a given policy question to be identical to the bill parameters for the corresponding roll call taken by senators. This is equivalent to assuming that each respondent is actually a "guest" senator, stopping in to vote on fifteen roll calls randomly selected from the set of thirty-three roll calls chosen for the survey. The *Respondent Roll Call Equation*, then, for the ideal points of survey respondents, indexed by i, is

$$P(RespRollCall_{i,j} = \text{"}Yea\text{"}) \quad = \quad \Phi(\gamma_j RespIdeal_i - \alpha_j).$$

In the next stage of the model, I apply an item response framework, as used in psychology and educational testing, to estimate respondents' political sophistication based on their responses to questions about politics and the political system. The form of this model is equivalent to that of our ideal point model, but instead of mea-

suring people's positions on a liberal-conservative policy ideology, we are measuring their level of political awareness and sophistication. For each respondent i and each question k from the survey's political sophistication battery, we have the *Political Sophistication Equation*:

$$P(q_{i,k} = 1) \quad = \quad \Phi(\theta_k PolSoph_i - \omega_k),$$

where $q_{i,k} = 1$ if respondent i gives a correct answer to question k, and equals zero otherwise. θ_k and ω_k are parameters estimating the difficulty and discrimination of question k at tapping political sophistication.[9]

The final level of the model is a probit regression predicting respondents' 2004 presidential vote using their policy ideology, political sophistication, and an interaction between the two.[10] The coefficient estimates from this level of the model will allow us to make inferences about the effects of party identification, policy ideology and political sophistication on vote choice. Formally, for respondent i, the probability of casting a vote for George W. Bush is given below in the *Presidential Vote Equation*:

$$\begin{aligned} P(v_i = \text{"}Bush\text{"}) \quad &= \quad \Phi(\beta_{0,pty(i)} + \beta_{1,pty(i)} RespIdeal_i \\ &\quad + \beta_{2,pty(i)} PolSoph_i + \beta_{3,pty(i)} RespIdeal_i * PolSoph_i), \end{aligned}$$

Where $pty(i)$ gives the party affiliation of respondent i. This amounts to fitting

[9] Following Luskin and Bullock (2006), I treat "Don't know" answers to political sophistication questions as incorrect, rather than leaving them as missing data to be imputed from the model.

[10] Although it is easiest to think of this as the "last" stage of the model since it utilizes parameters estimated in other stages, there is really no ordering over the different levels of the model. The joint posterior distribution over all the model's parameters is estimated and used for inference. Therefore, no level is actually privileged over the others and information about each stage's parameters informs all the other model's levels appropriately. This stage of the model, however, involves the main quantities of interest—the coefficients on policy ideology and political sophistication and their variation by party identification.

separate probit regressions for Democratic, Republican, and independent respondents.

As it is shown, the model is not identified. Shifts, stretches or reflections in either the ideal point scale or the political sophistication scale can be compensated for by changes in the bill or question parameters and the regression coefficients, yielding identical likelihoods for the data. This is a general issue with latent traits models, and is not problematic—it is equivalent to simply having to choose a measurement scale before taking a temperature. Without stating whether the measure is in Celsuis, Farenheit or Kelvin, the quantity's value is meanlingless. Therefore, at least two points on the scale must be fixed in order to give the scale meaning. In the case of the Celsuis temperature scale, for example, we know that the freezing and boiling points of water are zero and one hundred degrees respectively. This gives us an objective scale with which to work.. In our case, I estimate the model in this unidentified state and then post-process the results to anchor these scales appropriately. Specifically, I impose the restriction that the average policy ideology score for respondents and the average political sophistication score for respondents are both zero. Furthermore, I restrict the variance of respondent policy ideology and political sophistication to one. Finally, I orient the direction of the scales such that larger ideal point values represent more conservative policy views and, as would be expected, higher levels of $PolSoph$ represent more sophisticated respondents. In addition to identifying the model, these restrictions make interpretations of the models results much more straightforward. In order to get fitted predictions for respondents with average levels of political sophistication or policy ideology, simply fix these values to zero. Furthermore, moving one sample standard deviaion on either of these scales is simply equal to moving one unit on the variables.

Another implicit identifying restriction in the model is that the random utility shocks η_{ij} and ν_{ij} have identical distributions for survey respondents and for senators and the president (they are idendependently normally distributed with variance fixed

at one half across all actors and all proposals). This implies that for a senator and a survey respondent with exactly the same ideal point, both will have the same probability of voting for the alternative farthest from them, making a mistake. It could certainly be argued, since senators are essentially professional position takers, while ordinary citizens are seldom asked to take positions on legislative proposals, that citizens may be expected to be less certain in these situations and may be more likely to make such errors. But while it may seem overly restrictive to assume equal variances, it is comforting to note that this assumption has no impact on the model's overall substantive conclusions. I have run alternate heteroskedastic specifications of the model in which senators' errors have fixed, identical variances and respondent error variances are parameterized by their level of political sophistication. Formally, in these models, the variance of the distribution from which a respondent's error is drawn is equal to an intercept term plus a some coefficient multiplied by the respondent's political sophistication level, with both the intercept and coefficient to be estimated. Under this setup, it is shown that, as one would suspect, citizens with higher levels of political sophistication display utility errors that are smaller (although only slightly smaller) in magnitude than lower sophistication respondents. On the whole, though, the much larger difference is that respondents at all levels of sophistication are shown to make much larger errors on average than do senators. The model's other predictions, however, including the parameter estimates for the *Presidential Vote Equation*, remain virtually unchanged by these relaxed assumptions. Since the substantive results of both models are identical, I present the simpler, homoskedastic model below.

In Bayesian (as opposed to frequentist) statistics, inference is made by looking at the posterior distribution over the parameter space of a given model. This distribution represents the updated version of our beliefs in light of the data we have seen given our prior expectations. Formally, for a set of parameters Θ, Bayesian statistics takes prior beliefs $P(\Theta)$ and likelihood function $P(X|\Theta)$ for the data over possible

parameter values and produces new beliefs $P(\Theta|X)$, by updating the prior beliefs based upon the observed data and their likelihood under the assumed model over all possible parameter values. Since I employ vague, uninformative priors, the posterior will generally be dictated by the data, being roughly proportional to the likelihood function.[11] Other Bayesian analyses may employ informative priors that reflect researchers' expectations going in. These expectations may be based on previous data or some sort of reasoning about the likely value of various parameters in the model. Here, though, I wish to let the data speak for themselves and therefore make the prior distributions essentially uninformative. I estimate the model using a Gibbs sampler employed in the freely available program OpenBUGS.[12] This estimation method simulates draws from the posterior distribution over all of the model's parameters by iteratively sampling from the conditional posterior distributions of each parameter given the current simulated values of all other parameters (see Casella and George 1992 or, for an accessible social science introduction to Bayesian analysis including Gibbs sampling, see Jackman 2004). The result is a series of simulated draws from the posterior distribution over the model's parameters. These simulated draws are then used to obtain estimates about the value of different variables and to conduct hypothesis tests and make other inferences.

4 Results

The main focus of this study centers around the estimated coefficients from the *Presidential Vote Equation* embedded within the larger multi-level model. In this stage of the model, probit regressions are fit predicting vote choice in the 2004 presidential election, with a separate set of coefficients for each category of party identification—Democratic, Republican and independent. The estimated coefficients give us infor-

[11] I use normal priors with mean zero and variance twenty on all the model's parameters.

[12] Andrew Thomas, Bob O Hara, Uwe Ligges, and Sibylle Sturtz. Making BUGS Open. R News 6: 12-17. http://mathstat.helsinki.fi/openbugs/

mation about how voters use their party identification, policy views and political sophistication to make choices in presidential elections. Is party identification a biasing "perceptual screen" or a tool used by voters to make rational and essentially unbiased use of information they receive? Furthermore, how does political sophistication mediate the effects of party identification and of policy views on the vote? In this section, I focus on the estimates and predictions of the hierarchical Bayesian regression model in order to investigate these and other questions.

4.1 Multi-Level Model Estimates

Table 2 presents the three sets of coefficients estimated in the *Presidential Vote equation* of the model. Because each coefficient is indexed by the respondent's party identification, we can think of this as three separate probit regressions—one for Democrats, one for Republicans and one for independents. As mentioned above, the model has been identified by fixing both respondent ideal points and political sophistication levels to have mean zero and variance one, with higher ideal point values representing more conservative policy views. At first glance, the main effects of party identification, at least for those near the mean levels of political sophistication and policy views, are clear. Such respondents will have drastically different probabilities of voting for Bush, as reflected in the differences between the three estimated intercepts. This is the first piece of evidence that party identification has a substantively strong and statistically significant main effect on voting behavior.

The coefficients on respondent ideal point are all positive and significantly different from zero for each party ID grouping. This implies that policy views do matter. Those who tend to hold more liberal policy positions are more likely to vote for Kerry and those whose policy positions are more conservative are more likely to support Bush, regardless of their party identification. Also, we see that the coefficient on $RespIdeal$ for independents is significantly larger than those for Democrats and Republicans.

Table 2: *Presidential Vote Equation* Parameter Estimates

	Democrats	Independents	Republicans
Intercept	-1.91	-.95	1.74
	(-2.27,-1.52)	(-2.65, .052)	(1.34, 2.16)
$RespIdeal$	3.44	13.17	3.91
	(2.47, 4.71)	(3.76,36.06)	(2.72, 5.67)
$PolSoph$	-.38	-1.06	-.49
	(-.66, -.10)	(-3.06, -.17)	(-.92, -.08)
$RespIdeal * PolSoph$	1.33	2.86	.28
	(.57, 2.13)	(-2.24 14.00)	(-.70,1.16)

Coefficient estimates with ninety-five percent credible intervals (highest posterior density regions) underneath in parentheses.

In fact, the main effect of policy ideology is predicted to be largest for independents with probability well over ninety-five percent. This indicates that, controlling for level of political sophistication, independents seem to be more influenced by policy views than are partisans.[13]

We also see that all of the estimated coefficients on the interaction between policy ideal point and political sophistication are positive. The estimates for Republicans and Independents, however, are not significantly different from zero.[14] While the results are not conclusive, this suggests that, among all voters, sophistication results in a stronger reliance on policy views in presidential voting.

Direct interpretations of these coefficients can be challenging, though, both because these are probit regressions and because the latent scale of the policy ideal point and political sophistication variables is arbitrary. Rescaling the latent variables can change the coefficients dramatically, sometimes even resulting in changes of sign. This can occur for the intercept, ideal point, and political sophistication variables by

[13]It is important to note that the effects of variables in a probit regression are interactive, depending on the values of other variables. In this case, the magnitude of the effect of policy views is largest for independent voters over virtually all values of other variables, as can be seen later in Figures 4 and 5.

[14]The posterior probabilities that the coefficients on $RespIdeal * PolSoph$ in the *Presidential Vote Equation* are positive are $> .99$ for Democrats, .93 for Independents and .71 for Republicans.

simply shifting (not flipping the signs of) the latent variables.[15] Therefore, inspection of predicted probabilities for various parameter levels is a much more straightforward way to understand the model's implications. These overall relationships are invariant to changes in scale and provide a more direct way of analyzing the model's predictions.

Figure 4 shows the predicted probabilities from the model for people with high, medium and low levels of political sophistication.[16] The most obvious feature of these plots is the convergence of the behavior of partisans as political sophistication increases. Although significant gaps remain between the response probabilities of Republicans, Democrats and Independents of similar policy views even at the highest levels of political sophistication, we clearly see that the large effect of party identification for low sophistication respondents is dampened as citizens become more aware and informed of the political environment. As implied by the coefficients in Table 2, we see that the convergence of partisans takes place by two different causes. While the Republican coefficient on $RespIdeal * Polsoph$ is substantively small and not significant, these respondents still converge in their voting behavior toward independents

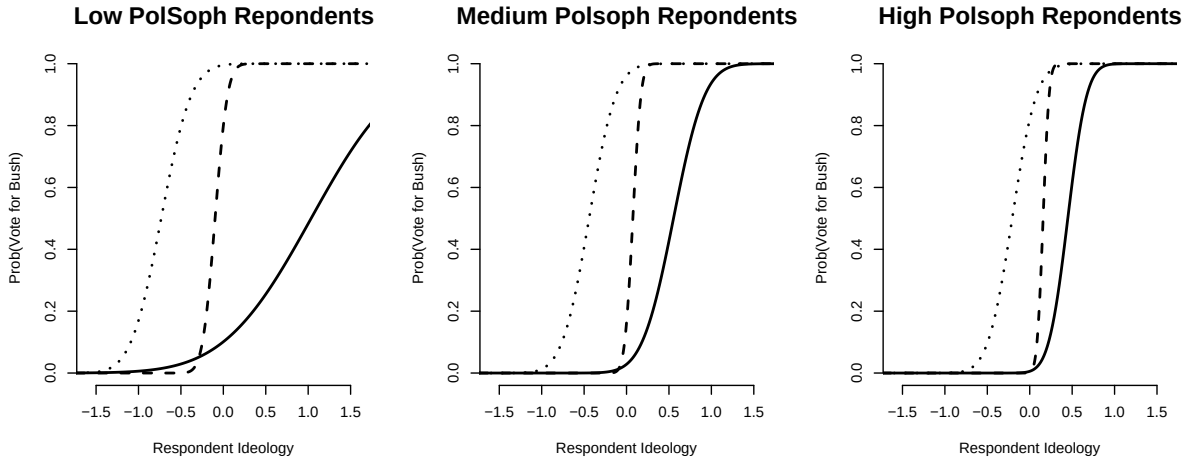
[15]To see this, consider a latent scale for policy ideology and political sophistication with corresponding coefficients estimated for the above regression model. Each of the two latent scales has already been identified by two linearly independent restrictions, such as fixing the ideal points of two different legislators to predetermined constants. (See Rivers, 2003 for a derivation of the requirements for identification in ideal point models in one or more dimensions).

Ignoring the separation by party identification for this example, we have the model: $P(v_i = \text{"}Bush\text{"}) = b_0 + b_1 RespIdeal_i + b_2 PolSoph_i + b_3 RespIdeal_i * Polsoph_i$. Now, if we transform the scale for the two latent variables such that $RespIdeal_i^{'} = \frac{RespIdeal_i - ideal.subtract}{ideal.divide}$ and $PolSoph_i^{'} = \frac{PolSoph_i - polsoph.subtract}{polsoph.divide}$. We then obtain the reparameterized regression coefficients—$\beta_0, \beta_1, \beta_2$ and β_3—for the model on the new ideal point and political sophistication scales as follows: $\beta_0 = b_0 + b_2 ideal.subtract + b_3 polsoph.subtract + b_4 ideal.subtract * polsoph.subtract$; $\beta_1 = b_1 ideal.divide + b_3 ideal.divide * polsoph.subtract$; $\beta_2 = b_2 polsoph.divide + b_3 ideal.subtract * polsoph.divide$; and $\beta_3 = b_3 ideal.divide * polsoph.divide$.

Clearly, by varying the values of the rescaling constants, even keeping the direction of the latent scale the same by restricting the *ideal.divide* and *polsoph.divide* to be positive, we can flip the signs of some of the coefficients. This makes direct interpretation of the signs and significances of the regression coefficients in Table 2 more complicated. Altering the identifying restrictions of the model's parameters, however, will have no effect on the model's predicted probabilities (or the significance of differences between them for different types of individuals). Therefore, in interpreting the model's results I focus most of my attention on graphical depictions of the model's predictions and of the effects of changes in different variables.

[16]The low, medium and high levels are defined as the .05, .5 and .95 quantiles of the sample distribution of political sophistication as predicted by the model.

Figure 4: Differences in Party ID Effects by Level of Political Sophistication

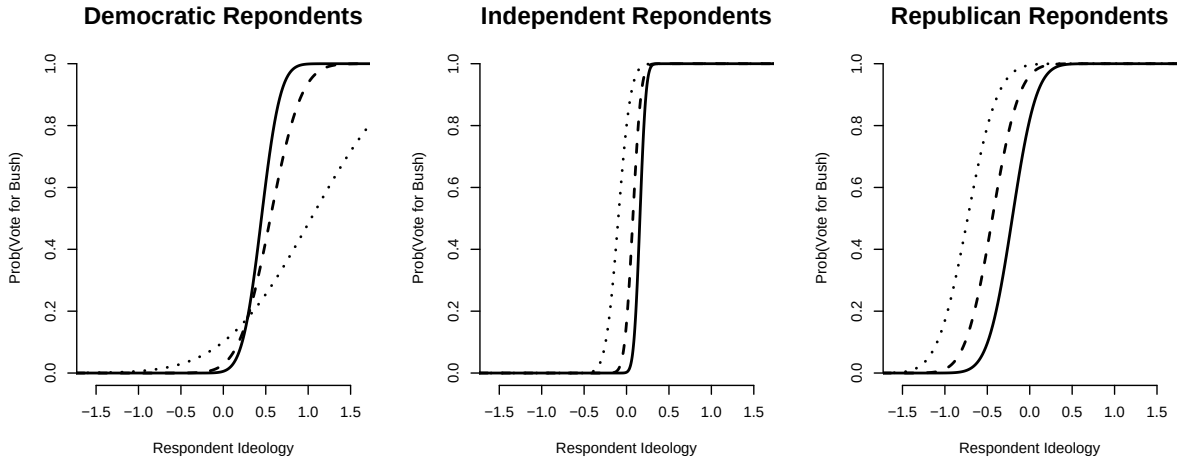


Solid lines represent predicted probabilities for Democratic respondents, dashed lines represent those for independent respondents and dotted lines represent probabilities for Republican respondents. Low , medium and high political sophistication respondents are defined at those at the .05 .5 and .95 quantiles of the sample distribution of political sophistication respectively.

and Democrats as their political sophistication increases. Thus, while the use of policy in their voting does not seem to vary significantly by political sophistication level, Republicans' reliance on the cue of party seems to decrease. This is suggested by the negative main effect of political sophistication and can be seen most clearly in Figure 5. As Republicans increase in political sophistication, they decrease their probability of voting for Bush, holding constant policy views. This is effectively dampening the impact of identification with the Republican party and bringing them closer to the behavior of independents and Democrats.

As Democratic respondents increase in political sophistication, they discriminate more precisely along policy views. By increasing the importance of policy on their vote, the impact of partisan identification is diluted. The left panel of Figure 5 shows this process. As political sophistication increases, the predicted probability curve becomes steeper. This is the result of respondents relying more and drawing distinctions more sharply on the basis of policy views. The impact of political sophistication on independents is less pronounced. While higher sophistication individuals do rely more

Figure 5: Political Sophistication Effects by Party and Political Sophistication Level



Solid (dashed, dotted) lines represent high (medium, low) political sophistication respondents, fixed at the .95 (.5, .05) quantiles of political sophistication estimated from within the sample.

heavily on policy views in their voting, as indicated by the positive and significant coefficient on the interaction in Table 2, the differences are small in comparison with those among Democrats.

There are several possible explanations for this difference between Democratic and Republican identifying respondents. First, the specific nature of the candidates' appeals could be the main cause for sophistication's differing effects on how policy views are used. It could also be the case that the incumbent party is better at getting its message out to its identifiers and, therefore, sophistication makes less of a difference. In any case, it is impossible to test these hypotheses with data from only one time slice. Overall, these differences are minor and only suggestive. There is still a very high probabiltiy that higher sophistication causes Democrats, independents and Republicans to all rely more heavily on their policy views in making vote decisions. The evidence for independents, and more so for Republicans, however, is somewhat less certain.

What does all of this mean for the character of party identification and its impact on electoral behavior? At the least, these results show that party identification has a

profound effect on respondents' voting behavior. The model predicts large and significant differences in voting behavior for respondents of different party identifications, even when they hold the same policy views and have the same level of political sophistication. Furthermore, while political sophistication helps narrow these partisan differences, it has its limits. These differences are still significant even at the highest levels of political sophistication. We also see that, although they have lower levels of political sophistication on average, independents actually rely *more* on policy views in their voting behavior than partisans do when we hold sophistication constant.

These results should give pause to advocates of the "nonattitudes" or "random response" schools of thought. If respondents have no real attitudes or if their survey responses are essentially meaningless and randomly generated, it becomes difficult to explain the strong and powerful relationship found between respondents' stated policy views and their vote decisions. Such findings imply that citizens are in fact capable of making voting political decisions based on actual views and positions. Furthermore, the finding that independents actually discriminate more highly than partisans on policy views suggests that citizens are perfectly capable of orienting themselves relative to the political landscape without holding emotional attachments to one of the two parties. The question now becomes whether independents and partisan, who appear to be relying heavily on their policy views in making voting decisions, are doing so in a prudent manner. In the following section, I move from discussing the differences in the effects of policy, partisanship and sophistication for partisans and independents and look at how sensible the decision rules used by respondents in these three categories seem to be relative to a baseline of spatial policy voting.

4.2 "Voting Correctly": A Direct Test

Now that it has been demonstrated that party attachments produce wide divergence in the behavior of voters holding identical policy views, I move on to asking whether

party identification serves more as a tool or a bias for voters. Who, if anyone, is voting according to the prescriptions of spatial policy voting? Some scholars have argued that voters with little political information or other basis for making their voting decisions can use party and other cues in order to attain some level of "low information rationality" (Popkin 1991). Under this framework, voters seize on campaign events, party labels and virtually anything else they can get their hands on in order to make better guesses about which candidates will best represent them. It is argued that since most voters posses extremely low levels of information about candidates, they do better by relying on rough party cues than they would otherwise.

Other scholars have attempted to measure how often voters choose correctly. Lau and Redlausk (1997) conduct an experiment in which volunteers are asked to vote in a hypothetical race after reviewing campaign materials about each of the candidates. Then, the correctness of their voting is evaluated by instructing the same respondents to review the candidate materials again and then asking them whether they still would vote as they did. The conclusion is then drawn that about three quarters of the pool voted "correctly" in this exercise. Bartels (1996) asks a somewhat different question, exploring the effects of information on vote choice and simulating election results from hypothetical "fully informed" electorate. He concludes that individuals' lack of information causes them to deviate from fully informed voting by about ten percent on average. He also points out that, since these deviations are not independent, results such as the Condorcet Jury Theorem do not hold, and in the aggregate, electoral deviations from the full information ideal are around five percent.

I take a more direct approach in assessing the "correctness" of people's votes. I use as my baseline a Downsian model of spatial policy voting. Under this model, as in the voting models proposed above, people vote for the candidate that provides them with the most utility. The utility an individual gets from voting for a candidates is based on the candidate's proximity to the voter, with voters generally preferring to choose

the candidate whose positions are closest to the voter's own policy views, subject to some random error. As discussed above, I define unbiased voting as satisfying two conditions: (1) the more conservative a respondent's policy views are, the more likely he will be to vote for the more conservative candidate in the election and (2) respondents whose policy views fall at the midpoint between the two candidates' positions are indifferent between the two candidates, having a fifty percent chance of voting for each one.

For the two candidates located at positions θ and ψ, the true cutpoint between them is equal to $\frac{\theta+\psi}{2}$. In an ideal world, 2004 presidential voters of all types would vote for Bush if they were located to the right of this mark and would vote for Kerry if they were to the left. Clearly, this model of perfect policy voting is far from realistic. If, however, voters simply are more likely than not to vote for Bush when they're to the right of the cutpoint and more likely to vote for Kerry when they're to the left, then they can be said to use the information they have in an unbiased (if not completely efficient) manner. Any one person may make a mistake, but on the whole, voters closest to Bush tend to vote for him and voters nearest to Kerry will usually go his way. Deviations from this setup, however, reveal a biased decision making process in which people are either not rationally using the information they have or are being exposed to information that tends to favor one candidate over the other. In other words, I take as my null hypothesis that voters of each party identification and all levels of political sophistication are behaving in accordance with this definition of unbiased voting. I use the estimates of the statistical model presented above in order to test this hypothesis. The large and significant divergences already observed beween the decisionmaking behavior of Democrats, independents and Republicans that was seen in the previous section suggest that unbiased voting is likely to hold for at most one party identification group. The main question is whether citizens of any class are behaving as unbiased spatial voters.

We have already observed that the first part of the definition of unbised voting is satisfied (at least on average) for all types of voters. Comfortingly, voters holding more conservative views tend to be much more likely than liberal voters to vote for Bush. The second part of this definition involves the point at which voters are indifferent between the two candidates. Previous studies have had difficulty answering such questions because measures of citizens' policy views cannot generally be compared on the same scale with the positions of the candidates in elections. The unique survey design and ideal point estimation presented above, however, overcome this obstacle and allow for the joint scaling of survey respondents, senators and the President. This model simultaneously estimates the positions of senators (including Kerry) and the President along with the policy views of survey respondents and the decision rules they use to translate their views into vote decisions.

From the *Presidential Vote Equation* of the model, we can solve for the *implied indifference point* between Bush and Kerry for a voter with given values of party identification and political sophistication. Recall that this stage of the model estimates the probability of voting for Bush for citizens of various party identifications, policy views and levels of political sophistication. Therefore, we can use these equations to solve for the point at which a given voter type would be predicted to be indifferent between the two candidates. At this ideal point value, a person with the specified party identification and level of political sophistication will be predicted to have a fifty percent chance of voting for Bush and a fifty percent chance of voting for Kerry. We can also easily obtain precision estimates such as ninety-five percent credible intervals for this quantity.[17] By calculating how this *implied indifference point* varies by

[17]Because all inference and hypothesis testing in a Bayesian setting is made directly from the posterior distribution over a model's parameters rather than from asymptotic approximations, it is very straightforward to test even complex hypotheses involving parameters from different levels of the same model. Furthermore, since I use a Gibbs sampler to integrate over the posterior by simulation, most hypothesis tests simply involve taking the proportion of iterations for which the hypothesis is true. As an example, to obtain the probability that the *implied indifference point* for high sophistication Democrats is greater than the actual midpoint between Bush and Kerry's positions, we simply take the proportion of iterations for which the estimated indifference point is

party identification and political sophistication, we obtain a test for the "correctness" of people's voting behavior in accordance with the proposed definition of unbiased voting.

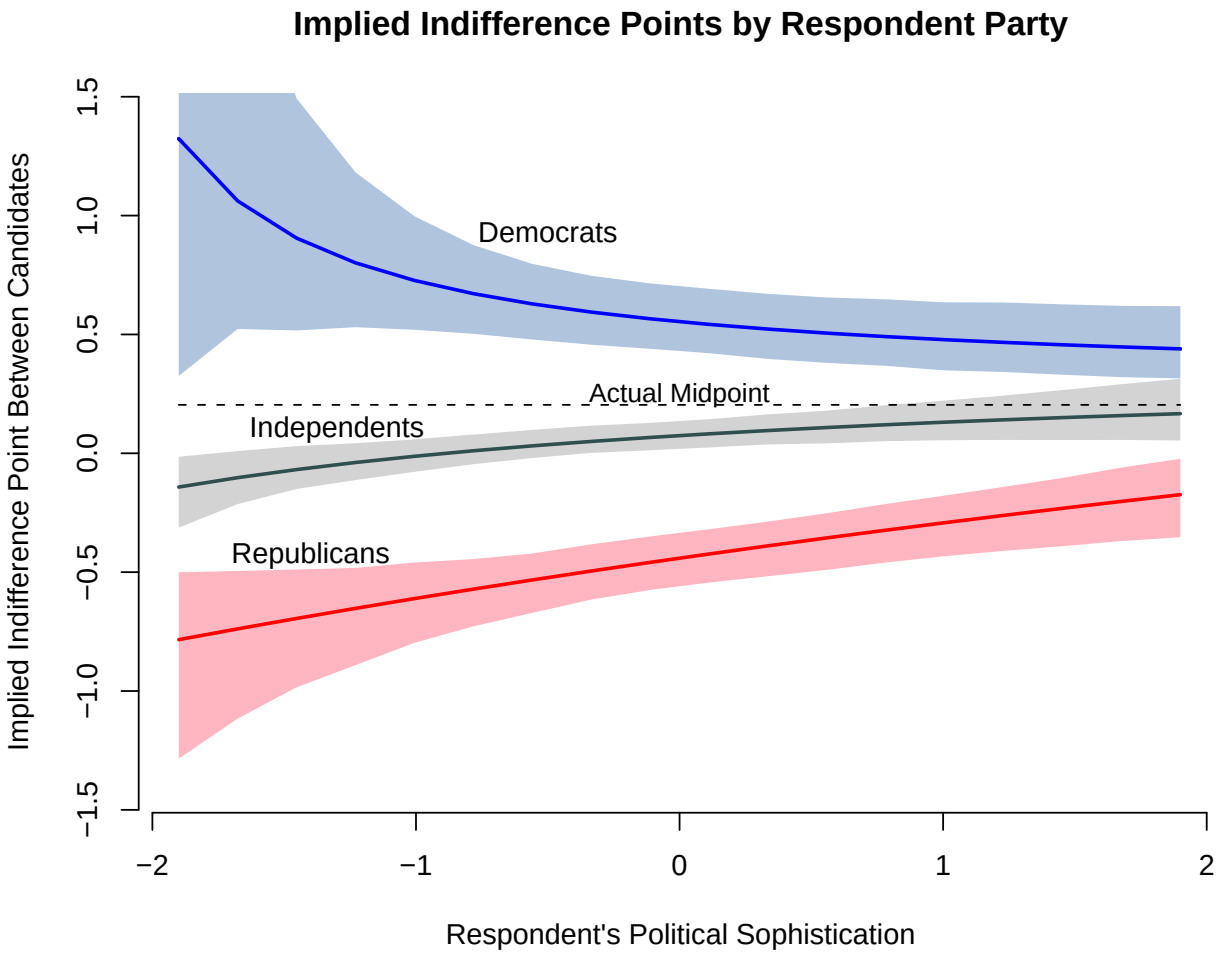
Figure 6 plots the *implied indifference point* along with a ninety-five percent credible interval for respondents of each category of party identification, varying by political sophistication level. As we saw before in the predicted probability plots, the divergence between Democrats and Republicans, even those at similar political sophistication levels, is stark. Again, independents' behavior falls somewhere in between with partisans converging in behavior toward independents as their political sophistication increases. Even at the highest sophistication levels, however, the differences in the *implied indifference points* of Democrats, independents and Republicans show large and highly significant differences. We can say with virtual certainty across all levels of political sophistication that the *implied indifference points* for Democrats are greater than those for independents and that those for independents are greater than those for Republicans.

The question now becomes what would be the correct indifference point used under unbiased spatial voting. In order to answer this question, we refer back to the *Senator Roll Call Equation* of the statistical model. Using Kerry's Senate votes and Bush's publicly stated positions on senate proposals, the model estimates the ideal points of both Bush and Kerry alongside our survey respondents' policy views.[18] To

less than the sum of the estimates for Bush and Kerry's ideal points divided by two. In this case, we obtain a probability of .98 (the corresponding quantity for high sophistication Republicans is $<$ .01).

[18]It should be noted that the President only takes public positions on legislation when he chooses to do so. These votes are clearly not chosen at random, and this process may tend to bias estimates of the Presidents position toward making him look more extreme. Missing votes will generally just make estimates of a legislator's ideal points less precise. If, however, these votes are missing for some systematic reason related to the nature of the proposals being voted on, then this can result in bias. A related example, noted by Clinton, Jackman and Rivers (2004b), is John Kerry's missing votes when he was campaigning for the presidential nomination and later the presidency in 2004. While on the campaign trail, he would often miss votes. When he would return, it was usually on a relatively close vote. On such close votes, he virtually always voted on the liberal side, which biased him toward looking like a very extreme liberal. Whether or not this is a problem for Bush's publicly stated positions, however, is unclear. Overall, it is doubtful that the effects of this process are very

Figure 6: Implied Indifference Points Used by Voters Under Spatial Policy Voting



Solid lines represent the implied indifference points for each party under the model of spatial policy voting. This value is calculated by determining, for a hypothetical respondent of a given party and level of political sophistication, the policy ideal point value that gives a prediction of equal probabilities of voting for Bush and Kerry under under coefficients estimated in the *Presidential Vote Equation* shown in Table 2. Shaded regions represent ninety-five percent credible intervals. The horizontal dotted line displays the midpoint (halfway point) between Bush and Kerry as estimated in the *Senator Roll Call Equation* of the model. This estimate is based on Bush and Kerry's voting behavior on Senate roll calls.

obtain an estimate of the true midpoint between Bush and Kerry's policy positions, we simply take the midpoint between the estimated ideal points of Bush and Kerry. Under unbiased voting, this would also be the indifference point for voters. From the senator ideal point stage of the hierarchical model, we obtain an estimate of the midpoint between Bush and Kerry's ideal point of .20 with a ninety-five percent credible interval of (.01, .41), which provides an estimate of the true cutpoint.

Looking back at Figure 6, we see that the model predicts the implied indifference point for highly sophisticated independents at .16, with a ninety-five percent credible interval of (.06, .29). This value is quite close to the .20 estimated for the midpoint between Bush and Kerry's positions, and suggests that independents, at least by this test, are acting largely in accordance with the predictions of spatial voting. The estimated *implied indifference point* values for Republicans and Democrats are considerably farther away from our estimate of the true midpoint between Bush and Kerry's ideal points. Furthermore, the implied cutpoints for lower sophistication partisans are wildly different. Across all levels of political sophistication, we can reject with high levels of significance the hypothesis that either the Democrat or Republican *implied indifference points* are at the actual midpoint between Bush and Kerry, and instead accept the alternative hypotheses that the indifference point for Democrats is well above the true midpoint between Bush and Kerry and that the indifference point for Republicans is well below this value. This implies that partisans are using heavily biased decision rules and not abiding by the prescriptions of spatial politcy voting.

As an illustration, note that even a high sophistication Democrat would have to have an ideal point of .45, which is more than twice as close to Bush as to Kerry, in order to be indifferent between the two candidates. High sophistication Republicans would have to have an ideal point of -.21, which is nearly four times closer to Kerry than to Bush, in order to have a fifty percent chance of voting for Kerry. By contrast,

severe, and we should suspect that our cutpoint estimate is a very reasonable one.

high sophistication independents seem, on average, to be using a very sensible decision rule between Bush and Kerry, essentially engaging in unbiased spatial policy voting.

5 Discussion

Why does it appear that independents are "doing better"? As partisans become more sophisticated, both Democrats and Republicans converge toward independents in their voting behavior. This provides powerful evidence that independent voters are able to make better decisions controlling for level of sophistication. Furthermore, the voting rules, most notably the *implied indifference points* between the two candidates, that independents employ appear to be much more sensible than those used by partisans of similar political sophistication. The thesis that this paper advances is problematic for advocates of the "rational" and "unbiased" use of party identification in voting decisions. If party identification is such a valuable tool, then these results beg the question of why people seem to do better without it.

This evidence strongly suggests that party identification is more of a biasing force than a useful heuristic. Some may argue that, while party identification could be a bias for higher sophistication respondents, it may be helpful for those with lower levels of sophistication who have virtually no information about the candidate stands. Again, however, we see from Figure 6 that independents, even those at the lowest levels of political sophistication, are using much more reasonable decision rules on average than partisans at similar sophistication levels to translate their policy views into vote choices. This implies that, while relying on the party labels of candidates may or may not be a helpful shortcut for voters, it is not the case that having a party label of one's own leads to better voting decisions.

These results are quite compatible with the findings of scholars who have looked at partisan biases in evaluations of candidates and officeholders. Poll after poll asking

how "trustworthy" or "knowledgeable" candidates are finds large differences between the responses of Democrats and Republicans. These attributes are not dependent on policy and, therefore, should be viewed relatively equally by both groups if they are processing information in an unbiased fashion. Furthermore, Bartels' findings that similar biases exist on factual questions about government and economic performance raise even deeper doubts about the ability of partisans to see things clearly.

Experimental results also support this paper's conclusions. Van Houweling and Sniderman (2006), for example, randomly assign candidate positions and party affiliations on a seven point scale. They find, among other things, that while respondents' choices depend heavily on the candidates' spatial locations, adding party labels systematically distorts choices, often causing respondents to select candidates who are clearly farther away from their own position. In another experiment, Kam (2005) demonstrates that cues about which party supports a given issue position can affect people's own views on the matter. This phenomenon is found to be especially powerful at lower levels of political awareness. This, however, is a different process from the one studied in here. While Kam studies opinion formation, I control for the resulting views. Allowing for the possibility that party cues also push people toward issue positions supported by the party they identify with would only strengthen my findings of party bias. Stated somewhat differently, I have found that, for two partisans with the same stated issue positions, party identification can cause very different probabilities for vote choice in presidential elections. If we also allow for the possibility that these two individuals have been pushed toward holding issue positions consistent with their party identification, the total implied party bias becomes even larger. There is the first stage bias in which partisans are pushed toward supporting policies consistent with their party affiliation, as well as the second stage bias which implies that partisans are using decision rules that depart dramatically from the prescriptions of Downsian policy voting.

The logical next step in investigating these observed partisan biases is to determine the effects of perceptual bias. Jessee and Rivers, for example, find that there are powerful relationships between one's own policy views and one's perceptions of the policy positions of senators. Specifically, there is a strong positive relationship between partisans' policy views and their perceptions of senators belinging to their own party. In fact, this relationship is such that, subject to random error, partisans tend to view senators of their own party as taking positions almost identical to their own policy views. Even a centrist Democrat, for example, will tend to see Ted Kennedy as taking positions very similar to his own. For senators of the opposite party, there is a strong negative relationship between partisans' views and their perceptions of opposition senators. The question now becomes how much of the observed bias in the voting behavior of partisans can be explained by such perceptual distortions and how much remains even after controlling for these things.

What this paper has demonstrated is that examples of large and significant partisan biases are not confined to simple survey experiments or to expressions of attitudes or knowledge about past events. Even in the noisy world of real politics, the biasing force of party identification is loud and clear. While policy preferences exert a strong effect on actual voting decisions, respondents holding identical views do not necessarily behave in the same way. In fact, the preponderance of evidence suggests that the voting decisions of partisans are severely and systematically bised by their party identification and that they could much make better decisions on average if they forgot about their own party identifications.

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