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ABSTRACT

Contrary to popular opinion, we find evidence that the views of residents of both higher and lower income neighborhoods are represented by their legislators. Analyzing the voting behavior of California state legislators on 77 proposals on which both the legislature and the public cast ballots, we find first that the opinions of higher and lower income voters within a district are highly correlated and thus it is impossible to represent the views of one group and not also represent the views of the other. And to the question of whether one income group is better represented than the other, our descriptive analysis suggests that the answer depends on representative party. Republican legislators vote more along the lines of the views of their constituents residing in high income neighborhoods. Democratic legislative voting is better predicted by the voters of lower income areas. These party/income group patterns hold within legislator, for taxation-the key issue that puts high and low income voters at odds, and for those votes for which there is more at stake for the elected official. The fact that lower income voters are more likely to be registered Democrats and higher income voters to be registered Republicans does not explain away our findings. However, the fact that lower income voters are more likely to espouse Democratic views (and similarly high income voters, Republican views) does. Democratic and Republican legislators represent voters at opposite ends of the income distribution because they represent voters at opposite ends of the ideology distribution.

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“You see, the rich are different from you and me: they have more influence. It’s partly a matter of campaign contributions, but it’s also a matter of social pressure, since politicians spend a lot of time hanging out with the wealthy. So when the rich face the prospect of paying an extra 3 or 4 percent of their income in taxes, politicians feel their pain — feel it much more acutely, it’s clear, than they feel the pain of families who are losing their jobs, their houses, and their hopes.”

--Paul Krugman (2010)

Do politicians better represent the interests of their higher income constituents? Perhaps because of the increasing costs of campaigns, or the greater participation of high income citizens in the political process or because politicians more often hail from the higher classes themselves, popular belief seems to be that the answer is yes. And in fact the idea that United States political institutions are less responsive to the needs of the poor has been postulated as a mechanism for the lower level of redistribution in the US compared to other developed countries. (See for example Alesina and Glaeser, 2004, and Persson and Tabellini, 2003). In this paper we present empirical evidence on whether less income means less representation.

Previous research suggests that the answer is yes, higher income means better representation. Druckman and Jacobs (2011) show that the positions that President Reagan espoused in his speeches on Social Security better match the views of high income than of low income Americans.

Bartels (2008) looks at United States senators’ representation of state residents of various income groups. He regresses the DW Nominate score, a summary measure of the liberal/conservative leaning of a United States senator’s voting record for a congressional session, on the mean liberal/conservative leaning of lower, middle and upper income National Election Study respondents in the senator’s state. He finds that liberal/conservative leanings of the highest income group have a significantly larger coefficient than that of the lowest income

group, suggesting that higher income state residents are better represented than lower income residents.

Bhatti and Erickson (2011) revisit Bartels' analysis to correct a weighting issue and to address sample size limitations. The authors increase the size of the sample they use to measure liberal/conservative leanings more than 15-fold moving from the NES to a combined two years of National Annenberg Election Survey data. While in most specifications the authors find that the liberalness of upper income voters enters with a larger coefficient than that of lower income voters, the difference in the coefficients is not statistically significant. The authors conclude there is little evidence that higher income constituents are better represented than lower income constituents.¹ One reason that Bhatti and Erickson (2010) fail to reject their null of no income difference may be their lack of vote variation. Because of the lack of data on public opinion by state and income on each senatorial vote cast, the variety of votes cast by a senator in a session is collapsed to a single liberal/conservative score. Although the authors focus on three congressional sessions they, like Bartels (2008), have no cross time variation in the independent variables. Thus the authors must rely on a single cross section of explanatory data.

We overcome this data limitation by turning to the state of California. Because of the state's extensive use of ballot initiatives we are able to identify 77 times over the years 1991-2008 during which state legislators and the public voted on the same proposal. We use these data to ask whether legislators better represent their higher income constituents than their lower income constituents and whether the answer varies by issue or vote importance.

¹ In addition to these three papers on whether higher or lower income voters are better represented by their individual representatives, there is a companion literature on whether higher or lower income voters have more policy success. See for example Gilens (2008), Rigby and Wright (2011), Ura and Ellis (2008) and Wlezien and Soroka (2011).

Individuals are represented by their legislators to the degree that those legislators behave (e.g., vote in congress) the way the individual would behave if that individual went to the legislature to represent him/herself. Therefore an individual may be well represented without having a causal impact on the voting behavior of the legislator. The legislator may vote as the constituent wishes because of a shared background or shared partisanship, for example. Thus, in order to understand whether lower or higher income voters are better represented, we examine correlations between the propensity of a district's lower and higher income residents to vote liberally on an issue and the propensity of the district's representative to do the same.

We find first that opinions across income groups are highly correlated so that even if a legislator aims to vote according to the views of higher income voters for the most part s/he will track the views of the lower income voters as well. We then regress a legislator's roll call vote on a particular issue on the average views of lower and higher income voters within the legislator's district on the same issue to examine which income group is better represented. The answer depends on legislator party. Following conventional wisdom, Republican voting behavior is significantly better explained by the views of residents of higher income areas. For Democratic legislators the pattern is reversed: their voting behavior better tracks the views of constituents from lower income parts of their district. For both parties the pattern holds for taxation, an issue that puts higher and lower income voters at odds. And for legislators of both parties we see the result is robust to times when, because of electoral pressures or the closeness of the vote, there is more at stake for the individual legislator. Finally, by comparing the votes of U.S. Senators to the survey responses of their higher and lower income constituents, we present limited evidence that our results are robust to moving away from the high income, high referenda use context of the state of California

Why do Republican legislators vote more like their higher income constituents and Democratic legislators more like constituents from lower income areas? We return to our richer California data to explore several possible mechanisms. We rule out greater alignment between legislators' personal opinions and the opinions of the wealthy (less wealthy) as our results are robust to legislator fixed effects. We further rule out constituent participation differences. In both Republican and Democratic districts political participation is increasing in income. We additionally rule out the greater propensity of high (low) income voters to belong to the Republican (Democratic) Party as an explanation; results are robust to controlling for the fraction of high and low income voters registered for the legislator's party. However, controlling for the level of support for the bill in the most partisan neighborhoods does eliminate the significant difference in the ability of the views of low and high income voters to predict Republican and Democratic legislative votes. Republican (Democratic) legislators vote like their high (low) income constituents not because those constituents are high (low) income or even because they are more likely to be Republicans (Democrats) but because those constituents share Republican (Democratic) views, our results suggest. We present our results in detail, after first presenting our data and methodology in the next session.

DATA/METHODOLOGY

Sample of Issues

In order to assess the relative degree to which the views of various constituencies are represented by their legislator's voting, we need to know how these constituencies would have voted on the same issues had they been in a position to do so. We turn to the state of California for our analysis because in California the constituents, through ballot propositions, were in such

a position. Over the nine two-year legislative sessions that span the years 1991-2008² we identify 77 times when the same issue was voted on by both representatives on the floor of the legislature and the public in either a general or primary election. (Sixty-six bills were voted on by both chambers; while eight were voted on by the lower house, the assembly, alone and three were voted on by the upper house, the senate, alone.)

In addition to the abundance of issues for which we have data on both legislative roll call and public votes, there are two additional strengths of our matched data: 1) The number of individual opinions aggregated into district/income cells, is much larger³ than in a survey and thus the public vote is less prone to classical measurement error and 2) the match between the legislative vote and the public vote is quite precise (many times worded identically) so the public vote is likely a better measure of the public's desired outcome on the legislative vote than the response to a survey question which is often a very simplified version of a legislative issue.

Our 77 votes can be classified into two matching types: mandatory (56) and non-mandatory (21) matches. Mandatory matches occur when the legal process requires that voters vote on the same issue with the same wording that legislators voted on previously. In order to pass a bond act, to make a change to the constitution or to amend legislation passed in a statewide public referendum, both houses of the legislature must approve the measure by a 2/3 supermajority and the public must pass the measure by a simple majority. The second type of mandatory match happens when voters wish to overturn a law that has been passed by the legislature and signed into law by the governor. They do so by collecting signatures to get the measure placed on the electoral ballot and then having a simple majority vote to overturn. Non-

² Our sample period begins with the first congressional session whose electoral data are available in the Statewide Database and ends with the last session available at the time of data collection.

³ Where Bhatti and Erickson (2011) have 150,000 individuals overall and 15,000 in California, we have approximately 150,000 (300,000) individuals 18 and over who cast a ballot on each of our issues in each assembly (senate) district.

mandatory matches, in contrast, are not stipulated by law. They generally arise because a group works to pass the same legislation through both ballot initiative and through the legislative process, either simultaneously or sequentially.⁴ Laws, that do not amend the constitution, can be passed through either public or legislative initiative. We identified these non-mandatory matches by reading through the contents of legislation and ballot initiatives. For more details on how we chose our sample votes, please see the Data Appendix.

Our bills are spread fairly evenly across the nine legislative sessions with the exceptions of the 2001-2002 and 2003-2004 sessions because primary election data for the years 2002 and 2004 are not yet electronically available.⁵

One potential criticism of this data source is that it has limited generalizeability. We are focusing on a subset of votes in a single state. In California the ballot initiative process is used quite frequently, thus raising the concern that California legislators, facing the threat of being overturned by the public, may be more responsive to public opinion than legislators in other states, particularly legislators in the 25 states that do not allow for public referenda (Bowler and Donovan, 1998). While we believe that findings drawn from our most populous state are interesting and informative in their own right, we note for the sake of generalizeability that the use of ballot propositions does not incentivize legislators to respond more to one income group over another. Nor do the proposition votes offer additional information on voter views, and certainly not differentially for one income group more than another, as voters cast their ballots a median time of 187 days after their representatives. In both states with and without ballot initiatives (and in California on legislative bills with and without an accompanying public

⁴ In many cases a group attempts to pass legislation through the legislative process first and once that attempt fails (due to failure to receive enough votes of the senate or assembly floor or because the legislation dies in committee), the group works to get the legislation on the statewide ballot.

⁵ We have four and five bills for 2001-2002 and 2003-2004 respectively and 7-14 for each of the other sessions.

initiative) legislators gather information on constituent opinion through direct communication with voters and through their own polling. Our matched votes cover a variety of issues including courts, education, elections, employment, energy, the environment, health, infrastructure and taxation—issues that are decided on by state legislatures throughout the country. (For a complete list of bills/initiatives please see the Data Appendix.)

One concern given the timing of events is that a member of the public is influenced in how to vote on a proposition by the legislative vote on that issue cast by his/her state representative. If that were the case our measure of public opinion would not be a good proxy for public opinion before the legislative vote occurred. If low and high income voters were differentially influenced by the votes of their representatives, then our measure of the difference between low and high income representation would be biased by the difference in the degree to which these two groups copy the behavior of the representative. However, the idea that constituents vote according to the preferences of their legislators seems unlikely for two reasons. First, constituents are unlikely to know how their state legislators voted. The 2006 Cooperative Congressional Election Survey (CCES)⁶ asked respondents how their US senators voted on six high profile issues during the 2005-06 congressional session: stem cell research, Iraq withdrawal, immigration reform, minimum wage increase, capital gains tax increase and the Central American Free Trade Agreement. The average fraction correct was 49% which is clearly an upper bound for knowledge in our sample of less salient votes conducted by a political body that receives less media attention. Songer (1984) demonstrates that Oklahoma voters' knowledge of the policy positions of their state legislatures is less than half their knowledge of the positions of their federal representatives. In fact Hogan (2004) argues that because of voters' lack of knowledge about state politics, policy responsiveness is less important for the reelection of state

⁶ The data are available at <http://web.mit.edu/polisci/portl/cces/commoncontent.html>.

legislators than for those at the federal level. Further, to the degree voters are knowledgeable about their state representatives' behavior that knowledge is increasing in income amongst both Democrats and Republicans and amongst constituents in both Democratic and Republican districts.⁷ Thus the pattern of our results —Republican voting better explained by high income voters, but Democratic legislator voting better explained by low income voters—seems unlikely to be driven by one income group's being more likely to copy the voting behavior of their representative. Finally, the fact that the pattern of results is robust to issues on which the public voted during both primary elections—when high knowledge voters turn out relatively more—and general elections—when the electorate is on average less politically savvy further supports our assumption that our results are not driven by voters mimicking the behavior of their representatives.

The second reason that it seems unlikely that constituents mimic the votes of their representatives is that when asked directly, California voters do not name their representative as being influential in their proposition voting. In a 1990 California Field Poll, reported on in Bowler and Donovan (1998), voters were asked in an open ended format what sources they turn to when deciding how they will vote on statewide ballot propositions. Their own representative was not amongst the top ten most frequently cited answers.⁸

Legislative and Constituent Vote Matching and Coding

In order to examine whether legislators' voting is better explained by the views of constituents from the higher or lower income areas of the district, we collect data on legislative

⁷ Authors calculations using the 2006 CCES.

⁸ The top ten were ballot pamphlet (54%), newspaper editorials (47%), TV editorials (33%), friends (22%), TV ads (21%), direct-mail ads (20%), newspaper ads (18%), radio editorials (10%), radio ads (6%), and the League of Women Voters (2%). The ballot pamphlet gives pro/con views on the issue from noted politicians who are generally known statewide, but does not list the votes of the state legislators.

and constituent votes on each of the 77 issues. Vote choice (yes/no/abstention⁹) for each of the 80 assembly members and 40 senators who were in the legislature at the time of the vote were obtained from web sources and state archives, as detailed in the Data Appendix. Constituent vote choice on corresponding ballot initiatives, at the census tract level, was obtained from The Statewide Database, maintained by the Institute of Governmental Studies (IGS) at the University of California at Berkeley.¹⁰

In order to increase the fit of our models and to be able to meaningfully add controls to explore various mechanisms, we recode both legislative and public votes from yes or no to liberal or conservative. We determine whether the yes or no side of each vote is the liberal side by turning to the tract-level returns from the ballot initiative. For each initiative we run the following regression:

$$1) \quad \text{PercentYes} = B_1(\text{Percent Registered Democrats}) + B_2(\text{Percent Registered Republicans}) + \upsilon$$

where *PercentYes* is the percentage of yes votes among those voting on the initiative. We classify the yes side as the liberal side if $\hat{B}_1 > \hat{B}_2$ and the yes side as the conservative side if $\hat{B}_2 > \hat{B}_1$.¹¹

We know from a myriad of previous work that the views of the legislator and the constituency should be highly correlated.¹² Thus, to verify the validity of both our vote coding

⁹ Abstentions include both absences and active abstentions.

¹⁰ Located at <http://swddb.berkeley.edu/> The Statewide Database provides data on aggregate vote outcomes and voter registration for statewide primary and general elections held in California since 1990.

¹¹ We classify observations in which legislators abstain as missing. Largely because of abstentions and to a small degree because of vacancies we lose about 10 percent of our target sample of 8680. (80 assembly members * 74 votes + 40 senators * 69 votes = 8680). There are 809 abstentions and 58 votes missing due to vacancies. While we find that Democrats are more likely to abstain the more conservative their constituents are on the issue and Republicans are more likely to abstain the more liberal their constituents are on the issue, we find that representatives of both parties are less likely to abstain when there is an above median difference of opinion between low and high income areas in their district. Thus we do not believe that abstentions are systematically biasing our results.

(liberal/conservative) and our matching of voters to districts, Table 1 examines the relationship between a legislator's tendency to vote liberally on an issue and the liberal views (as measured by their ballot initiative vote) of his/her constituency on that same issue. We aggregate our data to the district/issue level and run models of the form:

$$2) \quad \text{Legislator_vote} = \gamma_0 + \gamma_1(\text{Constituency_vote}) + \varepsilon$$

where *Legislator_vote* is an indicator for whether the legislator voted liberally (or yes in the uncoded specification) and *Constituency_vote* is the share of voters in the district who voted on the measure who voted liberally (yes). We construct the *Constituency_vote* by aggregating tract level voting returns on the issue to the assembly/senate district as configured at the time the legislator voted on the measure.¹³

The point estimate of 0.979 in the first column of Table 1 indicates that the likelihood that the legislator votes in favor of the legislation increases nearly one for one with the share of district voters supporting the measure. That relationship is strengthened to 1.7 to 1 when we increase the fit and precision of our model by recoding vote choice as liberal/conservative, the results of column 2 demonstrate. Our coding system is most likely to misclassify those bills that are the least partisan, those for which Democrats and Republicans vote similarly. Thus it is comforting that our results are robust to dropping these more moderate bills, in particular the 13 bills for which $|\hat{B}_1 - \hat{B}_2| < 0.1$, as shown in column 3. In terms of issue match, one might be concerned that legislative bills that we hand matched to ballot items are not as close a match in terms of bill content as the mandatory ones. However, we demonstrate in column 4 that these

¹² For instance Snyder (1996) demonstrates this fact for California state legislators in an earlier time period.

¹³ Because of redistricting this may differ from the configuration of the districts at the time that the voters voted on the ballot initiative.

hand matches are not driving our Table 1 findings; results are robust to their exclusion.¹⁴ In pairing legislators with voters one difficulty is redistricting. In what we refer to as redistricting years, legislators have been elected by one group of voters but are seeking reelection from another group.¹⁵ We always match legislators to the district and the voters who elected them.¹⁶ However, legislators may be more interested in aligning their votes with the views of those who will cast ballots on their reelection. Therefore it is interesting to see in column 4 that when we drop these redistricting years, the relationship between legislator and constituency support for the measure strengthens. In the final four columns of the table we show that this relationship between constituent and legislator support holds across parties and chambers.

Table 1 demonstrates that constituent views, not surprisingly, are represented in the votes that their legislators cast. Our focus in this paper is on whether representation varies by constituent income. Thus rather than aggregating census tract voting data up to assembly/senate districts as in Table 1, we now move to aggregating census tracts to district income terciles to create variables on the political views of the lowest, middle and highest income voters, or more specifically the views of the voters residing in the lowest, middle and highest income neighborhoods, in each district. Income terciles are created based on average household income for the tracts within the district. (Non-census year income data is created based on linear interpolation at the tract level.) We weight by share of residents who are citizens aged 18 and over so that each tercile has an equal number of eligible voters, and thus equal electoral power.

¹⁴ The hand match sample also shows a positive significant relationship between legislative and constituent support. The coefficient is 1.3.

¹⁵ A term in the assembly is two years. Redistricting years for the assembly are 1991-1992 and 2001-2002. Senators serve for four years, but terms are staggered so half the senate terms expire in presidential years and half in the midterm. So for senators serving in even numbered districts redistricting years are 1991-1994 and 1999-2002 and for senators serving in odd numbered districts redistricting years are 1989-1992 and 2001-2004.

¹⁶ We match with the current district and not the future district because of the impossibility of knowing what district a legislator would have been assigned to next if s/he does not stand for reelection.

The header row of Table 2 gives the mean minimum and maximum average household income for the terciles.

In the remainder of the table we provide summary statistics by income terciles. Given the well established correlation between income and conservatism,¹⁷ it is not surprising that we show in the summary statistics in Table 2 row 2 that the proportion voting liberally decreases with income tercile for districts overall as well as for districts represented by Democrats and those represented by Republicans. Comparing the statistics in the first two rows, we note that legislators' votes are more polarized than the public at large as Democratic legislators have a higher propensity to vote liberally than their constituents of any income category and Republican legislators have a lower propensity than their constituents, again regardless of income.¹⁸ Using the Statewide database we calculate a variety of measures of political participation and support for each tercile. We see that participation (as measured by registration, turnout for propositions or turnout for the highest office on the ballot) is increasing in income across all districts and within both Democratic and Republican led districts. Registration for the Republican Party is increasing in income; support for the Democratic Party in terms of registration and vote choice is decreasing in income, across all districts and within both Republican and Democratically led districts. We note that the income party affiliation gradient (see the rows on share registered Republican or Democrat) is steeper than the income ballot initiative choice gradient (see row "Constituent Proportion Voting Liberally"). Just as at the national level (Stimson, 2011), Table 2 shows that in the state of California, across income groups, party polarization is greater than issue polarization.

¹⁷ See for example Brunner, Ross and Washington (in press) and Leigh (2005).

¹⁸ Ansolabehere and Jones (2010) find the same phenomenon for US Senators; the senators are more polarized than their constituents.

While our primary analysis looks at the relationship between legislative voting and constituent support by income, we have also created terciles on issue support by other characteristics including party registration and poverty for comparative purposes.¹⁹ In addition we have created terciles based on state income. The income ranges in the state income terciles are constant across districts within year.

Methodology

In our primary analysis we run linear probability models of the form:

$$\begin{aligned} 3) \quad \text{Legislator_vote} &= \delta_0 + \delta_1(\text{Constituency_vote_Top}) \\ &+ \delta_2(\text{Constituency_vote_Bottom}) + \omega \end{aligned}$$

where an observation is a district/issue. *Legislator_vote* is defined as in equation 2.

Constituency_vote_Top is the share of voters in the highest income tracts in the district who voted liberally on the measure and *Constituency_vote_Bottom* is the same variable calculated for residents of the lowest income tracts in the district. Because of a concern of lack of independence and serial correlation among votes within legislator we cluster the standard errors for all of the votes that a legislator casts within a single chamber.²⁰

Our parameter of interest is $\hat{\delta}_1 - \hat{\delta}_2$ which we'll call $\hat{\delta}_b$. A positive significant $\hat{\delta}_b$ provides evidence that the views of the voters in the highest income tracts are better represented than those in the lowest. A negative significant $\hat{\delta}_b$ provides evidence that the views of those in the lowest income tracts are better represented than those of the highest. And an insignificant $\hat{\delta}_b$ suggests that representation does not vary by income. We note that we only capture the views of the members of the tercile who actually cast a ballot. Just as with survey data, to the extent that

¹⁹ We have also created terciles based on race that we are using in a companion project on how representation varies with legislator and constituent neighborhood race.

²⁰ Results are robust to probit specifications and to using splines of the constituent voting measures.

the views of nonparticipants differ from political participants, our results only speak to the differential representation of political participants.

In our basic specification we do not include *Constituency_vote_Middle* because of high collinearity among the views of members of the three income terciles. Inclusion of the middle tercile is not necessary for estimating the difference in the legislator's representation of the top and bottom terciles. Results, however, are robust to its inclusion. In the next section we discuss what this high collinearity implies for representation of voters from varying income groups.

We also do not include controls in this basic specification. While a large literature has attempted to causally estimate the impact of voters' views, party, ideology and other political factors on legislative voting in order to estimate a legislator's decision function, that is not our objective here. Our goal is to describe who is represented, rather than to estimate the causal impact of voter views on legislative voting. The views of high income voters may be represented simply because of greater congruence between their desires and legislators' personal views. The views of low income voters could be represented because of their congruence with the evolution of a party platform; in this case low income voters would appear to not be represented (coefficient on low income tercile would be insignificant) if we controlled for session or bill fixed effects. The answer to whether the voters' agent, the legislator, acts in a manner consistent with the preferences of the voter is important to understand, particularly for the voter him/herself, whether or not the voters' views have a causal impact. Thus we do not control for legislator views, party platforms, fixed effects or other political variables in the basic specifications. Free from the threat of omitted variables bias because we are not aiming to estimate a causal parameter, we can leave the addition of controls to the exploration of

mechanisms later in the results section. We first use the basic model to document whether legislative voting better represents the views of higher or lower income voters.

RESULTS

Before turning to the question of whether higher or lower income neighborhoods are better represented in terms of legislator vote choice, we first ask whether higher and lower income areas are each represented at all. In the first two columns of Table 3 we run modified versions of equation 3 in which we enter first the share voting liberally amongst the bottom and then the top income terciles separately. The 1.674 in column 1 (bottom income tercile specification) and the 1.704 in column 2 (top income tercile specification) indicate that a ten percent increase in either tercile's support for the liberal side of the issue is associated with a seventeen percentage point increase in the likelihood that the legislator will cast a vote for the liberal side of the bill.

This similarity in apparent “responsiveness” is not surprising given the high correlation (.95) amongst the views of voters from low and high income areas.²¹ This correlation is driven neither by the small size of the districts nor by great homogeneity in terms of district income. The correlation is similarly high for assembly and senate districts despite the fact that senate districts are twice as large. (The state senate districts are larger than the US House districts in the state.) The correlation is still high (.93) when terciles are defined relative to state, rather than district income. The key is that the opinions of various constituency groups move together across issues. In fact the correlation in support for the liberal position is .94 across terciles defined by share of those registered who are registered for the Democratic Party.²² Thus, if representation is

²¹ The correlation between middle and high is .99 and between middle and low is .98.

²² The correlation is also .93 if terciles are defined based on Republican Party registration.

defined as the representative being more likely to support the legislation the larger the group's support, then both high and low income groups are represented.

But which group is represented better? Do legislators' votes better track high or low income voters' views? In column 3 of the table we enter the views of the two groups jointly. We find a coefficient of 1.046 on the bottom tercile, but of only .680 on the top tercile. The difference is not statistically significant.²³ The point estimates, however, imply that legislative votes better track the views of lower than higher income voters.

In the next two columns we investigate further by dividing the sample by party and reveal a striking, contrasting pattern. Republican legislator voting follows the conventional wisdom and is better explained by high income area voters' views. Democratic legislator voting is better explained by the views of their constituents from lower income areas. Clearly, the more numerous Democrats were driving the full sample findings. For both parties, the high/low difference is statistically significant. Recall that public support for the Republican Party is increasing in income. Thus Republican legislators vote more like high income constituents, from whom their party draws greater support while Democratic legislators vote more like low income constituents, from whom their party draws greater support.

To get a sense of the magnitude of the difference of the relative representation of high and low income neighborhoods, in the final two columns of the table we present specifications in which we group voters into terciles by party registration. Not surprisingly, the results of these columns indicate that Republican (Democratic) legislators' voting is better explained by the views of residents of the neighborhoods with the largest fraction of registered Republicans

²³ $P > F = .12$

(Democrats).²⁴ What is more notable, however, is that the magnitude of the difference in the explanatory power of the views of the most Republican neighborhoods over the least Republican neighborhoods for Republican legislators' voting is quite similar to the difference in the explanatory power of the views of residents of high income neighborhoods over the views of those from low income neighborhoods. The same is true for Democratic legislator voting; the explanatory power of the views of the most relative to the least Democratic neighborhoods is very similar to the difference in the explanatory power of the views of the lowest relative to the highest income areas. In general, the difference in the relative representation of the two income groups is nearly as great as the difference in relative representation of the party groups.

In Figure 1 we examine the robustness of our contrasting finding across parties. The figure presents a variation on $\hat{\alpha}_b$, the difference in the coefficients estimated for the top and bottom terciles. In particular, the figure shows the difference between the predicted change in the legislator's propensity to vote liberally from a ten percentage point increase in the top income tercile's support for the liberal side and a ten percentage point increase in the bottom tercile's support for the liberal side. The basic specification from Table 3 columns 4 and 5 is shown in the far left of the figure. The red square indicates that the difference in the increase in Republican support is 26 percentage points. For Democrats whose voting is better explained by low income voters, the blue diamond shows a difference of -12 percentage points. The ninety-five percent error bands illustrate that both differences are statistically distinguishable from zero. The error bands also highlight the fact that the Republican results are more noisily estimated. The

²⁴ This finding is consistent with Fiorina's (1974) dual constituency hypothesis which posits that legislators put greater weight on their support constituency (as compared to their overall district constituency) in their decision function. Levitt (1996) and more recently Mian, Sufi and Trebbi (2010) provide additional empirical support for the theory.

Republican sample is smaller. Republicans are a minority in both chambers in every session in our sample period.

In the second column of the figure we begin the robustness checks. In this column we control for the middle income tercile, which for both Democratic and Republican districts includes the median voter based on income. Our basic results are robust to the inclusion of the middle tercile. (Please see Appendix Table 1 for the coefficients on low and high income terciles for the specifications in Figure 1.) In the next two columns of the figure we ensure that our coding is not driving our findings. Results are robust both to excluding those less partisan votes that are more likely to be misclassified in our liberal/conservative vote classification system as well as to leaving the legislator and public votes uncoded in their original yes/no form.²⁵

In the next two columns of the figure we examine robustness to different measures of income. One concern with mean income as a measure of economic well being is that income may be mechanically increasing in household size. In the fifth column of the figure we demonstrate that our results are robust to terciles based on within district poverty, a measure that takes household size into account. For this specification we subtract the coefficient for top poverty tercile from the coefficient for bottom poverty tercile, so that the sign of the results is comparable to the income terciles. Results are robust to a change from income to poverty.

Next we examine whether our results are robust to moving from relative to absolute income definitions. Thus far, the cutoffs for high and low income terciles have varied within year across districts. In fact in the final year of our sample, 11% (16%) of low income terciles included tracts that had greater average household income than the mean (median) high income tercile. Using these relative income terciles, we have shown that Democratic legislators' voting better tracks the views of their lower income voters and for Republicans the reverse. But we may

²⁵ Results are also robust to limiting the sample to legislative votes taken during non redistricting years.

also want to know whether Democratic voting looks more like low income voters in an absolute sense. In the next column of the figure we create terciles based on state income. Within a year the cut offs for low and high income are the same across all districts for these terciles.²⁶ The number of voters per tercile now varies within district so we control for the share of the district population in each tercile. (In some districts there are no voters in a particular tercile so sample size falls.) Results are robust to a change from relative to absolute income terciles, column 6 of the figure shows.

In order to interpret $\hat{\alpha}_b$ as the relative difference in representation of the top and bottom tercile, we assume that our constituent view variables represent the views of the constituents at the time of the legislative vote and that those views are not influenced by the voting behavior of the legislator. As we stated in the data section, we assume this primarily because of the low level of knowledge that voters have of politician behavior, particularly state politician behavior. To the extent that voters are knowledgeable, knowledge is increasing in income which could explain our results for Republican legislators but not for the Democrats. In the next two columns of Figure 1 we present an additional test of our assumption. We divide the sample into issues that the public voted on during primary elections, when a small dedicated and politically knowledgeable electorate turns out and general elections, when a greater cross section of voters comes to the polls. If our findings are being driven by knowledgeable voters voting in accordance with their legislator, then we should see stronger results for the primary than for the general election. But in fact we find that for Democratic legislators the results are qualitatively unchanged across election types and for Republicans the top/bottom difference is greater in magnitude and significance in general elections. In fact for Republicans the primary election

²⁶ The average range for the low (high) income state terciles in 2006 dollars is \$6,401-\$59,373 (82,911-\$454,934).

results are only significant at the 10 percent level. Thus this test provides no evidence that our findings are driven by voters being influenced by the behavior of their legislators.

We have found robust evidence that California's Republican legislators' voting is better explained by the views of their high income constituents while the voting behavior of California's Democratic legislators' is better explained by lower income voters. One interesting question is whether the results would generalize outside of our most populous state. We provide suggestive evidence in the final column of Figure 1. We pool data from the 2006 and 2008 Cooperative Congressional Election Studies which asked respondents how they felt about 13 high profile votes in the current congressional sessions.²⁷ We use these data to ask whether United States senators' voting is better explained by their lower or higher income constituents.²⁸ In these national data we see once again that the opinions of high and low income voters are correlated, although not as highly as in California state legislative districts,²⁹ and we see again that the answer to the question of relative representation depends on the party of the legislator. Democratic senators' voting is better explained by the views of their low income constituents, while for Republican senators the reverse is true. However, we caution that the finding is merely suggestive given the limited number of issues and much smaller sample size.³⁰ In fact, the national results are not robust to coding the votes as liberal/conservative.³¹ Whether low income

²⁷ The votes concern stem cell research (both 2006 and 2008), Iraq withdrawal, immigration reform, minimum wage increase (both 2006 and 2008), capital gains tax cut, CAFTA, overseas eavesdropping, public health insurance for children, housing assistance, the bank bailout and the extension of NAFTA.

²⁸ Because of the gross categorical nature of the income variable, we cannot create equal sized terciles within each state. Instead we define low income as below \$40,000 and high income as \$80,000 and above and use the American Community Survey to create controls for the percent of state residents who fall into each of those income categories.

²⁹ The correlation .66, but rises to .75 if we restrict the sample to states with at least 200 respondents in each cell.

³⁰ The median observation in this sample has a minimum of 55 respondents in a state/income cell. The 25th and 75th percentile have 20 and 131 respondents respectively; in the California data we have about 46,000 voters per tercile. The sign and significance of the national results are robust to weighting by sample size or to limiting to the states with larger cell sizes.

³¹ The liberal/conservative model simply does not fit as well in an Rsq sense. Across these votes it is easier to predict agree than vote ideology within party

voters are represented in other states and at other levels of government is an interesting question for further research.

Returning to our California data, we next examine whether the pattern of our results is robust to the key issue that pits the rich against the poor: taxation. We define tax bills in two ways. First in our more subjective coding we identify, based on our reading of the legislation, six bills whose primary focus is on tax policy or bond issuance.³² A good example of such a bill is AB83 in 1998 which proposed a change to the top marginal income tax bracket and a change to state and local tax revenue sharing. (For more details on our coding please see the Data Appendix.) Our second more expansive, and more objective coding measure categorizes issues as tax or non-tax based simply on whether the word “tax” or “bond” appears in the text of the final bill in a manner that indicates the bill concerns taxation.³³ We identify 38 tax issues in this fashion. A good example of bills that fall into the second category, but not the first would be our three education bond acts. Although the subjective results are much less precisely estimated due to the small sample size, we demonstrate in the first two columns of Figure 2, that our results are robust to either definition of tax legislation. And in fact we see in the third column of the figure that by the objective coding the tax results are statically indistinguishable from the non-tax results. In the fourth column of the figure we define bills on which low and high income voters disagree more directly, by an above median difference between the average share voting liberally

³² In fact we divide the 77 bills into 14 issue categories. Seven of these categories have enough variation in legislator voting within both parties to estimate models of the form of equation 3. Of those 7, we find that the Republican results are robust to six and the Democratic results robust to 4. Thus the Democratic results, while robust across votes and within taxation, appear to be less robust as we take different cuts of the data. Unfortunately there are not enough votes per category to state this conclusively. However, the California legislature and population are likely to continue voting on the same issues. Thus the robustness of the results to bills from various issue areas is a subject for future research.

³³ For example we omit SCA 18 in the 1995-96 session because although the assembly floor analysis refers to “bond acts and other ballot measures,” this is the only mention of taxation in the bill.

of lower and higher income voters. Results are robust to this alternative definition of class conflict.

Results are also robust to bills which are higher stakes for the legislator. We define higher stakes in four ways: 1) An election year for the legislator's seat when the legislator has not reached the term limit; 2) Not having hit the term limit; 3) Representing a district in which the legislator's party does not comprise a majority of voters and 4) Close vote—those for which the outcome would change if one legislator changed his/her vote. Results are robust across those four definitions. However given the fact that we have few (8) close votes and that closeness should properly be measured ex-ante, we put the least stock in the noisily estimated close results. Nonetheless the results of Figure 2 taken as a whole demonstrate that the Democratic legislature/low income voter correspondence and the Republican legislature/high income voter correspondence is robust to issues for which there is class tension and to votes which are higher stakes for the legislator. (Please see Appendix Table 2 for the coefficients on low and high income for these specifications.)

What is the mechanism by which this correspondence arises? That is the question we explore in the remainder of the paper. Levitt (1996) showed that nearly half of the weight in a legislator's decision function is placed on his/her own ideology, as modeled by a legislator fixed effect. Thus one possibility is that Republican (Democratic) legislator's voting is better explained by voters from high (low) income areas because these legislator's views happen to be more in line with voters from these particular areas. We test for this possibility by adding legislator (within chamber) fixed effects to our basic model. The basic results are robust to this addition as shown in the second column of Figure 3. Even conditional on their own views, Republican legislators' voting is better explained by the views of high income voters and for

Democratic legislators the reverse also remains true. (Please see Appendix Table 3 for coefficients for the specifications shown in Figure 3.) In fact for Democrats $\hat{\delta}_D$ is slightly increased by the addition of the fixed effects.

One concern about the legislator fixed effects specification is that legislators may have different mean voting patterns for different issues. For example a legislator might be conservative on fiscal issues, but liberal on moral issues. If this were the case then a single fixed effect, while a good measure of voting on average, might be a poor measure of average voting on some issues. In the third column of the figure we limit the focus to the key issue, taxation (objective coding), which puts low and high income voters at odds. Our basic pattern is robust to including legislator fixed effects to control for the legislator's propensity to vote liberally on this single issue.³⁴ Thus even in explaining voting behavior within legislator and within issue, higher income voters' views play a larger role if that legislator is a Republican and lower income voters' views play a larger role if that legislator is a Democrat.³⁵

The next possible mechanism we investigate is income differences in the nature of the voters' views themselves; in particular intensity and homogeneity of views may play a role. For instance, it is possible that voters in high income neighborhoods within Republican districts feel more strongly about the issue than do low income voters. We investigate this possibility by proxying opinion intensity by turnout; we add to the basic model the share of the first and third income terciles who voted on the issue. Because proposition turnout is increasing in income,

³⁴ The pattern of results is also robust to the much smaller sample in the subjectively coded tax measure. However, the Republican $\hat{\delta}_D$ is not statistically significant in that subjective tax, legislator fixed effects specification.

³⁵ The within legislator models are an interesting contrast to the within bill models for which the explanatory power of the two groups is statistically indistinguishable, as we have seen in previous cross sectional literature and we see in our current analysis when we include bill fixed effects. The bill fixed effects implicitly control for the within party mean legislative vote on each issue. (In fact controlling for the mean vote of other legislators in the party on the issue produces nearly identical results.) The bill fixed effect models suggest that the legislators of the same party coordinate on a vote for a particular issue, but do not provide intuition as to why they do so.

these controls yield a likely explanation only for the Republican legislator findings. However, we see in the fourth column of the figure that for both Republican and Democratic legislators the addition of the turnout control does not serve to alter the basic result. (For this column and for the remainder of columns in this figure results are robust to a focus on only objective tax issues.)

Homogeneity of voter views is another possible explanation. Gerber and Lewis (2004) show that legislators place less weight on voters' views when those views are more heterogeneous. We model heterogeneity by calculating the standard deviation of voter opinion across tracts within terciles and adding this measure for the first and third terciles to our basic model. However, heterogeneity proves not to be the mechanism for our findings, as our basic result is robust to this addition. See the fifth column of Figure 3 for these results.

We move now from a more narrow focus on voter views on the focal issues to investigate whether participation and political views more generally can explain why Republican legislators vote more in line with the views of voters from higher income neighborhoods and Democratic legislators vote the will of voters from lower income neighborhoods. Greater political participation may mean that the voters have a greater opportunity to select a representative who is like minded; it may mean that the legislator is more aware of the group's policy desires; or it may mean that the group is more likely to punish the politician for deviations from those desires. Griffan and Newman (2005) provide evidence that in the US Senate the views of voters are significantly better represented than the views of non-voters. We measure participation in two ways: 1) Turnout for the highest office in the most recent general election and 2) Share registered.³⁶ We calculate each of these measures for the first and third income terciles and add

³⁶ Unfortunately we are unable to attain data on a third participation metric, campaign contributions, for two reasons: 1) The addresses in public contribution records do not have to be one's home address and thus a match to tract of residence becomes problematic and 2) Campaign contributions under \$200 are not publicly available and thus measurement error could be greater for the lower income tracts than for the higher. We know from National Election

them to the basic model in specifications 6 and 7 of Figure 3. To these specifications we also add year fixed effects to control for year to year swings in interest in elections. Once again, we note that because participation is increasing in income it is only a likely explanation for the Republican legislator findings. But as the results of Figure 3 show, controlling for participation differences between top and bottom income terciles does not alter our findings. The robustness to the inclusion of participation controls is further evidence that our findings are not driven by an influence of legislative voting on constituent views. Those who participate most are likely to be the most knowledgeable so if their acting on this knowledge were driving results, the results should be attenuated by the participation control.

Finally, we investigate party as a mechanism. We control for the share of registrants in each tercile who are registered for the legislator's party, in the eighth column of the figure. Once again results remain unchanged. Republican legislators' voting more greatly reflects the views of higher income voters, even controlling for the fact that high income voters are more likely to support the Republican Party. The Democratic result is similarly robust. The fact that high (low) income voters are more likely to be Republicans (Democrats) cannot explain our findings. Consistent with Lee, Moretti and Butler (2004) who find that the level of electoral support for the legislator does not explain legislative voting; we find that the relatively greater expected electoral support that Republicans (Democrats) receive from higher (lower) income voters does not explain why Republican (Democratic) voting patterns better tracks higher (lower) income voters' views.

In the final two columns of Figure 3 we allow for the party mechanism to operate differently. Rather than asking whether Republican legislators vote with high income voters

Studies data that campaign contributions are increasing in income and thus like other forms of participation is a more likely explanation for the Republican results.

because high income voters are more likely to be Republican, we ask whether Republican legislators are more likely to vote with high income voters because the highest income voters are likely to espouse the same view as the most Republican voters. As in Table 3, we define the most Republican voters as those voters living in the census tracts that comprise the top tercile of Republican registration in the district. With the addition of this control, $\hat{\delta}_b$ shrinks to 26 percent of its original size. There is no longer a statistical difference in the ability of the views of low and high income voters to predict Republican legislative votes. Similarly, the addition of the views of the top tercile of Democratic registrants to the Democratic legislature specification shrinks $\hat{\delta}_b$ for Democrats to about 33 percent of its original size and renders that difference insignificant as well. (Please see the first two columns of Table 4 Panel A for the coefficients on income and party.)

For neighborhoods with little residential turnover, registration may be an outdated measure of party affiliation. People generally make changes to their voter registration only when they change their address. In the final column of the figure we demonstrate that results are robust to defining the most Republican/Democratic voters as the top tercile of Republican or Democratic vote share in the most recent state legislator's election. Using this alternative measure we find once again that in both the Republican and Democratic specifications $\hat{\delta}_b$ shrinks to an insignificant magnitude. This time the Republican change is smaller than the Democratic. The coefficients shrink to 42% and 15% of original size respectively. (Please see the first two columns of Table 4 Panel B for the coefficients on income and party.³⁷) Conditional on party views, residents of high and low income neighborhoods are equally well represented by the

³⁷ Sample size falls when we move from measuring party through registration to measuring party through voting because the most recent legislative election data is missing for senators elected in 1988. However, as we show in the first two columns of Panel B results are robust to running the registration specification on the voting sample.

voting behavior of their legislator, be that legislator a Democrat or a Republican. Thus it seems Republican legislators better represent the views of high income voters not because these voters are high income, not even because these voters are more likely to be Republicans, but because these voters are more likely to support the Republican view. The same is true of Democrats and low income voters.

Further evidence that the income differences in representation are more about party than income comes from running horse races between the two variables. (See the final two columns of Table 4 Panel A for the first definition of party and the final two columns of Panel B for the second party definition.) Coefficients indicate that using either definition of party, the view of the top party tercile has more explanatory power than the view of the bottom income tercile for Democrats and more than the top income tercile for Republican legislators. While the party income difference is statistically significant for only two of four specifications and marginally significant for a third, the coefficients consistently point to a greater role for party than for income in explaining legislative voting. Not only does the inclusion of party view shrink the gap between the explanatory power of the views of the two income groups, in three of four horse race specifications party renders the explanatory power of income insignificant. Republicans better represent high income voters and Democrats better represent low income voters, not because these voters are high or low income, but because these voters are highly partisan. We note that just as with our income results, our party results are descriptive, and should not be interpreted causally. Although legislators may best represent their most partisan constituents because they want to follow these voters' direction, the legislative vote and the views of the most partisan constituents could coincide because the most partisan voters choose a legislator who shares their opinions or for a variety of other reasons. What is clear from this analysis is that our finding that

Republican legislators better represent their high income constituents while Democratic legislators better represent their low income constituents has more to do with party than with income.

CONCLUSION

Contrary to popular view, we find evidence that the views of residents of both high and low income neighborhoods are represented by their legislators. Analyzing the voting behavior of state legislators on 77 proposals on which both the legislature and the public cast ballots, we find first that the opinions of higher and lower income voters within a district are highly correlated and thus it is impossible to represent the views of one group and not also represent the views of the other. And to the question of whether one income group is better represented than the other, we find the answer depends on representative party. Republican legislators vote more along the lines of the views of their constituents residing in high income neighborhoods. Democratic legislative voting is better predicted by the voters of lower income areas. These party/income group patterns hold within legislator, for those votes which place high and low income voters at odds and for those votes for which there is more at stake for the elected official.

As for mechanisms, the differential income representation of legislators from both parties is explained away by the correlation between the views of the constituents of the top income and top Republican constituent terciles and between the bottom income and top Democratic constituent terciles. Democratic and Republican legislators better represent different income groups not because those voters are high or low income, or even because these groups offer the legislature more or less electoral support, but because these groups are more or less likely to share Democratic or Republican views.

We do caution that our work focuses on just one type of representation: voting on bills that have already made it to the legislative floor. The preferences of high income voters may be more influential in determining the legislative agenda. Or legislators may be more responsive to the higher income in terms of public good distribution or constituency service. Whether or not constituent income predicts performance on these legislator behaviors remains a question for future research.³⁸

³⁸ In fact one of the authors is currently exploring this question with respect to the distribution of public goods within a city council district.

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Table 1: Relationship between Legislator Vote and Mean Constituent Vote

Outcome:	Vote Yes	Vote Liberal	Vote Liberal	Vote Liberal	Vote Liberal	Vote Liberal	Vote Liberal	Vote Liberal	Vote Liberal
Share District Voters Voting Yes	0.979*** (0.04)								
Share District Voters Voting Liberal		1.699*** (0.03)	1.643*** (0.04)	1.786*** (0.03)	1.951*** (0.02)	1.459*** (0.04)	1.732*** (0.04)	1.752*** (0.04)	1.756*** (0.05)
N	7813	7813	6405	5994	6130	4589	3172	4798	2312
Sample:	Full Sample	Full Sample	More partisan bills	Mandatory Matches	Non redistricting years	Democratic Legislators	Republican Legislators	Assembly Votes on Bills Voted on by Both Chambers	Senate Votes on Bills Voted on by Both Chambers

Note: Robust standard errors clustered by legislator/chamber in parentheses.

Table 2: Summary Statistics, by Legislator Party and Income Tercile

Districts:	All	All			Democratic Legislators			Republican Legislators		
Constituent Household Income Terciles (Average Ranges in Thousands of 2006 dollars):	Full Sample	Low (32-62)	Middle (63-81)	High (82-191)	Low (30-61)	Middle (61-79)	High (80-189)	Low (35-65)	Middle (65-85)	High (86-192)
Legislator Proportion Voting Liberally	.60 (.49)	.60 (.49)			.74 (.44)			.39 (.49)		
Constituent Proportion Voting Liberally	.48 (.17)	.50 (.18)	.48 (.18)	.47 (.17)	.54 (.18)	.51 (.17)	.50 (.17)	.45 (.16)	.43 (.16)	.42 (.16)
Proposition Turnout	.39 (.12)	.29 (.10)	.35 (.12)	.41 (.13)	.28 (.10)	.34 (.11)	.39 (.13)	.30 (.10)	.38 (.11)	.43 (.14)
Turnout for Highest Contests on Ballot in Most Recent Last Election (of Citizens 18 and older)	.40 (.10)	.30 (.08)	.37 (.09)	.43 (.11)	.29 (.09)	.35 (.10)	.41 (.11)	.31 (.08)	.39 (.09)	.45 (.11)
Share Registered (of Citizens 18 and older)	.72 (.09)	.70 (.08)	.77 (.08)	.83 (.09)	.70 (.08)	.76 (.08)	.82 (.09)	.69 (.08)	.78 (.07)	.84 (.08)
Share Registered Democratic (of those Registered)	.48 (.11)	.53 (.12)	.48 (.12)	.43 (.11)	.60 (.09)	.55 (.09)	.49 (.10)	.44 (.08)	.38 (.07)	.33 (.06)
Share Registered Republican (of those Registered)	.35 (.12)	.29 (.11)	.34 (.12)	.41 (.12)	.22 (.08)	.27 (.09)	.34 (.10)	.39 (.06)	.45 (.06)	.52 (.06)
Share Voting Democratic in Most Recent State Legislative Election (of two party vote) ^{1,2}	.56 (.21)	.63 (.21)	.58 (.22)	.52 (.21)	.77 (.12)	.72 (.14)	.66 (.15)	.43 (.14)	.37 (.12)	.32 (.11)
Share Voting Democratic in Most Recent Gubernatorial Election (of two party vote)	.51 (.16)	.58 (.17)	.52 (.16)	.47 (.15)	.68 (.13)	.62 (.14)	.55 (.14)	.44 (.10)	.39 (.09)	.35 (.09)
Share Voting Democratic in Most Recent Presidential Election (of two party vote) ¹	.58 (.14)	.66 (.14)	.60 (.15)	.54 (.14)	.75 (.10)	.69 (.11)	.62 (.12)	.52 (.09)	.46 (.07)	.41 (.07)
N	7813	7813	7813	7813	4589	4589	4589	3172	3172	3172

Notes: Sample includes only those bill/legislators on which legislators actually voted. Standard deviation in parenthesis.

¹1988 presidential and legislative votes missing so sample sizes are smaller for those variables.

²We do not have data on special elections. Thus the legislative election data is always drawn from the most recent general election. Under 4 percent of the legislative votes are cast by a member elected in a special election.

Table 3: Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income

	Full Sample	Full Sample	Full Sample	Democratic Legislators	Republican Legislators	Democratic Legislators	Republican Legislators
Share Bottom Income Tercile Voting Liberally	1.674*** (0.03)		1.046*** (0.12)	1.317*** (0.12)	-0.435** (0.21)		
Share Top Income Tercile Voting Liberally		1.704*** (0.03)	0.680*** (0.12)	0.161 (0.12)	2.150*** (0.20)		
Share Bottom Party Tercile (Registration) Voting Liberally						0.060 (0.10)	-0.589*** (0.21)
Share Top Party Tercile (Registration) Voting Liberally						1.397*** (0.09)	2.332*** (0.20)
N	7813	7813	7813	4589	3172	4589	3172

Notes: Robust standard errors clustered by legislator/chamber.

***denotes significance at the one percent level

Table 4: Party and the Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income
Panel A: Party Measured Through Registration

	Dems	Repubs	Dems Party/Income Horse Race	Repubs Party/Income Horse Race
Share Bottom Income Tercile Voting Liberal	0.467** (0.21)	-0.651*** (0.16)	0.495** (0.21)	
Share Top Income Tercile Voting Liberal	0.067 (0.09)	0.0238 (0.43)		-0.161 (0.42)
Share Top Party (Registration) Tercile Voting Liberal	0.932*** (0.21)	2.359*** (0.44)	0.965*** (0.20)	1.923*** (0.43)
Test of Equality Income and Party			P>F=.25	P>F=.01

Panel B: Party Measured Through Voting in Last State Legislative Election (Sample Excludes Senators Elected in 1988)

	Dem	Repubs	Dems Party/Income Horse Race	Repubs Party/Income Horse Race
Share Bottom Income Tercile Voting Liberal	0.131 (0.19)	-0.688*** (0.17)	0.151 (0.19)	
Share Top Income Tercile Voting Liberal	0.0519 (0.10)	0.482 (0.35)		0.328 (0.35)
Share Top Party (Most Recent State Legislative Election) Tercile Voting Liberal	1.303*** (0.19)	1.973*** (0.38)	1.329*** (0.18)	1.468*** (0.36)
Test of Equality Income and Party			P>F=.00	P>F=.10

Notes: In Panel A Democratic sample is 4589 and Republican Sample is 3172. In Panel B Democratic Sample size is 4080 and Republican sample size is 2912. Sample size falls because data for the most recent legislative election data are missing for senators elected in 1988. Robust standard errors clustered by legislator/chamber.

***denotes significance at the one percent level

**denotes significance at the five percent level

*denotes significance at the ten percent level

Figure 1: Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income
 Difference Between Predicted Change in Legislator's Propensity to Vote Liberally from a Ten Percentage Increase in Top Tercile Support and a Ten Percentage Point Increase in the Bottom Income Tercile Support

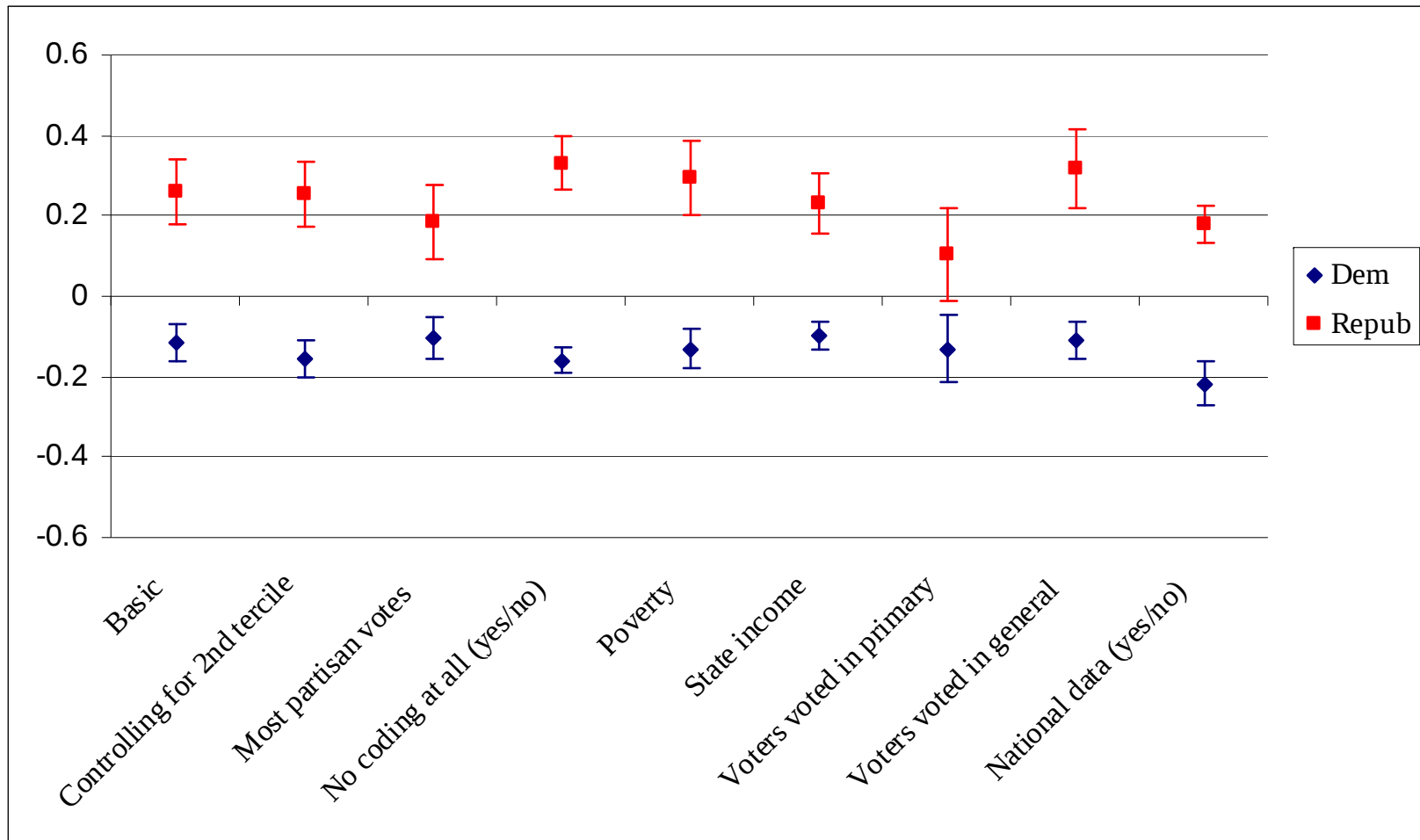


Figure 2: Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income

Higher Stakes

Difference Between Predicted Change in Legislator's Propensity to Vote Liberally from a Ten Percentage Increase in Top Tercile Support and a Ten Percentage Point Increase in the Bottom Income Tercile Support

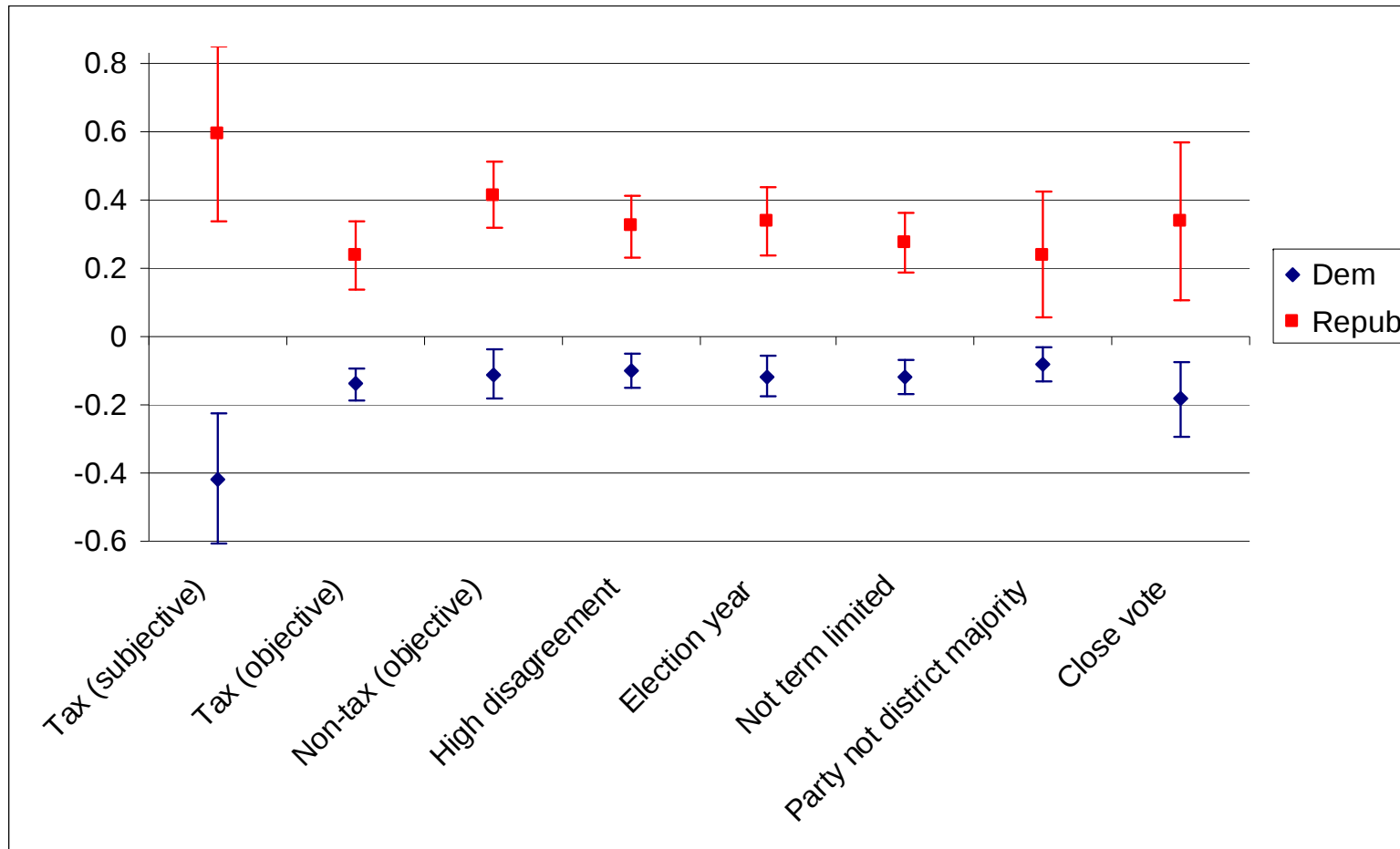
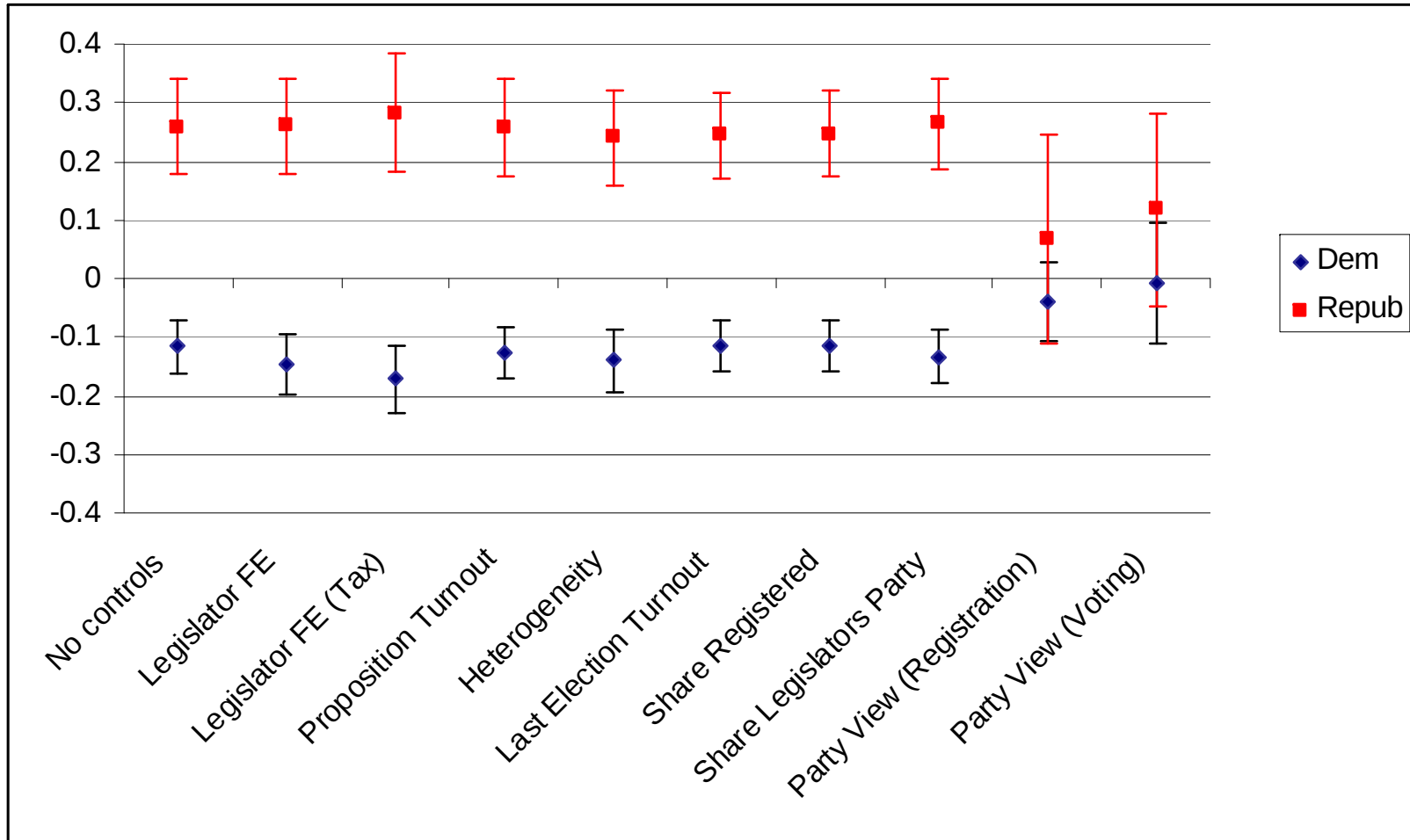


Figure 3: Explaining the Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income
 Difference Between Predicted Change in Legislator's Propensity to Vote Liberally from a Ten Percentage Increase in Top Tercile Support and a
 Ten Percentage Point Increase in the Bottom Income Tercile Support



Appendix Table 1: Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income, Robustness

Panel A

	Controlling for Middle Tercile		More Partisan Bills		Vote Yes		Poverty		State Income	
	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	3.139*** (0.21)	-0.077 (0.41)	1.162*** (0.13)	-0.0848 (0.23)						
Share Top Income Tercile Voting Liberally	1.599*** (0.18)	2.478*** (0.39)	0.123 (0.13)	1.762*** (0.23)						
Share Bottom Income Tercile Voting Yes					1.074*** (0.08)	-0.996*** (0.18)				
Share Top Income Tercile Voting Yes					-0.524*** (0.07)	2.318*** (0.16)				
Share Top Poverty Tercile Voting Liberally							1.384*** (0.12)	-0.618*** (0.23)		
Share Bottom Poverty Tercile Voting Liberally							0.0815 (0.12)	2.324*** (0.22)		
Share Bottom Income Tercile Voting Liberally									1.232*** (0.09)	-0.289 (0.19)
Share Top Income Tercile Voting Liberally									0.262*** (0.09)	2.021*** (0.18)
N	4589	3172	3795	2573	4589	3172	4589	3172	4172	3073

(continued)

Appendix Table 1 (continued): Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income, Robustness
Panel B

	Voters Voted During Primary		Voters Voted During General		National Data	
	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	1.451*** (0.21)	0.409 (0.29)	1.259*** (0.12)	-0.779*** (0.26)		
Share Top Income Tercile Voting Liberally	0.139 (0.21)	1.424*** (0.30)	0.171 (0.12)	2.404*** (0.24)		
Share Bottom Income Tercile Voting Yes					1.317*** (0.13)	-1.031*** (0.10)
Share Top Income Tercile Voting Yes					-.868*** (0.17)	.823*** (0.15)
N	1,543	1116	3,046	2,056	585	664

Notes: Robust standard errors clustered by legislator/chamber with the exception of the national data specifications which are clustered at the state level. State income tercile specifications control for the fraction of district residents who are in each tercile. National data specifications control for fraction of state residents who are in each income group. Sample size is smaller on state income tercile specification because not every district has voters who are in every tercile of the state income distribution.

*** denotes significance at the one percent level

Appendix Table 2: Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income

Panel A

When Lower and Upper Tercile Views May Clash

	Tax (Subjective)		Tax (Objective)		Non-Tax (Objective)		Above Median Opinion Difference Between Top and Bottom Terciles	
	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	2.294*** (0.47)	-2.206*** (0.61)	1.364*** (0.12)	-0.426 (0.26)	1.360*** (0.19)	-1.241*** (0.26)	1.145*** (.128)	-0.773** (0.24)
Share Top Income Tercile Voting Liberally	-1.879*** (0.49)	3.712*** (0.69)	-0.0169 (0.12)	1.940*** (0.26)	0.259 (0.19)	2.891*** (0.23)	0.155 (0.13)	2.44*** (0.22)
N	352	263	2357	1546	2232	1626	2518	1409

Panel B

When Stakes are Higher for Politician

	Election Year		Haven't hit term limit		Legislator Party Not in the Majority		Close Vote	
	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	1.508*** (0.15)	-0.756*** (0.27)	1.298*** (0.13)	-0.519** (0.23)	1.847*** (0.21)	-0.416* (0.23)	0.504** (0.24)	-0.803 (0.56)
Share Top Income Tercile Voting Liberally	0.331** (0.15)	2.632*** (0.24)	0.0956 (0.13)	2.227*** (0.22)	-0.13 (0.19)	2.198*** (0.22)	-1.335*** (0.32)	2.569*** (0.63)
N	1837	1457	3325	2330	1535	2518	374	233

Notes: Robust standard errors clustered by legislator/chamber.

***denotes significance at the one percent level

**denotes significance at the five percent level

*denotes significance at the ten percent level

Appendix Table 3: Explaining Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income

Control for:	Basic		Legislator Fixed Effects		Legislator Fixed Effects (Tax Bills)		Tercile Proposition Turnout	
	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	1.317*** (0.12)	-0.435** (0.21)	1.494*** (0.13)	-0.420** (0.21)	1.562*** (0.14)	-0.612** (0.26)	1.364*** (0.12)	-0.439** (0.21)
Share Top Income Tercile Voting Liberally	0.161 (0.12)	2.150*** (0.20)	0.0271 (0.13)	2.177*** (0.20)	-0.156 (0.15)	2.208*** (0.25)	0.104 (0.11)	2.142*** (0.20)

(continued)

Appendix Table 3 (continued): Explaining Relationship between Legislator Liberal Voting and Constituent Liberal Voting, by Income

Control for:	Tercile Standard Deviation of Tract Vote		Tercile Turnout Last Election		Tercile Share Registered		Tercile Share Registered for Legislators Party	
	Dems	Repubs	Dems	Repubs	Dems	Repubs	Dems	Repubs
Share Bottom Income Tercile Voting Liberally	1.453** * (0.15)	-0.199 (0.23)	1.284*** (0.11)	-0.301 (0.19)	1.287*** (0.11)	-0.312* (0.19)	1.395*** (0.12)	-0.404** (0.20)
Share Top Income Tercile Voting Liberally	0.0495 (0.13)	2.198** * (0.20)	0.13 (0.11)	2.138*** (0.18)	0.129 (0.11)	2.148*** (0.18)	0.0547 (0.11)	2.232*** (0.19)
Year Effects	No	No	Yes	Yes	Yes	Yes	Yes	Yes

Notes: N=4589 for Democrats and 3172 for Republicans except for the specifications with only tax bills for which the N=2357 for Democrats and N=1546 for Republicans. Robust standard errors clustered by legislator/chamber.

***denotes significance at the one percent level

**denotes significance at the five percent level

*denotes significance at the ten percent level