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The Precarious Link between Legislators and Constituent Opinion: Evidence from Matched Roll Call and Referendum Votes

John G. Matsusaka[*]

University of Southern California

This paper tests theories of representation by studying laws that were challenged by referendum. For these laws, we can observe legislator roll call votes and citizen votes on the same law. In a sample of 2,736 roll call votes on 21 laws in six states, I find that legislators voted congruent with majority opinion in their district 71 percent of the time, so representation generally "worked." However, when legislator preferences differed from district opinion on an issue, legislators voted congruent with district opinion only 35 percent of the time. Electoral pressure measured by vote margin, proximity of next election, and term limits had at most a weak connection with congruence. The evidence is broadly consistent with the assumption of the citizen-candidate (or trustee) theory that legislators vote their own preferences.

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[*] Marshall School of Business, University of Southern California, matsusak@usc.edu. This is the first draft; comments are welcome. I thank Nolan McCarty and participants at the Walter Eucken Institute conference in May 2014 for helpful suggestions. I thank USC for financial support.

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1. Introduction

One of the oldest debates about democracy is whether legislators ought to vote their conscience or vote the preferences of their constituents. The conscience or "trustee" view is often associated with Edmund Burke, who said, "Your representative owes you, not his industry only, but his judgment; and he betrays, instead of serving you, if he sacrifices it to your opinion;" while the "agent" or "delegate" view was captured by James Madison's observation that legislators should have "an habitual recollection of their dependence on the people [and] be compelled to anticipate the moment when their power is to cease [and] when their exercise of it is to be reviewed."[1] These alternative views of representation are instantiated in two streams of political economy research: in the citizen-candidate theory voters choose legislators who are assumed to implement their personal preferences when in office (Osborne and Slavinsky, 1996; Besley and Coate, 1997), while in political agency theory legislators are induced to follow constituent preferences by the threat of losing re-election (Barro, 1973; Ferejohn, 1986; Banks and Sundaram, 1993; Maskin and Tirole, 2004). Representation can be effective in both theories, but it works through different channels: with citizen-candidates, representation occurs at the selection phase while in the political agent model representation occurs through electoral incentives.

These two views lead to rather different conceptualizations of how democracy works and suggest different policy reforms to improve representation. No doubt both views have some practical relevance, but we would like to know their relative importance. They are not easy to distinguish empirically. Many studies have found that roll call votes are correlated with both legislator ideology and constituent interests, but such a pattern could be consistent with

[1] Edmund Burke, Speech to the Electors of Bristol, November 3, 1774; James Madison, *The Federalist Papers* No. 57.

both citizen-candidates and re-election motivated agents.[2] The core assumptions of the two theories suggest a way to distinguish them: while both theories imply that legislators usually vote in accordance with constituent opinion – citizen-candidates, because they share their constituents' views, and political agents, because they wish to be re-elected – the theories differ in their prediction of how legislators will vote when their ideological preferences *conflict* with district preferences. The citizen-candidate theory predicts that legislators will follow their personal preferences, while the political agency theory predicts that legislators will suppress their ideology and follow constituent opinion, at least in cases where their electoral prospects are precarious.

A big challenge in empirically evaluating these implications is determining when legislator votes are congruent with constituent preferences. This basic idea of this paper is that constituent preferences on a law can be directly assessed from referendum election returns. At present, 23 American states allow citizens to challenge state laws that have been approved by the legislature and governor, using what is typically called the referendum process.[3] In these states, if citizens collect a predetermined number of signatures from fellow citizens, an election is held in which voters have the option to confirm or repeal the law. I construct and study a new data set that includes 2,736 roll call votes, covering 21 laws in six states, for which district-level referendum election returns are available. The empirical strategy is to compare each legislator's roll call vote on a law with the referendum results in his or her district to determine whether the legislator was or was not congruent with majority opinion in the district.

In spirit, my approach follows Gerber and Lewis (2004), which also employs district-level ballot measure returns to identify constituent preferences. Gerber and Lewis use ballot measure returns to estimate district-level ideal points from a spatial model, and compare those

[2] The "classic" references are Kau and Rubin (1979), Kalt and Zupan (1984), and Peltzman (1984). See also Levitt (1996) and Poole and Rosenthal (1997). Stratmann (2000) uses redistricting to identify a connection between legislator votes and constituent preferences.

[3] Direct democracy terminology is not standardized; I follow the common practice of referring to a citizen-initiated proposal for a new law as an "initiative", a citizen-initiated proposal to repeal an existing law as a "referendum", a proposal placed on the ballot by the legislator as a "legislative proposal", and I use "measure" and "proposition" interchangeably as an umbrella term for any proposal that voters decide directly. See Lupia and Matsusaka (2004) or Matsusaka (2005) for a discussion of direct democracy terms and institutional details.

ideal points with estimated ideal points of legislators.[4] The main difference is that I do not compare abstract ideal points to measure congruence; rather, I compare the actual voting choices of legislators and their constituents on a set of specific laws. In addition to offering more direct estimates of congruence than the previous literature, and not requiring bridging assumptions to place ideal points on a similar scale, my approach yields congruence numbers with a natural interpretation rather than numbers that represent distances in an abstract space.

I find that representation "works" more often than not – legislators cast congruent votes 71 percent of the time – but that representation appears to "fail" almost one-third of the time. I then use the estimates of congruence to assess the core assumptions motivating the citizen-candidate/trustee and political agency theories by focusing on laws in which legislator and constituent preferences differ. I find that when a legislator's ideology, as measured by Shor and McCarty's (2011) NPAT common space scores, runs against district opinion (which happens for 37 percent of roll call votes), legislators vote their ideology 65 percent of the time and follow district opinion only 35 percent of the time. By comparison, when ideology and district opinion agree, legislators cast a congruent vote 93 percent of the time. These findings suggest that legislators in the sample behave more like citizen-candidates than political agents; when legislators disagree with constituents, legislators overwhelmingly vote their own preference.

As an additional test of this conclusion, I explore the effectiveness of competition in mitigating noncongruence. Although theoretical predictions are mixed, it is an article of faith among many scholars and reformers that increasing competition is the key to increasing the quality of representation (e.g. see the various contributions in McDonald and Samples (2006)). I compare the congruence of votes cast by legislators representing competitive versus noncompetitive districts. I find that legislators' proclivity to vote their ideology is only very weakly unconnected to the competitiveness of their district, to the amount of time before the next election, and to whether or not they are subject to term limits. For example, legislators

[4] Bafumi and Herron (2010), Masket and Noel (2011), and Kousser et al. (2014) employ a similar strategy. McCrone and Kuklinski (1979), which studied five California ballot measures in 1979, was perhaps the earliest use of ballot measure returns to measure district preferences. A team of researchers has assessed public opinion using ballot measure returns in Swiss electoral districts: Portmann et al. (2012), Stadelmann et al. (2013, 2014).

representing the most competitive districts are only 7 percent more likely to cast a congruent vote than legislators who have no electoral opponent. This "null" finding is robust to a variety of alternative specifications and does not appear to be due to low power of the tests. The absence of a connection between electoral competition and congruence reinforces the conclusion that representation mainly works through selection and not through electoral incentives.

The paper attempts to advance our understanding of the representation process by introducing a new data set, by employing a relatively unexploited method for measuring constituent preferences, and by offering new tests to distinguish between the citizen-candidate and political agency theories. The paper's main substantive findings – that legislators usually cast congruent votes, that ideology usually trumps district opinion when the two conflict, and that competition does not mitigate this pattern – together lend support to a core assumption of the citizen-candidate theory. The picture that most naturally fits the evidence is that elections serve to select candidates who are more-or-less ideologically aligned with the district's voters, but once in office legislators mainly follow their ideologies when voting, even when they are in a tenuous electoral position. The evidence does not imply that legislators ignore re-election considerations – indeed, approximately one-third of the time they defer to constituent preferences over their own ideological inclinations – but that the incentives provided by elections may be less important than their selection function. In this regard, the paper's conclusions reinforce those of Lee et al. (2004) and Besley (2005).

The paper also sheds light on the broader issue of popular dissatisfaction with elected officials. In the United States today, opinion surveys show high levels of dissatisfaction with the quality of representation; only 36 percent of respondents in a recent survey disagreed with the statement, "People like me don't have any say about what the government does."[5] One possible explanation for the current state of public opinion is provided by two recent studies finding that state policies are often not congruent with majority opinion in the state (Matsusaka (2010) finds a congruence rate of 59 percent while Lax and Phillips (2012) find a congruence rate of 48 percent, neither measurably better than the 50 percent congruence that would attain if policies

[5] Source: American National Election Survey, 2012.

were chosen by flipping a coin), that is, often voters are not getting the policies want. There are many potential causes of policy congruence, such as court overrides and legislative gridlock; the evidence here suggests that one cause of policy congruence may be ideological voting by legislators without regard to constituent preferences.

2. Constructs and Data

A general definition of congruence between legislator n and his or her constituents is $-|Y_n - Y_n^*|$, where Y_n is the legislator's vote (or voting record) and Y_n^* is the vote (or voting record) preferred by his or her constituents.[6] Previous research on congruence has estimated Y_n and Y_n^* as points on the real line based on a sample of votes --- roll call votes for legislators and some sort of district-level election returns for constituents (following Gerber and Lewis (2004)). Calculating congruence in this way requires a bridging assumption to place Y_n and Y_n^* on the same scale. Because the scale is arbitrary, the magnitude of the distance between Y_n and Y_n^* does not have a natural interpretation. My approach in this paper is to estimate congruence between roll call votes and referendum returns on a particular law, where $Y_n \in \{yes, no\}$ is the legislator's vote on a particular law, $Y_n^* \in \{yes, no\}$ is the majority view in the district based on referendum election results,[7] and

$$Congruence_i = \begin{cases} 1 & if \quad Y_n = Y_n^*; \\ 0 & if \quad Y_n \neq Y_n^*. \end{cases}$$

Using roll call votes coupled with referendum returns offers some advantages over previous estimates: because these decisions involve only two outcomes, approve or reject, they are naturally on the same scale and thus directly comparable without a bridging assumption. Also, they have a natural interpretation: $Congruence = 1$ means that the legislator is

[6] While the focus here is on congruence between roll call votes and constituent opinion, congruence can also be defined at the policy level, that is, in terms of whether the policy choices in a political unit correspond to majority opinion (Matsusaka, 2010; Lax and Phillips, 2012).

[7] With only two outcomes, the majority view in the district is unambiguous and equals the median outcome.

representing majority opinion in the district, and $Congruence = 0$ means the legislator is not representing district opinion.[8]

A. Referendums and Constituent Preferences

At present, 23 American states allow citizens to use the referendum process to challenge state laws approved by elected officials (passed by both houses of the legislature and approved by the governor). Implementation details differ, but in these states, if citizens collect a predetermined number of signatures from fellow citizens, an election is held involving the electorate at large in which voters have the option to confirm or repeal the law.[9] I use district level referendum election returns to measure the majority opinion of constituents in each legislator's district on a law.

To construct the sample, I began by identifying all state-level referendums during the period 2000-2014 using the database maintained by the Initiative and Referendum Institute (www.iandrinstitute.org). From this list of 54 ballot measures, I examined official election returns provided by each state's election division (typically the office of the secretary of state) to determine if returns were available by legislative district, or could be constructed from precinct-level data.[10] The necessary data are available for 21 referendums. For each referendum, I identified the roll call votes cast in each house of the state legislature on the law, based on the official records of each legislature. Laws are voted on several times en route to approval; I used the final roll call vote cast in each house. The 2,736 roll call votes associated with these

[8] Some studies attempt to measure congruence by regressing roll call votes on constituent characteristics, and interpreting the magnitude of the coefficient on constituent characteristics as the degree of congruence. Although this "correlation approach" has a surface appeal, several studies have shown that such correlations cannot capture congruence (Achen, 1977; Romer and Rosenthal, 1979; Erikson et al., 1993, ch. 4; Matsusaka, 2001).

[9] For example, in California, petitioners have 90 days after approval of a law to collect signatures from eligible voters equal to 5 percent of the number of votes cast in the previous gubernatorial election (as of 2015, roughly 505,000 signatures). For institutional details across the states, see Gerber (1999).

[10] Some referendums had to be excluded because states do not report sufficiently disaggregated data. Others were excluded because the state changed its district lines between the time of the roll call vote and the time of the referendum election (Alaska) and because the referendum was abandoned by its sponsors after qualifying for the ballot (California).

referendums form the core of the study. The 21 referendums are listed in Table 1, along with summary and descriptive information.

The referendums took place in six states: Alaska, California, Maryland, North Dakota, Ohio, and Washington. These states represent a mix of urban and rural, and include both "blue" and "red" states in terms of ideological orientation: Republicans are dominant in the legislatures of Alaska and North Dakota; Democrats tend to dominate in California, Maryland, and Washington; and Ohio has seen mixed control recently. The subject matter of the challenged laws covered fiscal, political, and social issues, and included hot-button topics of national interest such as same-sex marriage as well as issues of primarily local interest such as Alaska's law allowing aerial hunting of wolves and North Dakota's law allowing the University of North Dakota to discontinue the use of the name "Fighting Sioux" for its mascot. The ideological orientation of the laws was also mixed, with some proposing to move policy in a liberal direction (e.g. allowing same-sex marriage or granting tuition to illegal immigrants) and others proposing to move policy in a conservative direction (e.g. allowing charter schools or limiting collective bargaining by public employees). Voters chose to repeal one-third of the laws in question.

An alternative approach to identifying constituent opinion would be to use opinion surveys. Opinion surveys on specific laws are seldom available at the district level. Referendum election results offer some advantages over opinion surveys when it comes to measuring preferences. First, election returns indicate opinion on exactly the same law approved by the legislature, while opinion surveys usually summarize the law in question when polling voters. Because "the devil is in the details," the summaries may fail to capture elements of the law that turn out to be important to voters. Second, votes in referendum elections actually make law – citizens are not giving off-the-cuff opinion on a matter over which they have no control but are casting votes that aggregate into an actual law. Third, election returns come closer to giving the informed opinion of citizens because the votes are cast after a campaign in which contending groups publicize the benefits and costs of the law, as they see them, and opinion leaders (such

as newspapers and interest groups) give their assessment.[11] A possible limitation of election returns is that not every person votes so the numbers may not give an unbiased estimate of district opinion. The severity of this limitation depends on the question to be asked; if the goal is to understand how electoral incentives influence legislator behavior, then it may be desirable to focus on the views of those citizens who vote and not the abstainers.

One issue that is relevant for the external validity of the roll call votes studied in this paper is whether referendums are anticipated, causing legislators to vote differently on these laws than other laws. If legislators expect a law to be put to a vote of the people, their decision calculus may be different; they may vote no in order to avoid being overruled or may vote yes simply to give voter the final decision. As a practical matter, referendums are extremely rare. As noted, there have been only 54 state-level referendums in the 21st century, compared to many thousands of laws that have been passed in the 23 states that allow referendums. Aggrieved group may threaten a referendum, but the cost of collecting petitions in a compressed time period is typically prohibitive. It is plausible to assume that when legislators cast their votes on the laws studied in this paper, they did not expect the law to go to a referendum, and so their voting behavior on these laws is likely to have been similar to their behavior on other laws.[12]

B. Ideology and Disagreement

I capture legislator ideology using the NPAT common space scores constructed by Shor and McCarty (2011) for state legislators during the period 1993-2013.[13] These scores assign each legislator a scalar (ranging from –2.69 to 2.95 in the sample); negative numbers are naturally

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[11] To illustrate how opinion can change in the course of a campaign, I compared the initial opinion survey with final election returns for a sample of 242 California ballot propositions during the period 1958-2014. Opinion data were collected by the Field Poll. The mean absolute change in the percentage of votes in favor was 15 percent.

[12] The argument given here for external validity would not apply to laws that are known to *require* voter approval, such as bond proposals and constitutional amendments in some states. When voting on such proposals, it is not uncommon for legislators to vote yes in order to let voters decide issue, even though they are not necessarily in favor themselves. Thus, one needs to be careful in generalizing from roll call votes on issues that require popular approval, such as those used in studies of Switzerland.

[13] More precisely, I use the July 2014 updated scores, available online at http://americanlegislatures,com. I thank Nolan McCarty and Boris Shor for helping me navigate through the data.

interpreted as relatively liberal positions and positive numbers as relatively conservative positions. By construction, the scores do not vary over time. There is a close connection between ideology and partisan affiliation: the mean score for Democrats is -1.19 and the mean for Republicans is 1.00, with the difference statistically significant at the 1 percent level.

The use of NOMINATE and similar ideal point scores as a proxy for ideology is a common practice. Technically the scores are simply a low dimensional representation of a legislator's history of roll call votes, meaning they could be determined not only by ideology, but also by external influences such as party membership, interest group pressure, and constituent opinion. Several arguments have been offered for interpreting these ideal point estimates as ideological preferences: the estimates are farily stable throughout a legislator's career; a legislator's ideal point estimate rarely changes when his or constituency changes, such as when the legislator moves from one chamber to another or when major redistricting occurs; Senators from the same state often have quite different estimated ideal points, suggesting that ideal points are not simply induced by constituents; and same-party replacements of an incumbent legislator can have very different ideal points from their successors.[14]

Despite evidence suggesting that ideal point estimates are effective proxies for ideology, they may incorporate other information as well. To mitigate the possibility of patterns being driven by these other factors, my estimates do not rely on the precise estimate of a legislator's ideal point, but only on whether the estimate is on the "left" or "right" side of the distribution. That is, in most estimates, I collapse NPAT scores into two categories, called "liberal" and "conservative." The working assumption is that the ideal points are sufficiently reliable indicators of ideology to assign each legislator to one of the two broad categories. This potentially entails a significant loss of information, but as will be seen the simple classification displays a fair amount of explanatory power. When it comes to a central question of the study – how responsive legislators are to constituent opinion – to the extent that NPAT scores incorporate information about constituent preferences, explicitly controlling for constituent opinion will tend to rob the NPAT scores of their explanatory power.

[14] See McCarty (2011) for a longer discussion. Also see Poole (2007).

To assess the role of preference disagreement on voting behavior, it is necessary to compare the legislator's and the district's view on an issue. The district's view comes from referendum returns. The legislator's view comes from his or her ideology in conjunction with the ideological orientation of the law in question. To determine the orientation of each law, I estimated two regressions that sought to "explain" voting behavior based on party membership. Specifically, I regressed roll call votes on legislator party membership, and I regressed district election returns on the percentage of votes received by the Democratic candidate in the preceding legislative election. In 18 of 21 cases, both regressions revealed a statistically significant between votes and party; in those cases the laws were assigned the ideological orientation revealed by the regression (where Democrat=liberal). The orientations conform to what a political observer would expect, for example, allowing same-sex marriage (Maryland, Washington) and requiring employers to provide health insurance (California) are classified as liberal issues, while allowing charter schools (Washington) and restricting public employee collective bargaining (Ohio) are conservative issues. The issues without a clear partisan/ideological orientation were flagged as such, and are treated separately below.

To determine a legislator's preference on a law, first I classified each legislator as liberal if his or her NPAT score was negative and conservative if his or her NPAT score was positive. Dividing ideologies at the point zero is somewhat arbitrary, especially since the common space scale is arbitrary. But it turns out that the legislators are polarized with few scores in the vicinity of zero. For robustness, I explore other cutoff points below; as will be seen the main findings are not dependent on the cutoff points, and the simple division of legislators into two groups has a good amount of explanatory power. I then compare a legislator's ideological classification (conservative or liberal) with the orientation of a law to determine if the legislator's preference would be to vote in favor or against the law. Finally, I compare the legislator's preference with majority opinion in the district to determine if there is a disagreement, and construct a dummy variable DISAGREE that is equal to one if the legislator and district prefer different outcomes. That is, DISAGREE takes on a value of one if a liberal legislator is voting on a liberal law opposed by the district, if a conservative legislator is voting on a conservative law opposed by

the district, if a liberal legislator is voting on a conservative law supported by the district, and if a conservative legislator is voting on a liberal law supported by the district.

C. Competition and Other Electoral Pressure

To assess the importance of electoral pressure, I collected data that allow construction of three variables that have been linked to re-election concerns. For each district, I collected information on the votes received by the top two candidates in the previous legislative election in the district. These data allow construction of the "competitiveness" of the district; following the literature, I measure competitiveness as the vote margin, defined as the difference between the votes received by the winner and runner up, divided by their combined votes.

Electoral pressure may also be exerted by proximity of the next election. If voters are myopic, legislators may be more responsive to constituent interests when the next election is imminent than when it is far in the future. Based on state law, I determine the date of the next legislative election in each district.

Finally, if a state has term limits for state legislators, I determine how many years each legislator has before he or she is forced out of office. Political agency theory implies that legislators should be less attentive to constituent interests when they are ineligible to stand for re-election. This implication needs some qualification in light of the observed prevalence of legislators in term-limit states to seek election to other state and local offices when they must leave their current office; if they intend to continue their political careers they may still care about constituent opinion. Although term-limited legislators may not completely ignore constituent opinion, it seems plausible that their electoral incentives would be muted because they would not face exactly the same constituents when running for another office.

I also collected personal information on each legislator's party and gender. Party membership is potentially relevant because a body of theory suggests that the majority party forms a coalition or cartel to advance the party's interest, and the coalition functions by ensuring that its member vote in accordance with the party agenda, not necessarily in accordance with their individual constituent interests; policy outcomes then reflect the ideal point of the median member of the majority power, not the median member of the entire

legislature (see Cox and McCubbins (1993, 2005)). Gender is of interest because some recent research claims that female legislators vote differently than male legislators (Stadelmann et al. (2014) for Switzerland) while other research finds no difference in policy choices of female and male mayors (Ferreira and Gyourko, 2014). Table 2 reports summary statistics on the explanatory variables.

3. Basic Patterns of Congruence

Because there is no existing study that calculates congruence of individual votes among American legislators, I begin with descriptive information on congruence. Figure 1 reports the percentage of congruent roll call votes by issue and overall. The solid dots indicate congruence based on all roll call votes cast in the state on the law. Overall congruence was 71.1 percent on the 2,736 roll call votes in the full sample. Congruence was almost identical in the upper chamber (72.0 percent) and lower chamber (70.9 percent). The lowest congruence was on the second California insurance lawsuit law in 1999 (41.4 percent) and Washington's unemployment insurance tax in 2002 (41.7 percent). Both laws were repealed by the voters. The highest congruence was on California's health insurance law of 2003 (92.4 percent, including 100 percent in the senate). Interestingly, this law was also repealed. These numbers indicate that more than one-quarter of roll call votes were cast contrary to the preferences of a majority of people in the legislator's district.

The premise of the following analysis is that legislators deliberately choose whether to follow constituent interests or not. However, it is possible that legislators deviated from constituent preferences by accident: faced with hundreds if not thousands of votes during a legislative session, and with tens of thousands of constituents to represent, occasionally even a faithful representative may have to act with limited information about constituent views and might make an "honest mistake."[15] Given limited time to solicit district opinion and a scarcity of district-level polls, legislators might find it difficult to ascertain the preferences of constituents on a given issue.

[15] This idea has been explored theoretically in Matsusaka (1992) and Matsusaka and McCarty (2001).

We can explore this possibility by observing that it is easier to make an honest mistake when voter opinion is evenly divided than when it is one-sided.[16] Based on this observation, Figure 1 also reports congruence only for districts in which opinion was "one-sided" in the sense that the majority was greater than 55 percent; these estimates exclude the most plausible cases of misinterpreted district opinion. In the non-deleted districts, opinion was one-sided so that legislators should have been able to determine the majority view. The figure shows that legislators in the one-sided districts voted more congruently overall and for all but two issues than legislators in the other districts. Even so, congruence in this subsample is not all that different from the full sample: for the 2,155 votes in one-sided districts, congruence was 73.8 percent overall, only 2.7 percent higher than the full sample. This suggests that most representation "failures" observed in the full sample are probably not due to honest mistakes about constituent preferences, but rather are deliberate choices.

Alaska's wolf hunting law of 1999 is an interesting case in point. The law was passed by large majorities in both the senate (14 in favor and 5 against) and house (27 in favor and 11 against), yet it was rejected in 29 of the state's 40 house districts and repealed statewide. Congruence was only 53 percent in the house and 47 percent in the senate. Was it simply a matter of legislators misunderstanding that their constituents objected to this way of hunting wolves? Possibly, but against this interpretation is the fact that the law in question, SB 267, overrode an existing law banning such hunting that voters had approved by initiative in 1996, only three years earlier. Thus, each legislator had a fairly clear statement of his or her constituent's opinion on the issue from the previous election. It seems likely that most legislators understood constituent preferences on this issue but chose to proceed anyway.

4. Citizen-Candidates or Political Agents?

The picture that emerges from the preceding section is that legislators represent constituent opinion most of the time, but there are still many instances when they cast votes

[16] A related possibility is that election returns are noisy and do not accurately represent district opinion. Again, this is more likely to be the case when opinion is evenly divided than when it is one-sided. In the extreme, when district opinion is evenly divided between yes and no voters, the concept of a representative roll call vote is not well defined.

contrary to constituent opinion. Those contrary votes do not appear to be mistakes, but rather deliberate choices.

This section explores the reason for noncongruent votes. Understanding the causes of noncongruent voting helps distinguish two broad classes of political economy theories. According to the citizen-candidate theory, elections serve to select legislators who share voter preferences, with the understanding that once elected, legislators will follow their personal preferences. According to the political agency theory, elections serve to incentivize legislators to cast congruent votes, and punish them if they do not. The two theories are not mutually exclusive, but their relative importance can be assessed by focusing on situations in which a legislator's personal preferences run opposite to constituent preferences. In these situations, the citizen-candidate view predicts that legislators will follow their own preferences, while the political agency view predicts that legislators will be induced by electoral peril to follow constituent preferences, and increasingly so when re-election races are competitive and imminent.

A. The Role of Legislator Preferences

I begin by examining the role of disagreement between legislators and their constituents. Table 3 explores the connection between congruence, constituent interests, and ideology. Each row reports the percentage of congruent roll call votes cast when the legislator's ideology agrees and disagrees with majority opinion in his or her district. The first row includes all roll call votes, and classifies the orientation of laws based on roll call vote regressions. With ideological agreement, congruence is 92.5 percent, meaning that legislators almost always vote in accordance with constituent opinion when they happen to agree with it. Thus, representation "works" quite well when voters select a legislator whose ideology matches their preferences. In contrast, when the legislator disagrees with district opinion, congruence is only 35.1 percent; which is to say that legislators follow their own preferences 64.9 percent of the time when they disagree with constituents. If elections generate incentives for legislators to adhere to constituent opinion, those incentives appear to be inadequate almost two-thirds of the time. The

second row of the table reports the same information but classifies the ideological orientation of laws based on district votes, not roll call votes. The basic pattern is the same.

Next I explore some possibilities that could lead to spurious findings, particularly, that could cause the congruence rate for DISAGREE to appear misleadingly low. One possibility, discussed above, is that majority opinion in a district is misclassified. Because misclassification is more likely when district opinion is evenly divided than when it is one-sided, we can get a sense of this issue by restricting the sample to districts in which opinion was one-sided. The third, fourth, and fifth rows report congruence rates when the size of the majority in the districts was 55 percent, 60 percent, and 75 percent, respectively. The pattern remains even for districts with one-sided opinion: legislators almost always vote with district opinion when they agree with it and usually vote against district opinion when they disagree with it.

Another possibility is that legislator opinion is misclassified. Recall that legislators are assigned an ideology based on whether their NPAT common space score is positive or negative. Misclassification is more likely for scores that are near zero. Therefore, we can get a sense of the possibility that ideological misclassification drives the results by restricting the sample to legislators whose ideology is far from zero. The sixth, seventh, and eighth rows restrict the sample to legislators with an absolute NPAT score in excess of 0.5, 0.75, and 1.0, respectively. Again, the basic pattern is unchanged even if legislators whose ideology is most likely to be misclassified are omitted.

The bottom three rows of the table apply the district majority and legislator ideology filters simultaneously, that is they delete observations in which both district opinion and legislator ideology are most likely to be misclassified. Each successive row applies a more stringent filter; in the bottom row only observations in which the district majority exceeded 70 percent and the legislator's ideology was greater than 1.0 or less than -1.0 are retained. If anything, the basic patterns become more pronounced with these filters. In the bottom row, congruence was 99.3 percent when the legislator and district agreed, and only 14.6 percent when they disagreed.

The natural interpretation of this evidence is that ideology drives the roll call votes of legislators, and that district opinion often does not matter when it conflicts with legislator

ideology. However, this evidence is not produced by random assignment of ideology to districts so a causal interpretation requires some caution. Because NPAT common space scores are based on roll call votes, once could imagine that the ideology measures partially proxy for constituent opinion on an individual law. If constituent opinion drives roll call votes and ideology is a proxy for constituent opinion, one would expect ideology to predict roll call votes, but this would not account for the low congruence when there is ideological disagreement. The possibility of spurious correlation cannot be entirely eliminated in Table 3, but it is not easy think of an alternative story that could generate the observed patterns.

Table 4 explores the connection between congruence, ideology, and constituent preferences parametrically through a series of regressions that allow for possible confounding factors to be controlled. Each column reports coefficients from a linear probability regression in which the dependent variable is a dummy equal to one if a legislator cast a congruent vote.[17] Standard errors, clustered by law-chamber, are reported beneath the coefficient estimates. In addition to the explanatory variables reported in the table, each regression includes law-chamber fixed effects, which control for the possibility that mean congruence rates vary by law and by chamber. Fixed effects come with a cost; they prevent investigation of the possibility that lower chambers – with their shorter terms – are more responsive.

The regression in column (1) of Table 4 includes one explanatory variable (other than the fixed effects), a dummy equal to one if the legislator's ideology differs from the majority view on a given issue. The ideological orientation of each law is determined by roll call votes. The coefficient on DISAGREE summarizes the mean effect of disagreement after adjusting for law-chamber differences in congruence rates. The coefficient of -0.57 indicates that ideological disagreement reduces the probability of congruence by 57 percent, comparable to the difference observed in the means in Table 3. The coefficient is different from zero at better than the 1 percent level of statistical significance. Column (2) reports a regression in which the ideology of laws is determined based on district votes. The coefficient is essentially unchanged and not

[17] The results are essentially the same with logistic regressions, except as noted.

meaningfully different from the finding in column (1). For the rest of the table, laws are classified based on roll call votes.

Regression (3) in Table 4 adds three control variables to the regression, each of which is of interest in its own right. A dummy for Republican (as opposed to Democratic or Green) legislators allows for the possibility that one party represents voters better than the other party. A dummy for whether the legislator is a member of the majority party allows for the possibility that the majority party exerts pressure on its members to deliver policies that are optimal for the party (see Cox and McCubbins (1993, 2005)). Finally, a dummy equal to one for male as opposed to female legislators allows for the possibility that representatives of different genders represent differently, as suggested by some previous research. It turns out in regression (3) and all other regressions in the paper that the coefficients on all three of these variables are always small in magnitude and never statistically significant. So these data give no reason to believe partisan identification, membership in the majority party, or gender have an effect on congruence. Inclusion of these three control variables does not change the coefficient on DISAGREE in a material way.

Regressions (1)-(3) of Table 4 capture ideological disagreement with a dummy variable. Beyond the basic fact of agreement or disagreement, we could imagine degrees of disagreement. Regression (4) includes variables to explore this possibility. On the legislator side, the regression introduces a term that interacts the DISAGREE dummy with the absolute value of the ideology variable. On the constituent side, the regression introduces a variable equal to the size of the majority (for example, if opinion was divided 60-40, then the size of the majority is 60 percent). The coefficients on the extremity of the legislator's ideology are small and statistically insignificant at conventional levels. It could be that ideological extremity does not matter or that ideology is not estimated precisely enough to detect a connection between congruence and fine gradations in ideology.[18] The size of the district majority, on the other hand, clearly matters. The coefficient of 0.80 indicates that a 1 percentage point increase in the size of the majority increases the probability of congruence by 0.8 percent. The coefficient is different from zero at

[18] The interaction term is statistically significant at the 5 percent level with a logistic specification.

the 1 percent level of significance. Legislators pay attention to majority opinion in their districts, and increasingly so as the size of the majority grows.

Regression (4) of Table 4 assumes that ideology and district opinion exert independent effects on congruence. However, we might expect district opinion to be influential mainly when there is ideological disagreement, or conversely. To allow for this possibility, regression (5) introduces an interaction term between ideological disagreement and district opinion. I omit the ideological extremity variables because they have no effect. The coefficient on the interaction term is negative, but imprecisely estimated and cannot be distinguished from zero at conventional levels of statistical significance; we cannot reject the additive specification.[19]

Regression (6) in Table 4 repeats regression (5) but restricts the sample to districts with one-sided constituent opinion, defined as above as a majority greater than 55 percent. In substance, the findings are the same for this subsample, reinforcing the conclusion that the observed effects represent deliberate choices and not honest mistakes by legislators. The findings are essentially the same if only districts with a majority greater than 60 percent are retained (regression not reported).

The regressions in Table 4 employ 36 to 40 clusters, depending on the sample. With fewer than 50 clusters, we may have a "few-clusters" problem, meaning that standard test statistics will over-reject the null hypothesis. Cameron et al. (2008) show that this problem can be severe. Cameron and Miller (forthcoming) suggest that one strategy for addressing this problem is to use G -1 degrees of freedom for *t*-tests, where G is the number of clusters. The standard errors reported in the table use this adjustment. Another strategy suggested by Cameron and Miller (forthcoming) is to use the wild bootstrap to estimate the distribution of *t*-statistics. The basic idea of bootstraps is to generate pseudo-samples from the original sample, use each pseudo-sample to calculate the test statistics, and use the distribution of the test statistic across the pseudo-samples to infer the distribution of the test statistic in question; the wild bootstrap uses a particular algorithm to calculate the pseudo-samples. Cameron et al. (2008) show that the wild cluster bootstrap method can improve on the degrees of freedom

[19] The coefficient on the interaction term is different from zero at the 5 percent level with a logistic specification.

approach when the number of clusters is very small (they study cases in which the number of clusters is less than 30). To get a sense of the reliability of the test statistics in the paper, I construct *p*-values using the wild bootstrap cluster method for key coefficients in Table 4, and compare them to the *p*-values from the degrees of freedom method. Those numbers are reported in the bottom four rows of the Table 4. As can be seen, the *p*-values for the two methods are fairly similar, suggesting that the test statistics do not suffer from a few-clusters problem.

To summarize, legislator voting behavior appears to be driven largely by ideology. When a legislator's preferences are aligned with majority opinion in the district, the legislator votes with the district 93 percent of the time; when the legislator disagrees with district opinion, the legislator votes with the district only 35 percent of the time. About two-thirds of the time, then, legislators behave more like citizen-candidates or trustees than re-election motivated political agents.

B. The Role of Electoral Pressure

The preceding evidence shows that legislators usually follow their own preferences when their views conflict with those of their constituents. This is one of the most direct implications of the citizen-candidate theory. I next explore one of the most direct implications of political agency theory, that electoral competition and reelection incentives in general, help bring about congruence.

A common measure of electoral competition is the vote margin between the winning and losing candidate. Following the literature, I define the vote margin in a district as the difference between the votes received by the winner and the runner-up, divided by the sum of their votes, in the preceding legislative election. This inverse measure of competition ranges from zero in the case of a tie, to 1.0 in the case of a candidate running unopposed. Many legislative districts have almost no effective competition: for the full sample, 15 percent of districts had only one candidate, and in 27 percent of districts, the vote margin exceeded 50 percent (meaning that the winner received more than 75 percent of the votes.)

We seek to answer two questions: Does congruence rise as electoral competition increases; and does increased competition reduce the effect of ideological disagreement, perhaps entirely erasing the effect of ideology with enough competition? Figure 2 shows the simple nonparametric relation between congruence and vote margin, based on a kernel regression. The figure is included primarily for descriptive purposes as it includes no controls, but it foreshadows two basic patterns that appear in the parametric estimates; one is the dearth of evidence for the idea that congruence increases in competitive districts; and the other is the lack of evidence that competitiveness chips away at the importance of ideology.

Table 5 reports a series of regressions of congruence on various measures of electoral pressure. The regression in column (1) adds three competition dummies to the baseline specification that includes disagreement, the size of the district majority, and the other control variables. The coefficients on the dummies indicate the difference in congruence between districts with the indicated vote margin compared to the omitted category of districts with vote margins greater than 10 percent.[20] The estimates provide at most weak support for the view that electoral pressure increases congruence. The coefficient on the dummy for the most competitive districts, with a vote margin less than 2.5 percent (115 cases), is positive and different from zero at the 5 percent level. The other two vote margin coefficients have the "wrong" sign and are not different from zero at conventional levels of statistical significance. Even in the case in which competition appears to matter, the magnitude of the implied effect is small: a legislator in the most competitive district is only 7 percent more likely to cast a congruent vote than a legislator in any other district, including completely uncompetitive districts. To put this in perspective, the competition effect in the most competitive districts chips away only about one-eighth of the ideological disagreement effect (0.54). From a policy perspective, increasing competitiveness of districts does not promise a big improvement in representation.

Column (2) of Table 5 reports a regression that allows the relation between congruence and vote margin to vary according to whether or not there is ideological disagreement between the legislator and the district. None of the interaction coefficients are significant, and their

[20] I explored a large number of alternative specifications; there is nothing unique about the findings in the reported specifications except that they highlight the differences in the very closest districts.

magnitudes are small. Of course, an insignificant coefficient does not mean that there is no effect, only that the coefficient is too imprecisely estimated to distinguish it from zero. But we can get a sense of upper bound of the true coefficients by adding twice the standard error to the estimate. Using this method, the upper bound on the effect in the most competitive districts is $0.07 + 2 \times 0.04 - 0.0005 + 2 \times 0.08 = 0.3095$. Under the most favorable assumptions, the most competitive districts chip away less than 60 percent of the disagreement effect.

Another source of electoral pressure is an upcoming election. Although there is evidence that voters are not as myopic as sometimes believed (Peltzman, 1990), voters may remember better actions taken immediately before an election than actions taken years earlier. Based on this idea, the regression in column (3) of Table 5 introduces a variable equal to the number of years remaining before the next election in the district. This variables ranges from zero to three years. If an imminent election puts pressure on legislators to attend to district opinion, the coefficient on this variable would be negative. The estimated coefficient is positive, and it cannot be statistically distinguished from zero. The point estimate implies that standing for election in the year of the roll call vote compared to standing for election three years down the line is associated with 1 percent lower congruence. Using the two standard deviation rule of thumb to establish an upper bound for an effect running in the "right" direction gives at most a 3 percent increase in congruence associated with an immediate election compared to an election three years in the future. The regression in column (4) is the same as column (3) except that the three vote margin dummy variables are included. Nothing material changes with respect to any of the variables of interest. The regression in column (5) adds interaction terms with the disagreement variable to allow for the possibility that electoral pressures have a different effect when there is disagreement between a legislator and the district on an issue. Nothing important changes in this specification either. The main conclusion that competitive districts and imminent elections have at most a small effect on congruence appears to be robust.

C. Term Limits

Another way to assess the importance of electoral motives is to consider how legislator voting changes when they no longer face the prospect of standing for re-election. The decision

to stand for re-election in most cases is endogenous, but in states with term limits, it is not. The next estimates focus on the two states in the sample that impose term limits on state legislators, California and Ohio. During the sample period, California restricted assembly members to a maximum of three 2-year terms, and restricted senators to two 4-year terms; Ohio restricted house members to four consecutive 2-year terms and restricted senators to two consecutive 4-years terms.[21]

Political agency theory assumes that legislators are motivated to mind constituent interest by the need to stand for re-election.[22] According to this theory, then, legislators should be less attentive to constituent interests as they near the end of a term, and in the extreme, they can fully indulge their personal preferences once they are no longer eligible to stand for re-election. In practice, in term limit states politicians often jump from one public office to another when they hit a term limit, for example, they may move from the lower chamber to the upper chamber then to the local city council. So the extreme case where a term-limited legislator faces no future electoral incentives applies only to a politician who intends to entirely leave politics at the end of the term. Although legislators have some reason to care about constituent preferences even at the end of a term, those incentives are muted because any subsequent campaigns would involve a different group of constituents.

Table 6 reports congruence regressions that include controls for term limits. The regression in column (1) includes a variable equal to the number of years remaining before the legislator is termed out of office. For the sample, the range is zero to 11 years. If re-election incentives influence voting behavior, then legislators with more time remaining should vote more congruently, meaning that the coefficient should be positive. The estimated coefficient is positive, as expected, but not different from zero at conventional levels of significance, and the magnitude is small. Taking the coefficient of 0.007 at face value implies that a legislator in the final year of his or her term, compared to a legislator with seven years remaining (a typical case

[21] Ohio allows term-limited legislators to run again for the office after a four-year absence. California's rules were changed in 2012 by Proposition 28 that allows a legislator to serve up to 12 years total, possibly all in one chamber.

[22] For theory and evidence on term limits, see the collected essays in Grofman (1996) and Besley and Case (2003).

for a newly elected legislator in Ohio or a newly elected senator in California), is only 4.9 percent more likely to cast a congruent vote.

The sample is restricted to the two states with legislative term limits. One interesting difference in this sample is that the coefficient on disagreement is about half the size of the coefficient that appears in the full sample. This suggests that California and Ohio legislators are much less likely to follow their personal preferences when they oppose constituent opinion than legislators in the other states. Along the same lines, the coefficient on size of the majority in the district is much larger in this sample than in the full sample. Although the estimates do not reveal an incentive effect from term limits, it is possible that the existence of term limits induces greater attention to constituent preferences through the selection of representatives who are more inclined to follow district opinion.

The regression in column (2) of Table 6 adds a dummy for districts with a vote margin less than 2.5 percent. This produces no material change in the term limits coefficient. The coefficient on the competition variable is positive, different from zero at the 1 percent level, and sizeable: a legislator in one of these highly competitive districts is 16 percent more likely to cast a congruent vote. Electoral competition seems to matter more in these states than the others. But even so, the competition effect only chips away about half of the disagreement effect.

The regression in column (3) of Table 6 accounts for term limits in different way, as a dummy variable equal to one if a legislator is ineligible to stand for re-election, that is, if the legislator is in his or her final term. If re-election concerns are important for congruence, the coefficient on the dummy should be negative. The estimated coefficient is negative and statistically different from zero at the 5 percent level. However, the magnitude of the coefficient is modest, implying that serving in a final term reduces congruence by 5 percent. The regression in column (4) adds the vote margin variable. The term limits dummy remains modestly negative and statistically significant (now at the 10 percent level). The vote margin variable continues to indicate that congruence is higher in the most competitive districts.

The evidence in Table 6 reinforces the general message from the rest of the paper. Legislators pay some attention to constituent preferences, and they are not insensitive to

electoral pressures, but their roll call voting is predominantly influenced by their own ideology. They behave mainly like citizen-candidates and only modestly like political agents.

5. Discussion and Conclusion

This paper evaluates theories of representation based on a comparison of legislator roll call votes and referendum election returns. By comparing roll call votes and referendum results on precisely the same laws, we can directly measure whether or not a legislator cast a vote congruent with majority opinion of his or her constituents. In a sample of 2,736 roll call votes on 21 laws in six states, I find that 71 percent of roll call votes are congruent with majority opinion in a legislator's district. In this respect, representation appears to "work" more often than not, although the 29 percent "failure" rate is not inconsequential.

The core of the paper is an evaluation of two prominent theories of representation. The citizen-candidate theory (one formalization of the venerable "trustee" view) assumes that legislators vote according to their personal view of what is the best policy; in this view representation works by selecting individuals whose personal views correspond with majority opinion in the district. The political agency theory assumes that legislators are induced to heed constituent opinion by the threat of being rejected when they stand for re-election. A fundamental difference between the two theories arises when the legislator's personal view about the correct policy choice conflicts with the views of his or her constituents. In the citizen-candidate model, the legislator follows his or her personal opinion while in the political agency model, the legislator follows constituent opinion, as long as there would be an electoral consequence to doing otherwise. I find that when a legislator's ideological preference on an issue conflicts with district opinion, the legislator votes his or her own view 65 percent of the time. Thus, legislators appear to more as citizen-candidates than political agents.

This conclusion is reinforced by evidence on the connection between electoral pressure and congruence. I find some evidence that legislators are more likely to vote their constituents' preferences when the district is highly competitive, as measured by the vote margin in the previous legislative election, but the effect is modest in magnitude and nowhere close to counterbalancing the effect of ideology even in the most competitive districts. I find no evidence

connecting congruence with proximity of the next election. I do find some evidence that legislators in about to be termed out of office are less likely to cast a congruent vote, but again the magnitude of the effect is modest. In short, legislators appear to respond to electoral incentives at the margin, but this responsiveness is quite limited, and even the strongest electoral pressures offset only a small part of the ideology effect.

These findings have implications for the theoretical research on representation. The most obvious conclusion is that the class of citizen-candidate models in which voters essentially elect trustees seem to have much more explanatory power than political agency models.[23] This conclusion raises the related question of why legislators do not seem more concerned with re-election incentives, particularly because anecdotally there is reason to believe that legislators do consider the electoral consequence of their votes. One possibility is that legislators pay close attention to constituent opinion on a subset of votes, those that are particularly important to constituents or those that are likely to be known by constituents. This would suggest a model in which voters elect citizen-candidates who pursue their own preferences most of the time, except for high profile issues.[24] It would be interesting to explore what such a model implies for the policy making process. For example, such a model might imply that major policy changes will not occur through legislators responding to changes in public opinion, but only through a change in legislators.[25]

The findings also have implications for political reform. Insufficient competition is often seen as a source of many maladies that are believed to plague American democracy, and many reform proposals focus on increasing competition (e.g. see the various chapters in McDonald and Samples (2006)). For example, nonpartisan primaries are valued as a way to ensure that there are two credible candidates on the general election ballot; independent redistricting is valued in order to prevent legislators from creating safe districts in which they face no

[23] Another conclusion is that the median voter model does not provide a good description of roll call voting behavior, a conclusion that is already known from previous research (e.g. Besley (2005)).
[24] However, my sample does include a number of issues that would normally be considered highly salient and visible to voters, such as same-sex marriage, mandatory employer health insurance, and tuition breaks for illegal immigrants, so it is not clear that re-election incentives are sufficient to drive congruence even for the most prominent issues.
[25] McCarty et al. (2013) provide a narrative of federal responses to financial crises that has this flavor.

competition; and campaign finance regulation is intended to level the playing field and ensure than challengers have adequate funds to compete. The findings in this paper are not encouraging about the ability of heightened competition to increase congruence. To be more precise, the evidence suggests that the effect of heightened competition on congruence is likely to be modest insofar as it influences re-election pressure. However, if the findings in this paper prove to be generalizable, competition may have an important role to play in ensuring the selection of representatives who share the views of their districts. In the sample I study, legislators agree with majority opinion in their districts 63 percent of the time, not a small number, but it might be possible to bring about the election of representatives whose personal views are more closely aligned with those of their constituents.

Competition has also emerged as a possible organizing principle for election law. The argument in simple terms is that judges should move away from thinking about democracy in terms of rights (of individuals, or groups, of states) and more in terms of creating a competitive environment. In the words of one influential article, Issacharoff and Pildes (1998, p. 649), the "judiciary should destabilize political lockups in order to protect the competitive vitality of the electoral process and facilitate more responsive representation." The premise of the argument – that competition makes government more responsive – appears to be true, but the connection is much weaker than might have been expected. The evidence suggests that emphasis ought to be placed on competition as a way to select better aligned representatives rather than as a way to induce existing officeholders to place less weight on their personal views.

Finally, the paper offers a method to compare legislator votes and constituent preferences that might be useful for addressing other questions related to representation. The main virtue of the approach is that constituent opinion can be observed on precisely the same law on which a legislator voted. This avoids the need for bridging assumptions to connect legislator and constituent opinions that essentially force the researcher to focus on comparing general ideology measures rather than examine actual votes. And it allows avoidance of the "correlation approach" that is known to have serious limitations. The downside of this approach is that the number of referendums that can be studied is not large.

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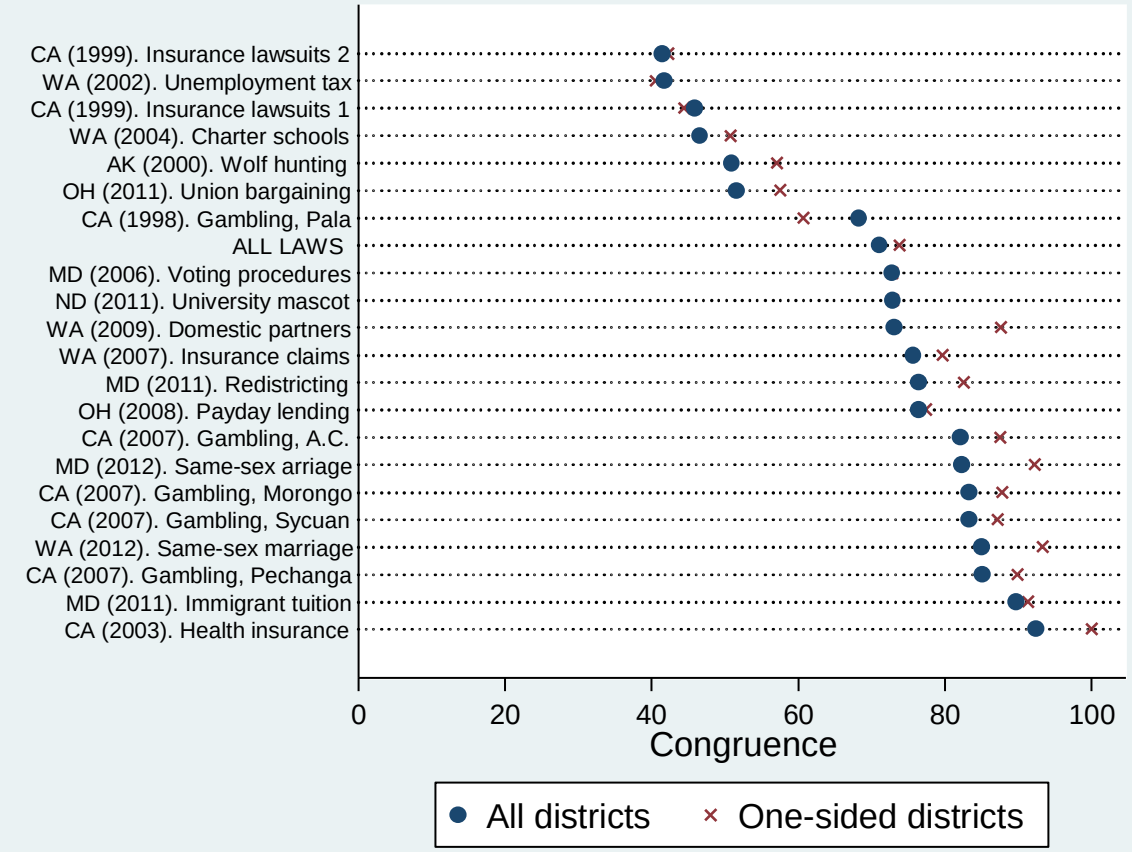
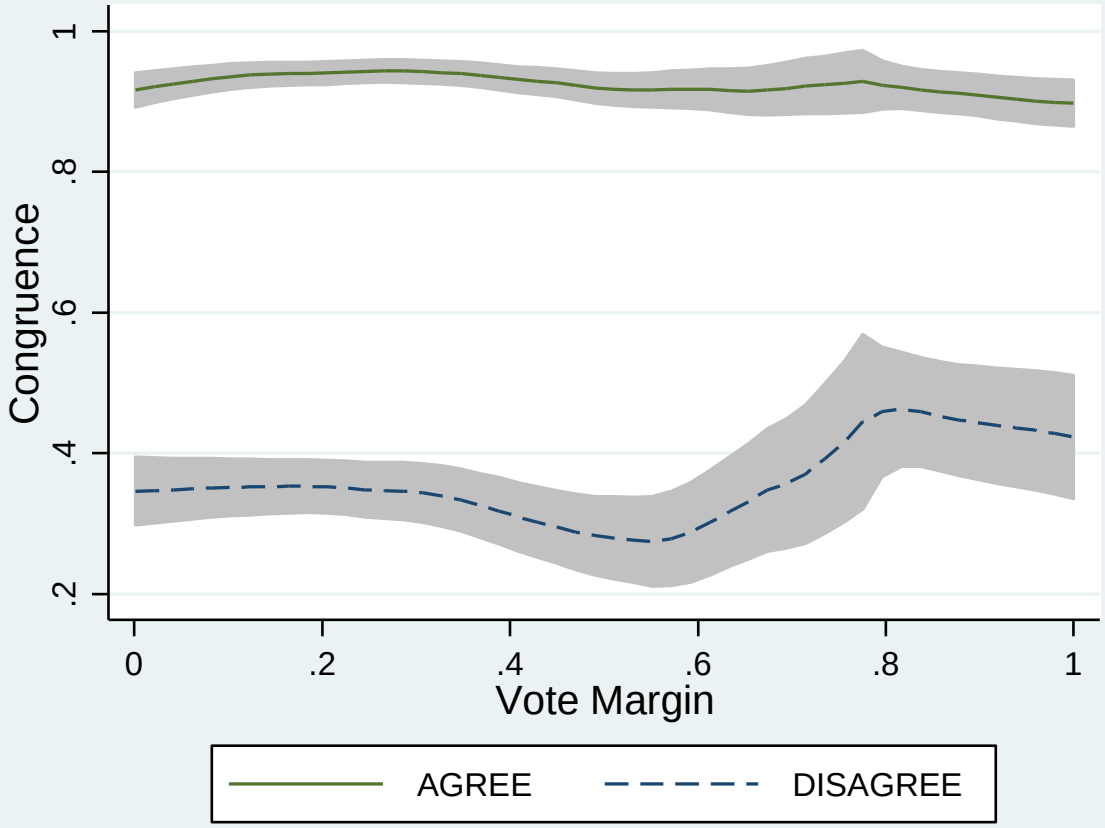
Figure 1. Congruence between Roll Call Votes and District Opinion



Note. The figure plots the percentage of roll call votes that were congruent with majority opinion in the legislator's district, as measured by referendum election returns. are those with a district majority greater than 55 percent. The full sample includes 2,736 votes; the one-sided district sample includes 2,155 votes.

Figure 2. Kernel Regressions of Congruence on Vote Margin



Note. The figure plots the relation between congruence and electoral competition based on kernel regressions. Congruence is a dummy=1 if a legislator's roll call vote is consistent with majority opinion in his or her district. Vote margin is the difference in votes received by the top two candidates in the previous election, divided by their combined votes. The two regressions differ according to whether a legislator's ideology agrees or disagrees with district majority opinion. The regressions are estimated using the Epanechnikov kernel function with bandwidth of 0.1. Shaded areas show 95% confidence intervals.

Table 1. Description of Laws

State	Law	Bill	Roll Call (Y-N-A)	Referendum	Date	Vote (Y-N)	Outcome
Alaska	Permits hunters to use airplanes to hunt wolves	SB 267	Senate 14-5-1 (3/23/2000) House 27-11-2 (4/4/2000)	Measure 6	Nov. 7, 2000	47% - 53%	Repealed
California	Permits Pala tribe to operate video lottery terminals	SB 287	Senate 21-7-12 (8/27/1998) Assembly 52-24-4 (8/28/1998)	Prop 29	Mar. 7, 2000	53% - 47%	Approved
California	Allows third parties to sue insurance companies for unfair claim practices	SB 1237	Senate 22-16-2 (6/2/1999) Assembly 43-26-11 (7/8/1999)	Prop 30	Mar. 7, 2000	32% - 68%	Repealed
California	Allows third parties to sue insurance companies (modifies Prop 30 on same ballot)	AB 1309	Senate 22-14-4 (9/7/1999) Assembly 43-32-5 (9/7/1999)	Prop 31	Mar. 7, 2000	28% - 72%	Repealed
California	Requires large companies to provide health care coverage	SB 2	Senate 25-15-0 (9/12/2003) Assembly 46-32-2 (9/13/2003)	Prop 72	Nov. 2, 2004	49% - 51%	Repealed
California	Authorizes gambling compact with Pechanga tribe	SB 903	Senate 23-8-9 (4/19/2007) Assembly 61-9-10 (6/28/2007)	Prop 94	Feb. 5, 2008	56% - 44%	Approved
California	Authorizes gambling compact with Morongo tribe	SB 174	Senate 23-10-7 (4/19/2007) Assembly 50-13-17 (6/28/2007)	Prop 95	Feb. 5, 2008	56% - 44%	Approved
California	Authorizes gambling compact with Sycuan tribe	SB 175	Senate 22-10-8 (4/19/2007) Assembly 61-9-10 (6/28/2007)	Prop 96	Feb. 5, 2008	56% - 44%	Approved
California	Authorizes gambling compact with Agua Caliente tribe	SB 957	Senate 23-9-8 (4/19/2007) Assembly 52-11-17 (6/28/207)	Prop 97	Feb. 5, 2008	55% - 45%	Approved
Maryland	Changes voting procedures	HB 1368	House 94-43-4 (3/29/2006) Senate 29-3-14 (3/29/2006)	Question 4	Nov. 7, 2006	71% - 29%	Approved
Maryland	Allows illegal immigrants to pay in-state tuition rates	SB 167	Senate 27-19-1 (4/7/2011) House 74-65-2 (4/8/2011)	Question 4	Nov. 6, 2012	59% - 41%	Approved

Maryland	Congressional redistricting plan	SB 1	House 91-46-4 (10/19/2011) Senate 32-13-2 (10/20/2011)	Question 5	Nov. 6, 2012	64% - 36%	Approved
Maryland	Allows same-sex marriage	HB 438	House 72-67-2 (2/17/2012) Senate 25-22-0 (2/23/2012)	Question 6	Nov. 6, 2012	52% - 48%	Approved
North Dakota	Ends use of "Fighting Sioux" college nickname	SB 2370	Senate 39-7-1 (11/8/2011) House 63-31-0 (11/9/2011)	Referred Measure 4	Jun. 12, 2012	67% - 33%	Approved
Ohio	Limits interest rate charged by payday lenders	SB 5	Senate 29-4-0 (5/14/2008) House 70-24-4 (5/20/2008)	Issue 5	Nov. 4, 2008	64% - 36%	Approved
Ohio	Limits collective bargaining by public employees	HB 545	House 53-44-2 (3/30/2011) Senate 17-16-0 (3/31/2011)	Issue 2	Nov. 8, 2011	38% - 62%	Repealed
Washington	Increases taxes for unemployment insurance	HB 2901	House 66-29-3 (3/11/2002) Senate 35-14-0 (3/13/2002)	R-53	Nov. 5, 2002	41% - 59%	Repealed
Washington	Allows charter schools	HB 2295	House 51-46-1 (3/10/2004) Senate 27-22-0 (3/10/2004)	R-55	Nov. 2, 2004	42% - 58%	Repealed
Washington	Prohibits insurers from denying certain claims	SB 5726	Senate 30-17-2 (3/13/2007) House 59-38-1 (4/5/2007)	R-67	Nov. 6, 2007	57% - 43%	Approved
Washington	Grants domestic partners same rights as married persons	SB 5688	Senate 30-18-1 (3/10/2009) House 62-35-1 (4/15/2009)	R-71	Nov. 3, 2009	53% - 47%	Approved
Washington	Allows same-sex marriage	SB 6239	Senate 28-21-0 (2/1/2012) House 55-43-0 (2/8/2012)	R-74	Nov. 6, 2012	54% - 46%	Approved

Note. Roll call numbers are (in order): votes in favor, votes against, and abstentions, followed by the date of the vote.

Table 2. Summary Statistics

	Mean	SD	Min	Max	N
Ideal point	-0.27	1.17	-2.69	2.95	2,909
|Ideal point|	1.11	0.46	0.01	2.95	2,909
|Ideal point| > 1.0	0.58	0.49	0	1	2,909
DISAGREE (laws classified based on roll call votes)	0.37	0.48	0	1	2,631
DISAGREE (laws classified based on referendum votes)	0.34	0.47	0	1	2,435
Vote margin	0.40	0.31	0.001	1.00	2,910
Dummy = 1 if vote margin < 0.025	0.04	0.19	0	1	2,910
Dummy = 1 if competitiveness < 0.05	0.08	0.28	0	1	2,910
Dummy = 1 if competitiveness < 0.1	0.16	0.37	0	1	2,910
Years to next election	1.26	1.10	0	3	2,910
Dummy = 1 if term-limited	0.30	0.46	0	1	1,222
Size of majority in district (in excess of 50 percent)	0.12	0.08	0.0002	0.41	2,910
Dummy = 1 if Republican	0.42	0.49	0	1	2,910
Dummy = 1 if member of majority party	0.63	0.48	0	1	2,910
Dummy = 1 if male	0.72	0.45	0	1	2,910

Note. The unit of observation is a legislator/district. Ideal point is the NPAT common space score from Shor and McCarty (2011) (July 2014 version); positive scores can be interpreted as conservative voting records and negative scores represent liberal voting records. DISAGREE is dummy variable equal to 1 if the legislator's ideology conflicts with majority opinion in the district on a law; DISAGREE is calculated two ways, one by classifying laws based on roll call votes and the other by classifying laws based on referendum election returns. Vote margin is the difference between the votes received by the winner and runner up, divided by their combined votes, in the previous legislative election. A legislator is classified as term-limited if he or she is in the final term of office in a state with term limits; the term limit variable is only calculated for states with term limits (California and Ohio).

Table 3. Congruence when Legislator Ideology and District Opinion Agree and Disagree

Sample	AGREE	DISAGREE		N
All roll call votes (roll call classification)	92.5	35.1	$z = 31.4^{***}$	2,631
All roll call votes (district classification)	92.5	31.8	$z = 31.6^{***}$	2,435
District majority > 55%	93.3	36.7	$z = 28.2^{***}$	2,126
District majority > 60%	95.1	39.3	$z = 23.6^{***}$	1,442
District majority > 75%	98.0	39.3	$z = 15.6^{***}$	520
|Ideology| > 0.5	93.3	32.4	$z = 31.7^{***}$	2,398
|Ideology| > 0.75	94.3	31.5	$z = 30.2^{***}$	2,031
|Ideology| > 1.0	95.3	32.2	$z = 26.1^{***}$	1,470
District majority > 55% and |Ideology| > 0.5	94.0	34.8	$z = 28.2^{***}$	1,940
District majority > 60% and |Ideology| > 0.75	96.6	33.6	$z = 23.4^{***}$	1,129
District majority > 70% and |Ideology| > 1.0	99.3	14.6	$z = 16.4^{***}$	340

Note. The main cell entries are the percentage of roll call votes that are congruent with majority opinion in the district. AGREE means that the legislator's ideology and majority opinion in the district agree on the law in question; DISAGREE means that legislator ideology and district opinion disagree. "District majority>50%" means the sample is restricted to districts in which the majority opinion exceeded 55 percent. "|Ideology| > 0.5" means the sample is restricted to legislators with an absolute NPAT score excess of 0.5. The z-statistic tests the hypothesis that the means for AGREE and DISAGREE are the same. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

Table 4. Linear Probability Regressions of Congruence

		Classified by roll call (1)	Classified by district vote (2)	(3)	(4)	(5)	One-sided districts (6)
DISAGREE		-0.57*** (0.06)	-0.59*** (0.06)	-0.58*** (0.07)	-0.43*** (0.10)	-0.49*** (0.08)	-0.44*** (0.11)
|Ideology|		…	…	…	0.02 (0.05)	…	…
DISAGREE × |Ideology|		…	…	…	-0.11 (0.09)	…	…
Size of majority in district		…	…	…	0.80*** (0.23)	0.94*** (0.24)	1.03*** (0.27)
DISAGREE × Size of majority		…	…	…	…	-0.50 (0.64)	-0.89 (0.78)
Dummy = 1 if Republican		…	…	-0.01 (0.06)	-0.02 (0.05)	0.00 (0.05)	0.02 (0.06)
Dummy = 1 if member of majority party		…	…	0.02 (0.06)	0.01 (0.06)	0.02 (0.06)	0.04 (0.06)
Dummy = 1 if male		…	…	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
R^2		.463	.484	.464	.480	.478	.502
N		2,631	2,435	2,631	2,631	2,631	2,126
DISAGREE	p_{DF}	< .001	< .001	< .001	< .001	< .001	< .001
	p_{WILD}	< .001	< .001	< .001	< .001	< .001	.002
Size of majority	p_{DF}	…	…	…	.001	< .001	< .001
	p_{WILD}	…	…	…	.002	.002	.002

Note. Each column reports estimates from a linear probability regression in which the dependent variable is equal to one if a legislator cast a congruent vote and zero if the vote was noncongruent (abstentions are omitted). Standard errors clustered by law-chamber are in parentheses beneath the coefficient estimates. All regressions include law-chamber fixed effects. DISAGREE is a dummy variable equal to one if the legislator's ideology differs from majority opinion in a district on a particular law. Columns (1), (3)-(6) classify the ideological orientation of laws based on roll call votes; column (2) classifies laws based on district votes. One-sided districts are those in which the majority exceeded 55 percent. p_{DF} is the p-value for the indicated coefficient using the degrees of freedom correction; p_{WILD} is the p-value using the wild bootstrap cluster method. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

Table 5. Regressions of Congruence on Measures of Electoral Pressure

	(1)	(2)	(3)	(4)	(5)
DISAGREE	-0.54***	-0.53***	-0.54***	-0.54***	-0.55***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.09)
Dummy = 1 if vote margin < 2.5%	0.07**	0.07	…	0.07**	0.07
	(0.03)	(0.04)		(0.03)	(0.04)
Dummy = 1 if vote margin 2.5% to 5%	-0.03	-0.01	…	-0.03	-0.02
	(0.04)	(0.06)		(0.04)	(0.06)
Dummy = 1 if vote margin 5% to 10%	-0.02	0.03	…	-0.02	0.02
	(0.03)	(0.04)		(0.03)	(0.04)
DISAGREE * Vote margin < 2.5%	…	-0.0005	…	…	-0.003
		(0.08)			(0.08)
DISAGREE * Vote margin 2.5% to 5%	…	-0.03	…	…	-0.03
		(0.08)			(0.08)
DISAGREE * Vote margin 5% to 10%	…	-0.09	…	…	-0.09
		(0.07)			(0.07)
Years to next election	…	…	0.01	0.01	0.002
			(0.02)	(0.02)	(0.03)
DISAGREE * Years to next election	…	…	…	…	0.02
					(0.04)
Size of majority in district	0.82***	0.84***	0.82***	0.82***	0.85***
	(0.20)	(0.21)	(0.20)	(0.20)	(0.21)
Dummy = 1 if Republican	-0.004	-0.002	-0.003	-0.003	0.0001
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Dummy = 1 if member of majority party	0.01	0.01	0.01	0.01	0.01
	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Dummy = 1 if male	0.01	0.01	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
R^2	.478	.479	.477	.478	.479

Note. Each column reports estimates from a linear probability regression in which the dependent variable is equal to one if a legislator cast a congruent vote and zero if the vote was noncongruent. Standard errors clustered by law-chamber are in parentheses beneath the coefficient estimates. All regressions include law-chamber fixed effects. DISAGREE is a dummy variable equal to one if the legislator's ideology differs from majority opinion in a district on a particular law. All regressions have 2,631 observations. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.