Extremity in Congress: Communications versus Votes

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Abstract

I propose a theory of legislator-to-constituent communication that anticipates a relationship between the types of votes a legislator reveals and the partisan composition of her constituency. To test this theory, I use an original dataset of 40,000 official communications containing 30,000 vote revelations from the 111th Congress. I find evidence substantiating my theory; the extent to which a legislator endeavors to make herself look more ideologically extreme in communications varies systematically with the ratio of base to swing voters in her district. This result is contrasted with an analysis of voting extremism that finds the ideological preferences of donors better explains voting patterns.

1 Introduction

If all we knew about a legislator was she told us, would our understanding of her ideology differ from what we would learn from relying on direct observation of voting behavior? Do different factors correlate with how legislators vote versus how legislators decide to selectively communicate some of those votes to constituents? The answers to these questions are important for our understanding of democratic accountability as strategic communication techniques may alter voters' ability to assess the ideological positions of their representatives. To better hold legislators accountable, voters need an accurate understanding of legislator ideology. If legislators attempt to shift perceptions of their ideology by selectively revealing votes, voters may end up falsely feeling more informed, even though this information may be strategically skewed.

In this paper, I present a theory of strategic vote revelation that yields a testable hypothesis about how differently situated legislators present their votes. Put simply, when deciding whether to reveal a vote that splits a legislator's constituents, a legislator faces a choice of whom to alienate. A long line of research, starting with Cox & McCubbins (1986) indicates that the relevant and most likely voters for each legislator can be divided into two camps: base and swing voters. Given this division, I hypothesize those legislators who anticipate a higher marginal risk of vote abstention or defection associated with alienating base voters will tend to omit votes in which they morel likely sided with the preferences of swing voters, and vice versa. The aggregate effect of this self-censoring is for legislators to present an ideological picture in communications that differs systematically from that suggested by their voting behavior. I situate my theory of strategic communication against literature analyzing ties between financial donors and legislator voting behavior to assess likely sources for the potential divergence of voting and communicating (Bartels, 2008), (Gilens, 2009), (Bonica, McCarty, & Rosenthal, 2013). I seek to provide answers to the following questions: 1.) Do legislators engage in systematic ideological misrepresentation in their communications? 2.) If so, which factors are most related to voting strategy and which are most related to communication strategy?

To test my theory, I analyze an original dataset of over 40,000 legislator-to-constituent communications sent during the 111th Congress, using a methodological innovation building on the ideal point estimation technique of Clinton, Jackman & Rivers (2004).[1] During this period, 95% of Representatives and 85% of Senators sent official electronic messages to constituents. Using the votes a legislator reveals in her communications, I estimate a communicated ideal point (CIP) and compare this to her behavioral ideal point (BIP), which is based on her full voting history. It is useful to study these communications because unlike media reports, broadcast interviews, or floor speeches – all of which are subject to external constraints, i.e. different agenda setters, specific interview questions, and time limits that may compel certain types of speech – official messages are optional and the scope of each message is at the discretion of the sender.[2] Additionally, strategic vote revelation may have modest consequences for voter knowledge as somewhere between 14-19% of US adults report that they have subscribed to official congressional communications at some point (Cooperative Congressional Election Study, 2012).

I find that there is a positive correlation between CIP and BIP estimates, but this relationship is not perfect and, on average, the measures are distinct. Second, I observe an overall leftward ideological shift, with CIP estimates being more extreme for Democrats and more moderate for Republicans than BIP estimates. Third, I find that the likelihood that a legislator presents a CIP that is more extreme than her BIP is conditional on district characteristics, most importantly the ratio of base to swing voters. Fourth, I confirm findings that relate donor ideological extremity to voting extremity. I conclude with a discussion of why different factors likely contribute to voting strategy versus communication strategy and the implications of this divergence.

Overall, the direction of ideological misrepresentation is consistent with my theoretical expectation that a legislator will attempt to appear more ideologically similar to whichever subset of voters – base or swing – that she considers more important for reelection. This is the case even when accounting for other possible factors thought to influence communication choices of a legislator. In contrast, I find that a distinct set of explanatory variables better account for voting behavior, suggesting that legislators choose voting and communication strategies with different influences in mind.

2 Constituent Communication Expectations

Most research on legislator ideology focuses on roll call votes, yet since the 1970s researchers have posited that legislators strategically communicate information to constituents in an effort to enhance reelection prospects (Mayhew, 1974) (Fiorina, 1977) (Fenno, 1978) (Vavreck, 2009). The strategy often outlined by this research focuses on touting of pork directed to the home district or efforts on behalf of an important constituent industry. Yet no one argues voters use a decision rule based simply on the amount of money ostensibly brought back to the district by incumbents to inform their voting decision; voters likely also care about the political ideology of their legislators.

There are a few lines of research to consider when forming expectations of how a legislator will approach constituent communication regarding voting decisions. Research on how a legislator

ought to vote to optimize re-election chances and how a legislator ought to communication to optimize re-election chances do not always come to the same conclusions. We have far more empirical research on voting strategies, but there is a growing body of work that attempts to empirically test the communication tactics of legislators. Yet most work on communication relies on small samples because collecting and coding such a vast corpus is time consuming and had previously computationally unfeasible (Grimmer & King, 2010).[3] Thus, despite great interest in congressional research, we know surprisingly little about the strategic communication of legislators.

The out of step, out of office theory based on voting behavior argues that there is an electoral penalty for extremism (Canes-Wrone, Brady, & Cogan, 2002). If this were the case for political communication we would expect that legislators would never try to appear more extreme in communications than in reality. Yet a quick perusal of the types of votes legislators choose to communicate indicate that at least, with a broad view of what votes they discuss, there is more text dedicated to contentious bills that split parties and sometimes divide parties internally than on unanimous votes on bills that are more likely to be moderate in nature.

Additionally, recent work finds that excessive polarization is common in Congress, and in some realms legislators are more extreme in their voting than even their primary constituencies (Kastellec, Lax, Maleki, & Phillips, 2014). Unless this empirical claim is wrong, then why would it ever be optimal for a legislator to present a ideological image that is more extreme than her vote based ideological image?

Work on online campaigns – while not totally analogous to online in-office official communications – offers some insight. When campaigning online legislators tend to focus on sending reinforcing messages their target audiences, mobilizing activists, and strengthening partisans' views (Bimber & Davis, 2003) (Foot & Schneider, 2006). Additionally, a legislator fearful of losing an upcoming primary to a more extreme candidate faces incentives to try to woo the generally more extreme primary voters and thus may want to vote or communicate in a more extreme manner. A study of electronic message recipients from state level political office campaigns indicates that recipients tend to be more extreme than the general population

(Herrnson, Stokes-Brown, & Hindman, 2007). To find out how many and what types of people sign up for federal official e-newsletters and RSS feeds, I placed a question on the 2012 Cooperative Congressional Election Study (CCES).[4] Approximately 19% of respondents reported signing up for official messages from their Representative and 14% from their Senators at some point in their lives.[5] Table 1 displays some differences of interest between subscribers and non-subscribers.

[Table 1 about here]

Those who indicated they had subscribed to such communications are, on average, older, more educated, wealthier, more politically active, slightly more politically extreme, and are more likely to vote in primary elections, to approve of their incumbent legislators, and to think higher of Congress in general than non-subscribers. A fear of losing a primary to a more extreme candidate coupled with the knowledge that people who subscribe to political e-newsletter communications tend to be more extreme offers some basis for the idea that legislators may attempt to appear more extreme.[6]

Despite the empirical finding that subscribers tend to be more ideologically extreme than non-subscribers, there is no consensus that legislators are writing specifically to either base or swing voters. It is also not clear if either group is more likely to change voting intention based on vote revelations. Unlike campaign communications, which are sometimes quite recipient-specific in their content as a result of micro-targeting efforts (Nickerson & Rogers, 2014) (Issenberg, 2012) official communications are nearly always the same regardless of the receiver. The only potential for constituents of the same district to see different official messages arises if a legislator asks subscribers to select different topics of interest to limit the types of messages that each subscriber receives. This does not threaten the analyses here for three reasons: 1. Very few legislators (7%) include this option on their subscriptions. 2. Even when legislators have such an option for subscription, many eschew writing specific category letters and instead just compose and send general letters that all subscribers receive. 3. If a legislator has such a system, I subscribed to all categories.

In the middle of the 111th Congress I was able to conduct two phone interviews with press secretaries of sitting Representatives, both desired to remain anonymous, one worked for a Republican and one for a Democrat. Neither press secretary indicated that the e-newsletters were crafted for certain types of voters. Because of the messages are textually recorded, and legislators encourage recipients to forward the messages to their family and friends the anticipated audience is understood to be broader than just base voters.

In an early study of political communication, Mayhew (1974) distinguishes three types of communication tactics: credit claiming, advertising, and position taking. Credit claiming is a relatively well-studied behavior, which includes the promotion of particularized benefits to constituents ostensibly obtained by a legislator. This tactic has been expertly analyzed by (Grimmer, 2013). Advertising, as defined by Mayhew, has not been subject to much scholarly interest because it simply involves an attempt to increase name recognition of an incumbent. Position taking, which is characterized by the stating of policy or ideological preferences, has been attended to in various manners (Box-Steffensmeier, Arnold, & Zorn, 1997), (Koger, 2003), (Highton & Rocca, 2005), but the specific focus on vote revelation as a constituent communication strategy has not yet been explored in the literature. Vote revelation, which I address in this paper, is a subset of position taking as it relies on communicating a specific vote associated with a position, rather than simply stating an ideological preference.

Despite the lack of a literature on strategic vote revelation, a considerable theoretical literature aims to explain different facets of strategic information revelation. While not explicitly considering vote revelation, this work provides guidance on what actions election-minded legislators will take. A legislator will attempt to influence her constituency's understanding of her position and should send a message only when there is a true belief in the possibility of persuading her audience (Austen-Smith, 1992), (Landa & Meirowitz, 2009). Second, a legislator will attempt to reveal information aligned with the wishes of her electorate (Heidhues & Lagerlof, 2003) (Gratton, 2010). Thus, a legislator will communicate with an expectation of influence over voter perceptions and, as such, the methods she uses to accomplish this goal are worthwhile indicators of intent and deserving of academic attention.

3 A Heuristic Model of Strategic Vote Revelation

In this section I describe the considerations that should lead differently situated legislators to reveal certain types of votes. The basic intuition is as follows: Each legislator has a constituency made of base (co-partisan) and swing (independent) voters.[7] These voters can be theoretically characterized by the median ideological preference of each group. For a legislator, publicizing a vote can alienate both groups; please both; or alienate one while pleasing the other. The willingness to publicize a vote in the third case will vary according to the marginal benefit of pleasing one group compared to the cost of alienating the other. Over time, the aggregate result of such legislator calculations generates a kind of selection bias in which a legislator can appear more extreme or more moderate than her full voting history suggests.

3.1 Assumptions

Base voters are those who will likely vote for the incumbent by virtue of party labels or previous commitments, but may abstain. Swing voters may support an incumbent, but may also support a challenger or abstain. I - non-controversially - hold that the median base voter is more ideologically extreme than the median swing voter. I assume a voter prefers an incumbent legislator who is ideologically closer to himself ceteris paribus and the legislator knows this (Downs, 1957). I also assume a voter's ability and willingness to expend resources to accurately learn legislator ideology is small (Delli-Carpini & Keeter, 1996). Lastly, I assume that voters are not negatively introspective, meaning that voters do not make inferences about legislator ideology from the absence of communication (Dickson, Hafer, & Landa, 2008).

I assume legislators wish to be re-elected above all other goals (Mayhew, 1974). I also assume that legislators vote sincerely, but communicate strategically to maximize electoral prospects. Of course, the assumption that legislators vote sincerely in every circumstance is unrealistic (Poole & Rosenthal, 1997). It is meant to capture, in reduced form, the idea that while a host of influences – including donors, party pressures, as well as the legislator's personal ideology and that of her broader electorate – may affect her vote choice, the decision of how to communicate is predominantly about appealing to voters. I estimate models of both communicating and voting,

to assess the plausibility of this assumption.

Knowing voters are in costly information environment, a legislator will attempt to influence voters' perceptions to remind her base to vote for her, convince swing voters to choose her, and generally serve to lower information costs associated with voting for all potential supporters (Aldrich, 1995). Vote revelation content is verifiable and I assume a legislator will not lie about her vote.[8] Lastly, I assume that sending each vote revealing message is associated with some small cost made up of staff time used drafting a message and the opportunity cost of not talking about some other issue.

3.2 Hypothesized Legislator Strategy

Consider a one-dimensional ideological space with the leftmost end representing liberal and the rightmost end representing conservative. To keep matters simple, think of an incumbent Democrat situated between her median base and median swing voters occupying one half of the spectrum. While variations in legislator and constituent median positions are possible for any given vote, this is the most likely arrangement for the overall organization of voters and incumbents across policies. The assumption that a legislator is between her median base and median swing voters is justifiable because if an incumbent is more extreme than her base - unless the base is a 50%+1 of all voters - it is unlikely that she would continue to be electorally successful; the same is true if she were more moderate than the median swing voter.[9] Empirically, self-identified Democrats are an absolute majority as opposed to self-identified Republicans and Independents in only 14% of districts and self-identified Republicans hold an absolute majority in only 6% of all districts.[10]

On the one-dimensional ideological continuum each legislator has her non-observable personal ideal point (PIP). What is observable, estimable, and most often studied, is voting behavior that can be summarized by an ideal point based on the full non-unanimous voting record of a legislator. I call this the *behavioral ideal point* or (BIP). As contrasted to the BIP, the *communicated ideal point* or (CIP) is the ideological position voters would perceive if only the votes a legislator reveals are used in generating an ideological estimate. To be clear, a legislator

must describe how she intends to vote or did vote on a given bill, not just merely mention a bill in order to be included in the estimation of CIP.

For each bill that is considered for a vote in Congress there is a "cutpoint" or a place on the ideological continuum that splits people who would prefer the bill outcome from those who would instead prefer the status quo (Poole & Rosenthal, 1985). For each vote that splits the median base and swing preferences, a legislator must decide if the benefit of publicizing her vote – which sides with the preferences of just one part of the constituency – outweighs the potential cost of alienating voters who disagree with her. Over the series of votes a legislator takes, if a legislator perceives her base as more important than her swing voters in her attempt to get reelected, she will present a CIP that is more extreme than her BIP. Conversely, if a legislator perceives swing voters to be more important electorally, she will present a CIP that is more moderate than her BIP.

Lastly, to assess the importance of her competing constituencies, a legislator must have a sense of the size and likelihood of voting for both base and swing voters. There is no a priori reason for assuming the likelihood of receiving and reacting to messages is higher for either part of the constituency, and there is no completely reliable way of knowing who is more likely to vote. This means a legislator must rely on past elections to inform her decisions about the relative size of each voting constituency.

4 Data and Empirical Strategy

To measure vote revelation I use all the official e-newsletters and Real Simple Syndication (RSS) feeds sent in the 111th Congress from August 2009 through the end of the term, for a total of 40,957 messages. The messages are from an original dataset I collected from every Representative and Senator who sends official e-newsletters and/or RSS feeds. In order to generate the specific measures of vote revelation, I first ran a computer sweep over every message to identify all messages containing a potential vote revelation based on a search of key terms detailed in Appendix A. Second, I read each flagged message to confirm a vote from the 111th Congress was actually revealed. This resulted in 15,690 messages that were read by a

highly trained research assistant or myself and a specific vote was recorded.[11]

Some legislators tend to be more verbose and other more reticent. While a full analysis of which types of legislators tend to reveal communicate more frequently than others is the topic of a different project, generally speaking I find that legislators who are older or have more seniority are somewhat less likely to send emails in the first place and send fewer emails than their younger, more junior colleagues; black and Hispanic members send fewer messages than white legislators, conservative legislators tend to send more messages than liberal members.

To measure the likely relative importance of different constituencies for each legislator, I use ratio measures of the party identification of voters who turned out in the 2008 general election. Ratios best capture the phenomena my theory proposes, but many other measurement strategies are possible and each results in substantively similar results. For a full discussion of every other specification considered, see the online appendix. Data on the composition of each electorate are obtained from the 2008 National Election Pool Exit Polls conducted by Edison Research (2008).[12] For each district and state I create a ratio measure of Democrat identifiers (base) to Independents (swing), which are the relevant constituencies for Democratic legislators, and a ratio of Republican identifiers (base) to Independents (swing) for Republican legislators.[13] Table 2 displays the average ratios by party of the incumbent. By only using data from actual as opposed to registered voters, I can better estimate the relevant constituencies for reelection – actual voters – from the entire constituency a legislator is responsible for representing.

[Table 2 about here]

While the 2008 exit polls are conducted in each state, not every congressional district has enough respondents to release the crosstabs on partisanship. Of the 88% of districts and states that have legislators who sent vote revelations there are exit poll data for 346 districts. Theoretically, this data missingness should be orthogonal to legislator strategy, so while it is regrettable, it should not bias the estimated parameters or change the expected values of any estimated quantities of interest.[14] The analyses reported here have also been conducted using Catalist voter file data of party identification via vote registration and the 2008 CCES data of self-reported party ID to

estimate the co-partisan to independent ratio. Results remain substantively similar, but state and district coverage is greatest with exit poll data.

4.1 Empirical Implementation

To test my hypothesis I need two measures for each legislator: a behavioral ideal point (BIP), based on all the roll call votes a legislator takes; and a communicated ideal point (CIP), based only on the votes a legislator reveals to constituents. To estimate these quantities I employ a modification on the standard two-parameter IRT voting model pioneered by Clinton, Jackman, and Rivers (2004) to estimate latent ideal points for legislators from their observed voting and communicating behavior. I perform standard two-step Bayesian ideal point estimation and then add an additional step to incorporate the restricted subset of revealed votes. After setting reasonable starting values, bill parameters are estimated using legislator BIP values, then these bill parameters are used in fine tuning the legislator BIP estimates and then the cycle begins again using the values estimated in the last iteration and so on for 10,000 iterations. For the additional step used to estimate CIP, I use the bill parameters that are estimated based on the full voting history to generate a set of CIP estimates; a detailed explanation is in appendix B.

5 Results: The Effect of Constituency Composition on Communicated Ideology

Owing to the newness of this data, I first describe the frequency of vote revelations and the basic relationship of BIP to CIP estimates. I subsequently test my theory of strategic vote revelation and present the results.

Despite recent reports arguing that Democratic campaigns are much more technologically advanced than Republican campaigns (Rutenberg 2013), I find that members of each party have set up *official* email and RSS feeds at rates that are not significantly different; 94% of Republicans and 91% of Democrats send messages. However, in terms of the quantity and content of the messages there are significant differences.

There is considerable heterogeneity in the number of votes revealed, ranging from 0-172. Of legislators who choose to send any messages, the mean number of messages sent from Republicans is 89 and from Democrats it is 73. Despite sending more messages, Republicans are less likely to reveal votes within those messages. Democrats reveal 19 unique votes on average while Republicans reveal 15; both reported differences are statistically significant at p <0.05 level. Additionally, the difference in the percentage of messages that involve vote revealing is also significantly different; 47% of all messages sent by Democrats contain vote revelations, but only 41% of Republican sent messages do. As Democrats controlled the 111th Congress and therefore the agenda, they likely had more votes they wished to write about to constituents. Republicans on the other hand, wrote more frequently to constituents oftentimes decrying what Democrats were attempting to accomplish in Washington. These differences speak to the specific contours of the 111th Congress, and should serve to remind readers of a necessary precaution in extrapolating the findings reported here to other Congresses.

While we will never know of all the reasons that a legislators choosing to talk about some votes and not others, in addition to my hypothesis about attempting to crafts a more favorable ideological image given certain district characteristics, the raw data do provide insight into what types of votes legislators are more likely to write about to constituents. I break down vote revelations by whether or not a bill passed and whether the revealer voted Yea or No. I find that 68% of all revelations are from legislators who voted Yea and the bill passed, which can be considered successful position touting; 25% of all revelations are from legislators who voted No and the bill passed anyway, which is likely legislators indicating they sought to block policy, but could not; 5% of revelations are from those who say they voted for a bill and it failed, signaling an attempt; and 2% are when a legislator voted against a bill and it failed, signaling a successful block. Taken together, it seems that legislators prefer to speak about their votes when bills are successful in passage – at least in their chamber – and also prefer to discuss legislation that succeeds regardless of their position, rather than tell constituents about bills that fail.

5.1 The Relationship of Communicated Ideal Points to Behavioral Ideal Points

Behavioral ideal points (BIP) and Communicated ideal points (CIP) are related but not perfectly

correlated. The correlation coefficient for these two measures is 0.89 in the Senate and 0.88 in the House. In examining the correlations I find that not all legislators try to appear more moderate or extreme and there is a good deal of variation the direction and level of ideological misrepresentation each legislator pursues.

Figure 1 depicts kernel density plots of CIP and BIP by party. Figure 1 confirms research that BIP estimates are quite polarized, as indicated by the higher peaks and distinct valleys between the two parties. The CIP estimates, on the other hand, are spread much more evenly, with many legislators filling the previous middle gap. Also apparent is the greater difference between the CIP and BIP distributions in the House than in the Senate.

[Figure 1 about here]

Table 3 provides a breakdown of the average direction and magnitude of ideological misrepresentation by party. The majority of Republicans present CIPs that are more moderate than their BIPs, and the majority of Democrats present more extreme CIPs than BIPs. This amounts to an overall leftward shift. The magnitudes of these shifts are not trivial. Given the range of observed behavioral ideal points for Republicans, the average leftward shift is roughly 24% of the scale; and for Democrats the average leftward shift is 22%.

[Table 3 about here]

This finding, while not posited by my theory, plausibly fits expectations if Democratic legislators tend to come from districts with a higher ratio of base to swing voters and Republican legislators tend to come from districts with lower ratios of base to swing voters and this is all that matters when crafting a communication strategy. On the other hand, it could be that other factors contribute to messaging strategy decisions and a focus simply on the base to swing voter ratio omits some forces at work. Or yet another possibility is that while the base to swing ratio is important for all legislators, it may affect one party more than the other because additional influences such as party pressures to talk about certain topics may moderate the raw influence of the theorized relationship between a legislator's electorate and her communication strategy.

Looking at table 1, there is some evidence that Democratic legislators tend to have higher base to swing ratios than Republicans, but this difference is quite small.

Before constructing a larger model, I ran a simple regression with the outcome variable as an indicator signaling that a legislator presented a more extreme CIP than her BIP on the base to swing ratio, a party indicator, and an interaction of the two. After predicting the likelihood that a legislator would present a more extreme CIP than her BIP, I find some support for the notion that, while the ratio of base to swing voters matters for both Democrats and Republicans, they exhibit different sensitivities to the measure. Figure 2 plots the predicted values from this regression by party.

[Figure 2 about here]

Figure 2 shows an important party difference to consider. There is a positive relationship between the ratio of base to swing voters for both parties, but the starting likelihood of presenting a more extreme CIP and BIP are different for Democrats and Republicans. The baseline probability that a Democrat will present a more extreme CIP than BIP at the lowest observed values of the ratio measure is over 50% indicating that this strategy is more likely used by Democrats than Republicans regardless of their constituency. Republicans are more likely to present a more extreme CIP once the base to swing ratio reaches roughly 3:1. This may explain why the shifts reported in table 3 are leftward for both Democrats and Republicans.

As a second initial test I eschew the ratio of co-partisans to independents measure and instead run three probit models with the outcome variable being 1 if CIP is more extreme than BIP and 0 otherwise. From my theory, I should find that (1) as the proportion of co-partisans increases, so too does the likelihood that CIP is more extreme than BIP. (2) As the proportion of independents increases, the likelihood that CIP is more extreme than BIP decreases. (3) As a sort of a placebo test - the theoretical rationale assumes that legislators are non-responsive to out-partisans, which implies as the proportion of out-partisans increases, CIP is unchanged. Table 4 display the results.

Part of the scattering and overlapping effects in these initial figures is due to the increased error in estimating CIP points because there are more missing observations.[15] This may give rise to a concern that CIP is just a noisy BIP measure and not actually indicative of different underlying phenomena. If 50% of legislators present a more extreme CIP and 50% a more moderate, this would not necessarily be interesting because such a result could be due to chance and measurement error. I address this concern in a few ways. First, by using a paired t-test across all legislators, I find the average difference between the CIP and BIP to be roughly 0.10 and I can reject the null that they are the same, on average, with a p-value of 0.00. Second, it is in the ability to predict which legislators choose which strategy that makes a stronger case for different behavior by legislators and further supports the theory that BIP and CIP estimates are not random or unduly marred by measurement error. In the next section, I present a full model incorporating many controls and find that different measures are related to communicating and voting therefore bolstering the idea that these are distinct and likely driven by different considerations.

5.2 Full Model Specification

To test the hypothesis relating the composition of a constituency to a legislator's CIP, I estimate a probit model where the dependent variable is an indicator that is 1 when her CIP is more extreme than her BIP. An indicator rather than a distance measure is theoretically preferable because a legislator ought to know that she is attempting to look more extreme or more moderate, but precise knowledge of how much more moderate or extreme would be a far more difficult strategy for a legislator to implement.[16] Since no one member has control over the agenda, specific fine tuning is much less realistic than the decision to alter one's perceived ideology in either direction. A simple model, with no controls indicates that the ratio of base to swing voters is significantly related to the likelihood of presenting a more extreme CIP than BIP (p = 0.02).

As a more rigorous test of my theory that addresses potential alternate explanations for vote revelation and voting strategies, I perform two additional regression analyses. First, I estimate the probit model described above on the electorate ratio measure as well as a series of variables

that are likely related to communication strategies. Second, to contextualize the results from the first regression, I model extremism in voting as measured by the mean-centered BIP squared on the same explanatory variables used in the first regression. Here I employ ordinary least squares (OLS) owing to the continuous nature of the dependent variable. In addition to providing context, this analysis allows me to explore the possibility that similar influences contribute both to how a legislator votes and communicates. As before, different modeling strategies and results are presented in the online appendix.

The first control in the full model is the ideology of financial donors. I use Bonica's (2013) Campaign Finance Scores to quantify the ideology of each legislator's donor base. A second control is a measure of overall electorate ideology that comes from Tausanovitch and Warshaw (2013) who use multi-level regression with post-stratification to estimate the ideological preferences in each district and state by pooling surveys. While my theory – and previously cited work – argues the relevant set of voters for a legislator to consider is her base and swing voters, some argue that the composition of the overall electorate is what legislators ought to consider. In the analyses, the constituent ideology and finance scores are included in their raw form and they are both mean-centered and squared to capture extremity.

I use another set of controls measuring the variety of audiences for each legislator from the 2000 Census. I include the percentage of the voting age population that is under the poverty line, the percentage of black and Hispanic residents in each district, and the median age of each district. This is because legislators from districts with larger minority populations or those from poorer or older districts may choose to emphasize different types of voting decisions than those from more homogeneously white districts or wealthier or younger districts.

I use race, sex, seniority, leadership, and previous margin for legislator-specific controls. Rocca & Sanchez (2008) find that racial minorities tend to sponsor and cosponsor bills less than their white male counterparts and perhaps these members also adopt different communication strategies. The control for legislator seniority is grounded in the finding that junior members tend to put in more upfront time on constituent contact and may therefore also use different communication strategies (Fenno, 1978) (Cover, 1980). There is an indicator signaling that a

legislator is a party leader because that these individuals, by definition, have a more public role that likely influences their communication strategies. The previous margin measure is included to control for the fact that legislators who win close races may adopt different communication strategies than those who face less of a challenge. Additionally, I include an indicator signaling whether a legislator ran for reelection in 2010 to check against the possibility that retiring legislators may communicate in a manner different from colleagues seeking reelection.

There are also various institutional settings that may affect communication strategies. Different qualities of state maintained voter file data could influence how a legislator presents herself because as the quality of data increases, a legislator can have more certainty about her perceptions of the electorate (Hersh, 2001). Understanding this, I include a series of dummy variables indicating different types of voter file data kept by each state.[17] Closed primaries are generally more partisan and may therefore contribute to legislator communication strategies, with an expectation that closed systems are correlated with more extreme styles of communication. I include an indicator for whether a state or district has a closed primary system. Lastly, I include party and chamber indicators. Table 5 presents the results.

[Table 5 about here]

Column 1 of table 5 contains the results for the test of my theory that as the ratio of base to swing voters increases, so does the likelihood that a legislator will present a more extreme ideology in her communications than reflected in her full voting history. The coefficient on the ratio measure is positive and significant, providing support for the expected relationship. Three other measures that display significant relationships with this communication strategy: the percent of Hispanic residents in the district, chamber and party. As a legislator's district includes more Hispanic residents, she is more likely to try to appear more extreme in communications than in voting. The reasons for this are not entirely clear, but it could be that legislators from more heavily Hispanic districts may have greater pressures to discuss votes on topics such as immigration reform which are almost always highly polarizing votes, and therefore lead to a presentation of self that is extreme. I find that being a Democrat is related to presenting a more extreme CIP. This result follows from the simple analyses from before and could either speak to

an overall party messaging and vote focusing strategy employed by legislators broadly, or may linked to similar constituent assessment strategies of Democratic legislators. Lastly, being in the Senate versus the House is associated with lower likelihood of presenting a CIP that is more extreme than BIP.

In stark contrast, the results in column 2 of the model of extremism in voting behavior do not show a significant relationship between the base to swing ratio measure, and instead donor ideology, overall district ideology, poverty levels, whether a legislator is Hispanic, seniority, and chamber better account for voting. I set my analysis of communication against voting with anticipation that I would find a baseline relationship between donor ideology and voting as reported in the previously cited literature that would likely be absent in communication strategies. The other variables that exhibit significant relationships with voting however coincide with previous research and add some nuance to our understanding of voting. I find that as a donor base is more extreme, so too is a legislator's voting. Additionally, I find that there is relationship between voting extremity and donor conservatism. A similar relationship links the overall electorates' preferences and voting extremism; the more extreme the overall electorate is, the more extreme voting pattern a legislator has. I also find that Hispanic legislators have more extreme voting records than non-Hispanic legislators and those with higher poverty rates in their district tend to be more moderate in their voting. As the 111th congress occurred right after the emergence of the "Tea Party" movement, it is perhaps unsurprising that Democrats tend to have less extreme voting than Republicans. The relationships of chamber and seniority are somewhat unexpected, as much of the research on polarization indicates that the House hosts more extreme members than the Senate and it is not clear that senior members tend to be more extreme than junior members, especially in the recent Congresses where polarization is thought to increase via replacement when new members take seats from senior, more moderate members. A detailed pursuit of why these institutional variables appear to be related to voting in this manner is beyond the scope of this work and instead I now turn to simulation analyses to better interpret how predicatively useful the key variables of interest are.

To interpret the impacts of voter ratios on communications I ran simulations. I estimated each model and then simulated 10,000 values of the resultant parameters, sampling from the estimated

distribution each time using CLARIFY (Tomz, Wittenberg, & King, 2003). I set all independent variables to their means and then manipulated the base to swing voter ratio in order to assess the conditional effect of this explanatory variable on the likelihood that a legislator has a CIP that is more extreme than her BIP.[18]

Going from the 10th percentile to the 90th percentile of the base to swing voter ratio corresponds to a substantial increase in the likelihood that a legislator presents herself as more extreme than her voting history. At the 10th percentile of co-partisan to independent ratio values the likelihood that CIP is more extreme than BIP is 22% (s.e. 0.08). At the 90th percentile that likelihood jumps to 78% (s.e. 0.08). These findings suggest that legislators tailor messages to their electoral audiences in an attempt to better match relevant voters and is especially compelling because other measures found to be strongly related to voting – donor ideology and district ideology – do not exhibit a significant relationship with communication strategy, ceteris paribus. In the next section, I discuss how my findings are situated amongst previous work and how they can inform future research on the divergence between voting and communication strategies, representation, electorate awareness, and legislator accountability.

6.1 Discussion: Voting versus Communicating

The preceding analyses and results substantiate the theory that a legislator will communicate an ideology that diverges from her behavioral ideology in a manner that makes her appear better aligned with the most electorally valuable faction of her reelection constituency. To contextualize this finding I also check to see if there are different contributing factors to actual roll call voting versus communicating to constituents about votes. I find evidence of a possible and plausible reason for the divergence of CIP and BIP.

Previous work finds that donors influence voting behavior (Bonica, McCarty, & Rosenthal, 2013), but there has been virtually no work on how a legislator attempts to temper the perception of her votes to constituents via strategic communication. Because of their size and intense interest in policy, donors are more likely and more able to hold legislators accountable for votes than the average voter. When communicating to constituents, legislators can craft an image that

may be virtually free from donor pressures. It is reasonable to expect the large monied influences on roll call voting will be pleased with the actual roll call votes and understand that strategic communicative posturing is merely used to attract voters. In my last estimates presented in table 4, I find support for this explanation. How a legislator wishes to be perceived in her district is significantly related to the ratio of base to swing voters, and not donor ideology. However, when looking at the extremism of actual votes cast, donor and overall district ideology play a much stronger part.

6.1 Political Representation

Comparing BIP and CIP estimates across the whole Congress, I find that there are significant differences between the two. What does this mean for political representation? One implication is that the frequency and direction with which ideological misrepresentation occurs signals that the effort is likely intentional. The intent behind creating a different image and what this misrepresentation looks like across the Congress is worthwhile to consider. Assuming each legislator is rational and election minded, general ideological misrepresentation should not come as a shock but the overall pattern of this distortion may be surprising.

I conjecture that when asked what type of misrepresentation is expected, the majority of political observers would either answer that both parties would moderate in an attempt to appeal to the most voters, or that most legislators would try to appear more extreme if the understanding is that base voters make up the bulk of e-newsletter and RSS feed readership and legislators are increasingly facing primary challengers. Instead of all legislators moving either towards the extremes or running to the center, I find that there is generally a leftward shift across both parties; analyses presented here offer some guidance as to why that is the case.

This partisan difference in strategy is not because legislators come from widely different types of districts in terms of base to swing voter ratios, because this is not the case. It is also not explained by the argument that one party responds to the base to swing voter ratio and one party does not, as I find legislators of both parties are receptive to base to swing voter ratios when selecting what types of votes to reveal. It could be that my assumption that places a legislator

between her base and swing medians is incorrect and that most
Democratic legislators are actually more moderate than the voters they perceive as most
important to secure reelection and that most Republican legislators are actually more extreme.

If this were true, finding that legislators across the spectrum try to appear more liberal makes
perfect sense, as everyone would just be chasing their supporters. By squaring the measure of
behavioral ideology to gauge legislator extremity, and squaring the MRP estimates of each
district from Tausanovitch & Warshaw (2012) to measure overall district extremity, there may be
some support for this supposition. Republican legislators have an average extremity score of 0.54
while Democrats have an average score of 0.34, which makes for a statistically significant
difference with Republicans being more extreme. Constituents on the other hand, show a
reversed statistically significant difference with Democrat constituents more extreme than
Republicans constituents on average (0.10 to 0.05). The problem with this quick comparison is
that constituents and legislators are not measured on the same scale, and a true test of this theory
is beyond the scope of this paper. However, this is a plausible explanation given this first cut and
a broader empirical investigation could be used in the future.

7 Conclusion

Strategic communication is a skill on which legislators must increasingly rely when connecting
with constituents. In a world full of political information, a legislator has a unique opportunity to
craft a specialized image in the minds of voters that may not always align with the reality of her
voting history by using direct communications. This paper offers a theory of how differently
situated legislators will selectively reveal certain votes and omit others. I argue that a legislator
will engage in ideological misrepresentation to appear to be a better fit to the most electorally
relevant parts of her constituency.
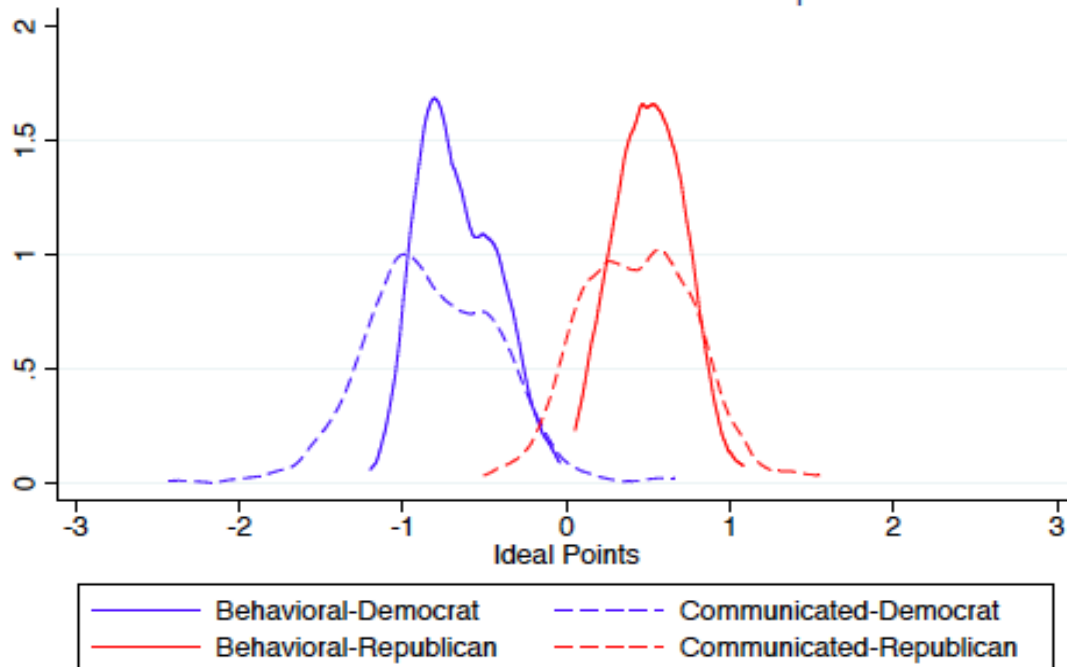
Using a new dataset I am able to test this theory and answer empirical questions previously left
to the realm of theoretical or case work analysis. I find that most legislators use the opportunity
to communicate with citizens directly using e-newsletters and RSS feeds. I also find that there
are partisan strategies in using these communications, with Republicans sending more messages

on average, and Democrats revealing more votes on average. Overall, Democratic legislators attempt to appear more liberal and Republican legislators attempt to appear more moderate. The number of legislators that engage in ideological misrepresentation, the differences between communicated and behavioral ideal points, as well as the finding that donor ideology strongly influences roll call voting but not communicating, leads me to conclude that this misrepresentation is intentional. With an innovative analytical technique, I measure how the vote revealing content of these messages. I find that the votes that a legislator reveals and the ideological implication of those choices differ significantly from the full voting history of a legislator. Specifically, as the ratio of base to swing voters increases so does the probability that a legislator will present a communicated ideology that is more extreme than her behavioral ideology.

This dataset holds potential for many research areas. Political scientists have long supposed that members of Congress present themselves in a way that may not truly reflect their acts in office, but for the most part this supposition remained untested for lack of systemic data. Having a running text of what a legislator tries to communicate to her constituents offers a powerful, and increasingly easier to analyze dataset. As this dataset accrues roughly 80 new messages per day, the potential to study topic trends, vote revelation strategy, and presentation of self is great. The analysis presented here touches just one part of the strategic political communication and provides a small step in fulfilling the hope that political scientists, "spend a little less of our time explaining votes and a little more time explaining explanations." -Fenno (1978).

Figure 1

Kernel Densities of Communicated and Behavioral Ideal points - 111th House

Behavioral-Democrat
Communicated-Democrat
Behavioral-Republican
Communicated-Republican

Kernel Densities of Communicated and Behavioral Ideal points - 111th Senate

Behavioral-Democrat
Communicated-Democrat
Behavioral-Republican
Communicated-Republican

Figure 2

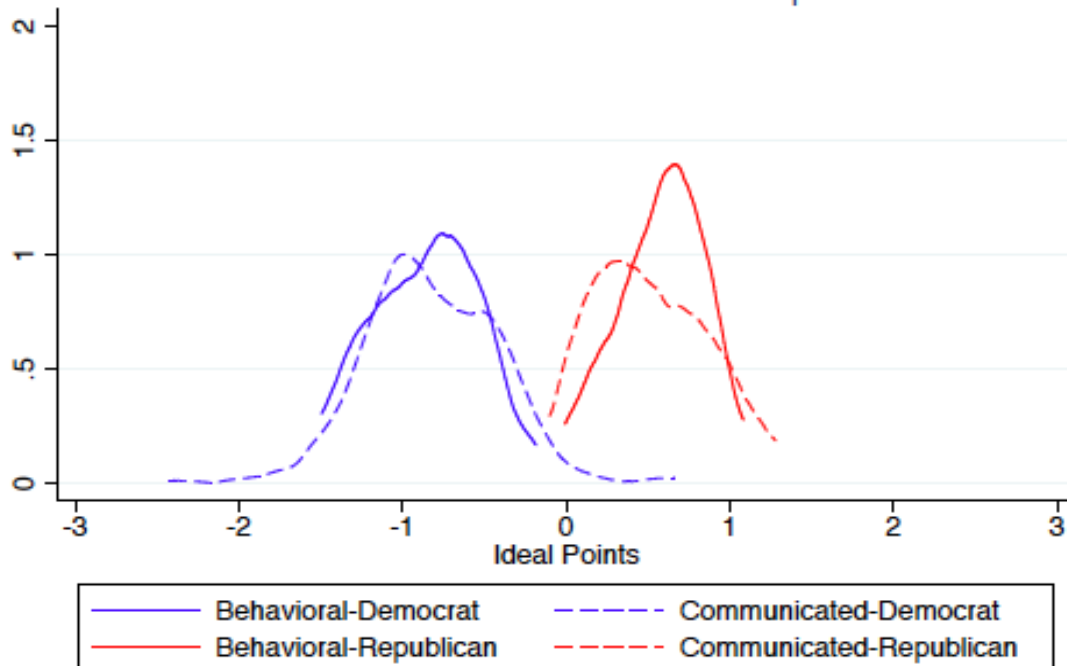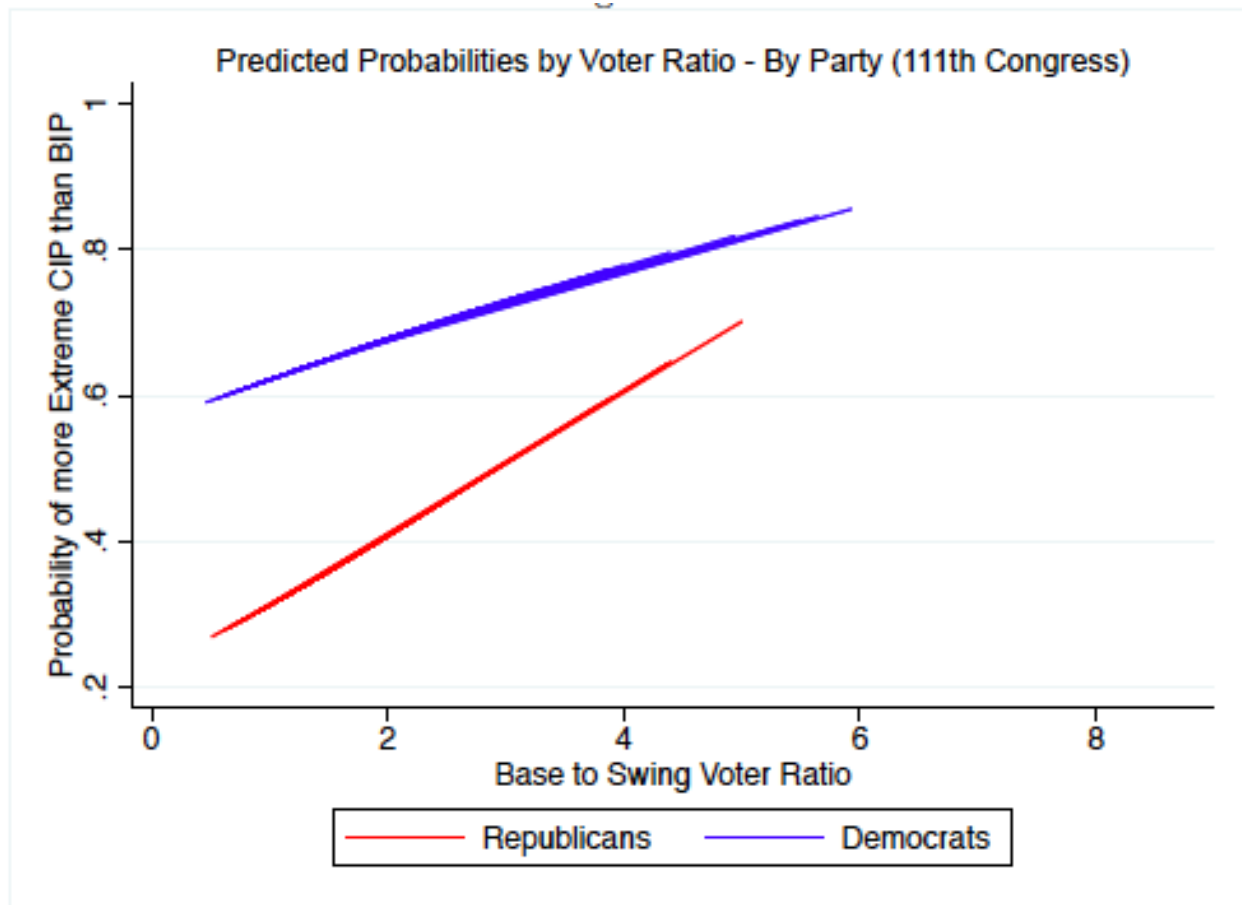Predicted Probabilities by Voter Ratio - By Party (111th Congress)

Table 1: Average Differences Between E-Newsletter Subscribers and Non Subscribers = CCES 2012

	Subscribers	Non-Subscribers	Difference
Voted in a primary election	68%	41%	17%*
Age	53	46	7*
Female	46%	53%	7%
Education Attainment	3.65	3.11	0.54*
Registered Voter	92%	77%	15%*
Family Income Level	19.84	16.28	3.56
Conservative Ideology	4.42	4.19	0.23
Representative Disapproval	2.36	2.4	0.04
Senator 1 Disapproval	2.32	2.51	0.19
Senator 2 Disapproval	2.14	2.47	0.33*
Congressional Thermometer	3.11	3.61	0.50*
Contact Elected Official	73%	23%	50%*
Attend Political Meeting	44%	21%	23%*
Boycott Politically	59%	32%	27%*
Attend March or Rally	17%	8%	9%*
Post Opinion Online	81%	47%	34%*
Distribute Political Info	52%	19%	33%*
Donate Money	50%	23%	27%*
Use Twitter	24%	21%	3%
Use other social media	75%	68%	7%
N	259	741	

* = $p < 0.05$

Data and question wording available at:
http://projects.iq.harvard.edu/cces/home

Table 2: Ratio of Partisans to Independents - 2008 National Exit Polls

Ratio Measure	Minimum	Max	Mean	(s.e.)	N
Democrats to Independents					
All Legislators	0.39	5.93	1.56	-0.90	346
Rep. Legislators	0.39	5.20	1.41	-0.83	158
Dem. Legislators	0.47	5.93	1.69	-0.93	188
Republicans to Independents					
All Legislators	0.11	5.00	1.32	-0.73	346
Rep. Legislators	0.51	5.00	1.63	-0.77	158
Dem. Legislators	0.11	3.35	1.05	-0.57	188

Table 3: Ideological Misrepresentation by Party - 111th Congress

Type of Ideological Misrepresentation	Republicans	Avg. BIP-CIP	Democrats	Avg. BIP-CIP
More Extreme CIP than BIP	32%	0.24	66%	-0.32
More Moderate CIP than BIP	68%	-0.26	34%	0.26

Table 4: Relationships between the Percentage of Co-partisans, Independents, and Out-Partisans and the Likelihood of presenting a CIP that is More Extreme than BIP

Model	(1)	(2)	(3)
Co-partisans	1.57*		
(s.e.)	(0.62)		
Independents		-1.26	
(s.e.)		(0.92)	
Out-Partisans			-1.05
(s.e.)			(0.66)
Constant	-0.61	0.37	0.41
N	346	346	346

* p<0.05 Reported white standard errors.

Table 5: More Extreme CIP vs. BIP Points Hypothesis and Voting Behavior - 111th Congress

	More Extreme Communication (Probit)	s.e.	More Extreme Voting (OLS)	s.e
Base to Swing Voter Ratio	0.31*	0.12	0.03	0.02
Campaign Finance Score	-0.17	0.35	0.56*	0.08
Campaign Finance Score^2	-0.06	0.14	0.23*	0.03
Overall District Ideology	-0.14	0.59	-0.00	0.11
Overall District Ideology^2	-0.36	0.95	0.55*	0.15
Percent under Poverty Line	0.01	0.03	-0.01*	0.00
Median District Age	-0.07	0.04	0.01	0.01
Percent Black in District	-0.01	0.01	0.00	0.00
Percent Hispanic in District	0.03*	0.01	0.00	0.00
Black Legislator	-0.33	0.51	0.06	0.07
Hispanic Legislator	-0.74	1.06	0.24*	0.08
Female Legislator	0.16	0.21	-0.02	0.04
Seniority	-0.01	0.01	0.01*	0.00
Party Leader	1.19	0.66	-0.03	0.07
Previous Margin	-0.01	0.01	0.00*	0.00
Running in 2010	-0.17	0.33	0.01	0.08
Primary Ballot Voter Data	0.32	0.24	-0.01	0.04
Partisan Registration Voter Data	0.00	0.27	0.02	0.05
Partisan Registration & Primary Ballot Voter Data	0.00	0.25	0.05	0.05
Democrat	0.75*	0.37	-0.06	0.08
Senate	-0.45*	0.21	0.26*	0.05
Closed Primary System	-0.12	0.23	-0.07	0.04
Constant	2.41	1.6	-0.45	0.33
(Pseudo) R^2	0.14		0.50	
N	316		316	

White standard errors in parentheses.

* $p < 0.05$

A Appendix - Text Coding Information

A vote in considered to be revealed if one of two things occurs:

1.) A legislator explicitly announces how she intends to vote on specific legislation, or how she voted on specific legislation.

2.) A legislator explicitly announces that she authored, introduced, sponsored, or co-sponsored a bill in which a vote was taken.[1]

Each vote is only counted once per message. To determine if a message contains a vote revelation each of the 40,957 messages were processed by a computer to search for the terms: vot*, cosponsor*, co-sponsor*, co-author*, coauthor*, reintroduc*, sponsor*, introduc*, author*, legislat*, bill, act, resolution.[2] This process resulted in 21,968 messages.

Each message was read by the author to confirm that the terms picked up actually referred to a vote in the 111th Congress. Human processing was necessary at this step because occasionally the computer would flag messages with content of the sort, "This day, in 1920 women were granted the right to vote." These messages are not indicative of any specific action taken on the part of the legislator in the 111th Congress so they are discarded before the next stage of processing.

After all of the computer-flagged messages were human processed there were 15,690 messages with vote revelations. For each message the author or coder read the full text and used online sources thomas.gov and opencongress.org to find the bill number and specific name of the bill on which a vote was revealed. This step was the most time consuming part of the task because legislators are prone to speak in opaque language when referring to their votes. The following is an example from the data.

In November 2010 a Congresswoman sent a message that was included in the potential vote revealing bin because it contained these sentences:

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[1] There is only one instance in which a legislator co-sponsored a bill that he did not eventually vote for, and this legislator sent an e-newsletter explaining the discrepancy. He is coded to have revealed a no vote on this legislation.

[2] A series of Boolean operators and message filters written by author and available upon request. Appending an asterisk to a word is the regular expression quantifier to search for the root and any type of ending. For instance vot* will return: vote, voting, voted, voter, votes, and so on

• "Congresswoman X urges Congress not to give up on extending unemployment benefits, which fell short of a two-thirds majority vote."

• "I'm very disappointed that there weren't enough votes today to extend unemployment benefits and I think its outrageous if Congress allows them to expire next month, just as winter is beginning and a few weeks before Christmas, X said."

• "Although the vote on the bill in the House today was 258-154 in favor, because it was brought up under 'fast-track' rules, it didn't achieve the necessary two-thirds majority to pass."

In the remaining text of the message, Congresswoman X revealed that she was a co-sponsor of the bill in question by saying, "X co-sponsored a bill that would extend unemployment benefits by three months." and then decries that the super majority of the chamber did not vote for this. Using the date and vote description, "extend unemployment benefits" the researcher can then go to online sources to figure out exactly what bill the legislator is talking about and then record the revealed vote in the data matrix.

In this example, opencongress.org helps find the specific vote because the website records votes by day. After looking at all votes on the day the legislator indicates, it is clear that the Emergency Unemployment Compensation Continuation Act (H.R. 6419) is the match for the vote legislator X is referring to for three reasons. The vote totals match exactly the vote totals in the message, the author of the message voted on this bill in the manner she described, and she is also a listed co-sponsor of the bill. With this additional confirming information, the coder can enter the revealed vote.[3]

B Appendix - Technical Details

The communicated ideal points (CIP) and behavioral ideal points (BIP) estimates are based on a modification of a two-parameter item response model applied to roll call votes as detailed in Clinton, Jackman, and Rivers (2004). Consider a standard one-dimensional

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[3] Because of the necessary detective work in matching vote revelations to the actual roll call data, it was not possible to blind the gender of the legislators to the coders. To hedge against biased coding, there was no specific research aim communicated when messages were coded other than the desire to make a comprehensive list of all votes revealed by every legislator.

spatial voting model with $i = 1, \ldots, n$ legislators each with a quadratic utility function over policy outcomes and $j = 1, \ldots, m$ roll call votes. Each roll call can be characterized by two points corresponding to a 'Yea' (ζ_j) vote and 'Nay' (φ_j) vote and each legislator is said to have some latent ideological point (x_i) that may be estimated by modeling each vote choice as a probabilistic decision where the utility for a Yea vote on bill j for legislator i can be expressed as:

$$U_i(y_{ij}) = -\|x_i - \zeta_j\|^2 + v_{ij}$$

where v_{ij} is the stochastic element of the utility in voting Yea and $\| \bullet \|$ is the Euclidean norm. The corresponding utility for a Nay vote is:

$$U_i(y_{ij}) = -\|x_i - \varphi_j\|^2 + \eta_{ij}$$

where η_{ij} represents the stochastic component of voting Nay. Assume $(v_{ij}) \sim N(0, 1)$ and $(\eta_{ij}) \sim N(0, 1)$. Given that a legislator is a rational utility optimizer, she will vote yes on bill j if $U_i(\zeta_j) > U_i(\varphi_j)$. Following Clinton, Jackman, and Rivers (2004), this means the problem of identifying legislator ideal points can be more compactly expressed as:

$$P(y^*_{ij}) = \Phi(\beta'_j x_i = \alpha_j)$$

where Φ is the probit function, β_j is the direction of the jth proposal relative to the Nay outcome and α_j is the discriminability of each vote to differentiate legislator ideal points.

This set up is straightforward, but unidentified given that the only observable data are the votes legislators take and the votes legislators communicate to constituents. To overcome this problem I rely on a series of Bayesian Markov Chain Monte Carlo (MCMC) simulations and a few non-controversial assumptions to identify the model.

The initial step in this approach is to adopt priors for each of the parameters to be estimated. Throughout, I used intentionally vague priors. To obtain estimates of the parameters of interest, the MCMC algorithm successively samples the posterior density of each variable, conditional on previous values of all the other variables over t iterations, where $t = 10,000$. Each iteration proceeds as follows.

First, estimate a value from the density of utility differentials for each Yea versus Nay voting decisions for each legislator (y^*_{ij}) conditional on $\beta_j^{(t-1)}$, $\alpha_j^{(t-1)}$, $x_i^{(t-1)}$, and y_{ij} where $(t-1)$ indicates the value of each quantity at the previous iteration or the starting value when $t = 1$. Notice that y_{ij}

does not change over iterations because this represents the actual voting history data. Because of the probabilistic nature of the voting model I must estimate (y^*_{ij}) putting the actual voting data to use by constraining these estimates such that at each iteration y^*_{ij} is sampled from one of two densities dependent on the actual vote. If $y_{ij} = 1$ then:

$$(y^*_{ij})|(x_i^{(t-1)}, \beta_j^{(t-1)}, \alpha_j^{(t-1)}) \sim N(\mu_{ij}, 1)I(y^*_{ij} \geq 0)$$

if the $y_{ij} = 0$:

$$(y^*_{ij})|(x_i^{(t-1)}, \beta_j^{(t-1)}, \alpha_j^{(t-1)}) \sim N(\mu_{ij}, 1)I(y^*_{ij} < 0)$$

where I is an indicator function. These are equivalent to a truncated normal distribution.

Second, estimate the bill parameters, β_j, α_j given the previous values for all other quantities for each bill. This is essentially regressing y^*_{ij} on $x_i^{(t-1)}$ where the resulting values for the constant and coefficient make up the posterior densities for β_j and α_j. Third, estimate x_i given the previous y^*_{ij}, β_j, α_j values by running a regression for each legislator over the (t-1) values for the bill parameters.

If the algorithm were to stop here it would follow the approach of Clinton, Jackman, and Rivers (2004) to the letter. However, I need to estimate an additional value of the communicated ideal points (xc_i) To do so, I need to have a different set of y^*_{ij}'s based on the observed data of communicated votes. Call communicated votes yc_{ij}, and call and call the utility differential for legislator i on roll call j between voting yea and nay on those communicated votes yc^*_{ij} subject to the same constraints as listed in the first step above.

Instead of re-running the algorithm using only the communicated votes, I embed the estimation of yc^*_{ij} and xc_i into the aforementioned sequence. Assuming g() is a sampling function of part of each section of joint posterior density, the steps that make up the modified MCMC can be compactly listed as:

$$g((y^*_{ij})| y_{ij}, x_i^{(t-1)}, \beta_j^{(t-1)}, \alpha_j^{(t-1)})$$
$$g((yc^*_{ij})| yc_{ij}, xc_i^{(t-1)}, \beta_j^{(t-1)}, \alpha_j^{(t-1)})$$
$$g((\beta_j, \alpha_j)| y^*_{ij}^{(t-1)}, x_i^{(t-1)})$$
$$g((x_i)| y^*_{ij}, \beta_j^{(t-1)}, \alpha_j^{(t-1)})$$
$$g((cx_i)| yc^*_{ij}, \beta_j^{(t-1)}, \alpha_j^{(t-1)})$$

This is repeated 10,000 times.

This modification allows the bill parameters to be estimated using the full set of votes, and then uses those results to inform the communicated ideal point rather than generating a new set of bill parameters using only communicated votes. This is important because the features of the roll calls does not change when a legislator chooses to reveal her votes on selected bills; only her communicated ideological placement changes.

Lastly, to orient the scale, I pin two legislators and the ends of the one-dimensional ideological space. This is a non-controversial assumption necessary to identify the model. The most liberal and most conservative legislator as determined by DW-NOMINATE scores over all votes taken in the 111th Congress are the pins. Using this model, I estimate the BIPs, bill cut points, and the CIPs along with standard errors for each point of interest.

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Notes

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[1] Specific communications analyzed here are E-newsletters and Real Simple Syndication (RSS) feeds. Official communications are those sent from an Member of Congress' .gov email address or RSS feeds from the house.gov or senate.gov websites. I subscribed to each e-newsletter and RSS feed with a dummy e-mail account. For each legislator that did not have both forms of communications at the initial time of collection, I checked once a month to add to the subscription list. My institution's Internal Review Board has approved this collection as exempt. There are now well over 200,000 communications in my database and they are available upon request and will be made publicly available upon publication of research using the data. For the 111th Congress analyzed here, the data are from August 2009 – January 2011. Roughly 25% of e-newsletter subscriptions require an in-district zip code, for 15% of those subscriptions the messages are made publicly available on official websites, therefore 10% of the subscriptions rely on a false zip code; which is the first zip code listed for a legislator's district office. No RSS feeds have any subscriber restrictions. There may be some concern about combining e-newsletters and RSS feeds to make a combined measure, regarding the different potential audiences. For this research, the combination is both theoretically justifiable and technically necessary. Theoretically, e-newsletters and RSS feeds are the two ways a legislator can get communications directly into a constituent's inbox, and therefore represent a unique path of information from legislators to constituents. Technically, in order to accumulate enough revealed votes to scale legislators, a combined measure is necessary. Lastly, whether a vote was revealed in an RSS feed or e-newsletter both are public signals from a legislator's official position and because the scaling technique only uses unique votes, double counting of a vote revealed in both media does not pose a problem.

[2] Save for restrictions on soliciting donor money, explicitly encouraging constituents to vote for a specific candidate, and reelection black out dates.

[3] Studies employing the universe of a given communication media include (Grimmer, 2013) (Grimmer & King, 2010) (Adler, Gent, & & Overmeyer, 1998). In addition, there are many well done studies using sampled texts (Wigley, 2011), (Sellers, 2010), (Neiheisel & Niebler, 2010), (Ludwig, 2010), (Gulati, 2008), (Trammell & Williams, 2004), (Lipinski, 2004), (Yiannakis, 1982).

[4] The CCES draws from a nationally representative survey population for the full survey. The specific

question posed to a randomly selected 1,000 respondents was, "Have you ever subscribed to email updates such as an e-newsletter or Real Simple Syndication (RSS) feed from any of the following elected officials?" followed by the name of their Representative, junior Senator, and senior Senator.

[5] It is unlikely that 19% of a district subscribes to e-newsletters and RSS feeds at the same time. The question asks respondents if they have ever signed up for these types of communications. Interviews with press secretaries put the upper bound estimation for the amount of subscribers at a given time around 10%.

[6] For an analysis of extreme voting sans communications and the results of primary elections that concludes the opposite way see (Ansolabehere, Hirano, Hansen, & Snyder, 2010).

[7] There is another segment of the constituency that will not support an incumbent legislator. These voters are not in the relevant set of constituents when evaluating likely reelection votes.

[8] I never observe lying in the dataset. Constituents occasionally write into their local papers, and papers have published accounts of inaccuracies in e-communications effectively deterring such actions (Rock, 2008).

[9] Given that political elites tend to be more extreme than average voters, this assumption may not be fully met in every instance. However, the electoral calculation posited above; in addition to recent research on mass citizen preferences by party ID, indicates that there is often a substantial gap between the preferences of the median Democrat, Republican and Independent in each state and therefore this assumption is reasonable (Tausanovitch & Warshaw, 2013). The theoretical predictions remain the same if the legislator is more moderate than both base and swing medians. If the legislator is more extreme than both medians, the predicted outcomes change slightly and I leave pursing this possibility to a future project.

[10] 2008 National Election Pool Exit Polls. Knowing that 20% of all districts have a one party voter majority does not necessarily imply that legislators from such districts are more extreme than their median base voter. In fact, if a legislator is in such a district, her optimal ideal point strategy will be close to the median base voter and may therefore be slightly more moderate or slightly more extreme, but not radically more extreme.

[11] Roll call vote data for 111th Congress are compiled by Jeᶩ Lewis and Keith Poole at voteview.com.

[12] This data is made from the individual datasets for each of the fifty states and the District of Columbia. Sample sizes are between 800-2000 for each state.

[13] Respondents who identified as "other" (4%) are treated as Independents because there is no a priori reason to assume they are irrelevant. Results remain consistent if such respondents are eliminated altogether.

[14] Correlations between a dummy measuring missingness and the dependent variable indicating whether a legislator's CIP is more extreme than her BIP indeed demonstrates that there is no discernible relationship. The coefficients for Democrats: -0.0034, Republicans: -0.0037.

[15] The average standard error associated with BIP is 0.032, the average for CIP is 0.321

[16] When using a standard OLS regression of the distance, I find results are substantively similar.

[17] Indicators signify if a state has (1) no partisan data in the voter record (2) primary ballot selection data (3) partisan registration (4) partisan registration and primary ballot selection data.

[18] I use an average hypothetical legislator for the simulations. This is a Democratic Representative from a district with a citizen ideology of 0.05 and a squared citizen ideology of 0.06, a campaign finance score of -0.06 and squared CF score of 1.61, with both primary ballot and partisan registration voter data, an open primary system, 11% of the voting age population below the poverty level, a median district age of 36, 11% black citizens, 7% Hispanic citizens, is white, non-Hispanic, and a male who has served for 10 years, revealed 18 votes and is running for reelection. The average Republican has a district with a citizen ideology of 0.18, 10% of the voting age population below the poverty level, a median district age of 36, 9% black citizens, 6% Hispanic citizens, is white, non-Hispanic, and a male who has served for 10 years, with a previous election margins of 66%, and is running for reelection, and is not a party leader.

Sublease Form

The sublessor agrees to sublet and the subtenant agrees to take the premises described below. Both parties agree to keep, perform, and fulfill the promises, conditions and agreements expressed below:

- The sublessor is (who is moving out) **Joshua Loong**

- The subtenant is (who is moving in) **Brad Zecchino**

- The location of the premises is (address) **333 Lester St.** Unit Number **301**

- The term of this sublease is (# months) **4** Beginning(month/day/year **01/01/2018** and ending (month/day/year) **04/28/2018** .

- The rent is $ **550** per month, payable in advance on the **1** day of the month, payable to ~~Brad Zecchino~~ **Joshua Loong**
  at adress **292 Main St. N, Markham ON L3P 2Y8**

- The sublease agreement will terminate on (month/day/year) **04/ 28 /2018**. There shall be no holding over under the terms of this sublease agreement under any circumstances.

- All charges for utilities connected with premises which are to be paid by the subtenant under the master lease shall be paid by the subtenant for the term of this sublease.

- Subtenant agrees to surrender and deliver to the sublessor the premises in as good of condition as they were at the beginning of the term, reasonable wear and tear excepted. The subtenant will be liable to the sublessor for any damages occurring to the premises or the contents thereof or to the building which are done by the sublessee or his/her guests.

- Subtenant agrees to pay to sublessor a deposit of $ **200** to cover damages beyond normal wear and tear unpaid rent, and unpaid utilities. Sublessor agrees that if the premises and contents thereof are returned to him/her in the same condition as when received by the subtenant , reasonable wear and tear thereof excepted, and if there is no unpaid rent or unpaid utility bills owed by subtenant, s/he will refund to the subtenant $ **200** at the end of the term, or within 30 days thereafter. Any reason for retaining a portion of the deposit shall be explained in writing within 30 days to the subtenants.

- The sublessor will provide the subtenant with a check in sheet within three(3) days after the time the sublessee takes possession of the unit/premises.

- The sublease agreement incorporates and is subject to the original lease agreement between the sublessor and his lessor, a copy of which is attached hereto, and which is hereby refferred to and incorporated as if it were sublessor under the original lease for the duration of the sublease agreement.

- The words "sublessor" and "subtenant" as used herein include the plural as well as the singular, no regard for gender is intended by the language of this sublease

- Other terms and conditions ___Joshua Loong will pay hydro___

- This lease constitutes the sole agreement between the parties and no additions, deletions, or modifications may be accomplished without the written consent of both parties. (Any oral representations made at the time of executing this lease are not legally valid, and therefore, are not binding upon either party.)

- If the subtenant is under 18 years of age, then his/her legal guardian or parent gurantees and agrees to perform all of the terms, covenants and conditions of this sublease by affixing his/her signature.

- Each party signing this sublease acknowledges receipt of a copy thereof.

- This sublease is not binding upon either party unless approved by the landlord as provided below, provided such approval is required by the original lease.

THE PARTIES HEREBY BIND THEMSELVES TO THIS AGREEMENT BY THEIR SIGNATURES AFFIXED BELOW ON THIS __5__ DAY OF __December__ ,20 __17__ .

Sublessor(s)	Subtenant(s)
Joshua Loong	Brad Zechia
	(Parent or Guardian for subtenant under 18 years of age.)

I hereby give my consent as landlord to subletting of the above described premises as set out in this sublease agreement.

Landlord or agent _____ Date _____

Original lease attached ___YES ___NO
Inventory Check List Attached ___YES ___NO