Political Pledges as Credible Commitments

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Version: March 2012

Abstract

How can interest groups secure credible policy commitments from politicians? Previous research

has argued that groups screen politicians to identify true believers, and they enforce

commitments through repeated interactions. We argue that political pledges provide another

solution to the commitment problem. Pledges tie the hands of politicians by involving voters in

the enforcement process. If politicians violate a group's pledge, even voters who disagree with

the pledge will carry out a punishment. Using survey experiments, we show that the "No New

Taxes" pledge commits signatories by significantly increasing the electoral cost of advocating

higher taxes. We also explain how the pledge incentivizes even nonsignatories to avoid raising

taxes. By deterring politicians from responding to changes in public opinion, pledges can

contribute to non-representative policies.

1. Introduction

Interest groups that seek to influence public policy face a commitment problem. Groups often devote substantial resources to electing candidates. They run advertisements, endorse politicians, mobilize voters, contribute money to favored candidates, and engage in a host of other activities. These investments are not guaranteed to pay off; after taking office, politicians could disappoint the very groups that helped bring them to power. Officeholders might commit sins of omission by not pushing for policies the groups want, or sins of commission by backing measures that undermine the groups' purposes. Explicit *quid pro quo* contracts between groups and candidates are, of course, illegal. Groups must, therefore, use other strategies to secure the policies they desire.

Previous research has identified two major ways in which groups can address the commitment problem. Some have argued that groups hold politicians accountable by using strategies of *reciprocity*: rewarding loyal politicians by backing them in upcoming campaigns, and punishing shirkers by refusing to support them in the future. If groups and politicians interact repeatedly, the promise of future reward and threat of future punishment could incentivize politicians to remain faithful to their benefactors. Others have argued that groups address the commitment problem by *screening*: they study the statements and actions of candidates, and support ones whose true preferences seem most congruent with their own. If screening is successful, the candidates who take office will deliver the desired policies not because they seek reward or fear punishment, but because they share the groups' outlooks and values.

In this paper we investigate whether political pledges provide a third way to solve the commitment problem. A political pledge is a promise, signed by a politician, to behave in a particular way while in office. In recent years advocacy groups have convinced politicians to

pledge on a remarkably wide range of issues, including abortion, income taxes, balanced budgets, immigration, social security, and family values.¹

We argue that pledges tie the hands of politicians by involving voters in the enforcement process. A politician who signs an interest group's pledge makes a public commitment. If the politician subsequently violates the pledge, the group, opposition candidates, and the media can bring this news to the attention of voters. We show that voters react negatively to politicians who break pledges. The adverse response is so strong that many people will vote against a pledge-breaker, even if that candidate best represents their views. Getting politicians to sign pledges can, therefore, be an effective strategy. After securing signatures from politicians, groups can play mainly informational roles—pulling the fire alarm when pledges are violated—while letting citizens carry out the punishment.

We distinguish two processes by which pledges increase the incentive to advocate pledge-consistent policies. First, voters draw negative inferences about the character of politicians who break pledges. They see pledge-breakers as dishonest, immoral, uninformed, or spineless—judgments that translate to lost votes on Election Day. Pledged candidates, consequently, have stronger incentives to advocate pledge-consistent policies than their unpledged counterparts. Pledges also affect expectations about future behavior. Voters believe that candidates are more likely to act on statements that fit with previous pledges. This perception, we find, heightens the incentives of pledged candidates to advocate pledge-consistent policies in many common electoral circumstances. Thus, pledges can bind not only by exposing a candidate to characterological criticism, but also by changing how voters view the candidate's policy positions.

¹ "Election Cycle Emerges as the Year of the Pledge, but Some Candidates Resist," *New York Times* (July 16, 2011).

Our empirical analysis focuses on the Taxpayer Protection Pledge, which was introduced by Americans for Tax Reform in 1986 and has been signed by nearly all Republicans in the U.S. Congress. Signatories vow never to increase tax rates on individuals and corporations, and to offset any efforts to close loopholes with equivalent reductions in marginal tax rates. This pledge received considerable attention in 2011, when Congress debated how to deal with the spiraling national debt. Many urged Republicans to raise taxes, even though tax hikes would violate the pledge. The crisis of 2011 offered an exceptional opportunity to study whether pledges create electoral incentives to persist with pledge-consistent policies, even in the face of changing and potentially dire circumstances.

To test our hypotheses, we designed an experiment about the Taxpayer Protection Pledge and embedded it in a public opinion poll, which was fielded to a nationally representative sample of U.S. adults in summer 2011. We presented each respondent with information about whether two politicians had taken the pledge in the past, and whether each currently proposed to deal with the debt through spending cuts alone, or through a mix of tax increases and spending cuts. We asked which candidate the respondent preferred, measured perceptions about the character of candidates, and elicited expectations about what candidates would do if elected.

We found taking the Taxpayer Protection Pledge had both characterological and positional effects that altered the political incentives of candidates. Given the policy preferences of citizens in our sample, the pledge increased the incentive to take an anti-tax stand in races against every possible opponent. We further found that, if both candidates had pledged, neither would find it electorally profitable to call for higher taxes unless an overwhelming majority of voters—at least 70%—wanted that policy. The pledge proved even more potent when one candidate had signed while the other had not. In such a situation, the pledged candidate would

maximize his vote by maintaining an anti-tax stance unless at least 98% of voters wanted higher taxes. The pledge bound tightly in this scenario because breaking it would have alienated anti-tax voters while failing to attract pro-tax voters. We conclude that pledges offer a viable mechanism by which groups can secure durable policy commitments from candidates.

2. THEORY AND HYPOTHESES

2.1. Interest Groups and the Commitment Problem

Interest groups face challenges when trying to obtain policies and services. Ideally, groups would help elect whoever seems most likely to deliver the outcomes they want. But it is difficult to divine the true intentions of politicians, and hard to compel them to follow through. Some politicians might be disingenuous, making promises they have no intention of keeping. For example, vote-seeking politicians might say one thing to win a primary, knowing that they will shift positions in the general election. Others might be honest but reposition in response to new circumstances, such as changes in the economy or the preferences of the electorate.

How, exactly, can groups ensure that officeholders will deliver the policies and services they want? Morton and Cameron (1992) analyze position models, in which politicians deliver general policies in exchange for campaign contributions, and service models, in which politicians deliver particularlistic benefits to groups that support them. Commitment problems "apply with a vengenance" in both types of models. The policy pronouncements of candidates are "not really binding," and candidates could "renege on [their] agreement to supply services following the election" (Morton and Cameron 1992, 84, 89).

Scholars have studied two potential solutions to the commitment problem. The first involves reciprocity, in which groups reward politicians for good performance and punish them

for bad performance. Groups could, for example, threaten to withhold contributions from politicians who fail to deliver the right policies and services. If groups and politicians interact repeatedly, the threat of future punishment could compel politicians to keep their promises (Baron 1989; Baron and Mo 1993; Snyder 1992; Stratmann 1998).²

There are, however, several well-known problems with reciprocity as a solution to the commitment problem. If politicians and groups focus mainly on the present, the threat of future punishment will not loom large enough to support cooperation (Fox and Rothenberg 2011, 326). If, on the other hand, both sides care greatly about the future, the "folk theorems" of repeated games imply that practically any pattern of play can be supported in equilibrium. Reciprocity could also break down if politicians entertain new suitors after the election. Indeed, McCarty and Rothenberg (1996) find that legislators historically have not punished groups for failing to contribute, even when those groups actually funded the opposition. These findings and others cast doubt on the idea of an implicit "campaign contribution contract" between groups and politicians (see also Ansolabehere, de Figueriedo, and Snyder 2003; Milyo, Primo, and Groseclose 2000).

A second potential solution to the commitment problem involves screening. Instead of enforcing its preferences by threatening to punish officeholders for bad performance, a group could screen candidates and support those who seem genuinely sympathetic to its causes. If elected, these "good types" would enact policies that benefit the group, not because they are trading policies for money, but because they believe the policies would be best for their constituents or the country as a whole. Bawn et al. (2012) propose just such a theory, in which groups identify candidates who are "committed to their program" and support them by providing

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² Kroszner and Stratmann (1998, 2005) provide evidence that the committee system in Congress facilitates such repeated interactions.

campaign workers, mobilizing voters, and making financial contributions. Independently, Fox and Rothenberg (2011) develop a model in which groups learn about the ideological preferences of politicians and donate to ones whose ideology seems congruent with their own.

Screening strategies are not foolproof, however. Even after making concerted efforts to screen, groups might fail to distinguish good types from bad ones. The problem of inference is especially acute because election-seekers have incentives to pose as genuine believers in order to attract money and endorsements. After winning office, the posers can pursue their true preferences to the detriment of groups that helped bring them to power. Moreover, even politicians who initially share the preferences of a supportive group could change their personal opinions over time. Screening provides some protection against bad outcomes, but it is not a panacea. In the next section, we argue that political pledges provide a complementary method of addressing the problems that interest groups face.

2.2. Pledges as a Solution to the Commitment Problem

Pledges offer a potential solution to the commitment problem by engaging voters in the enforcement process. We embed our argument within standard theories of voter behavior. For decades, scholars have argued that voters evaluate politicians on two dimensions: policy and character. An enormous literature, originating with Downs (1957), posits that citizens prefer politicians whose policy positions are closest to their own. Research has also shown that voters value politicians with good personality attributes, such as integrity and competence (Stokes 1963, Kinder et al. 1980). Pledges, we argue, affect both types of considerations.

First, we hypothesize that voters draw negative inferences about the character of politicians who violate pledges. Some might view violators as dishonest politicians who would say anything to get elected. Others might perceive pledge breakers as uninformed politicians who

take different positions at different times because they do not understand a policy issue. Still others might view people who backtrack on pledges as weak leaders who lack the competence to make decisions or the backbone to defend their views.

Previous experiments lend plausibility to the hypothesis that people draw negative conclusions about politicians who change positions. In one experiment, Allegeier et al. (1979) presented students with questionnaires that had been filled out by an anonymous individual at two points in time and asked students to evaluate the individual on a variety of traits. Students gave lower evaluations to individuals whose answers to the questionnaire had changed over time. Carlson and Dolan (1985) reached similar conclusions in an analogous experiment, in which the individual who filled out the surveys was described as a political candidate. Finally, Tomz and Van Houweling (2010) found that respondents in a nationally representative sample drew negative character inferences about politicians who changed their positions on taxes or abortion. If inconsistency triggers negative inferences, it seems likely that pledge breaking will, as well.

Of course, voters may see virtue as well as vice in politicians who change positions. In a novel experiment, Sigelman and Sigelman (1986) examined how people responded to fictional presidents whose policy actions were either consistent or inconsistent with their reputation as a foreign policy hawk or dove. Respondents "generally perceived presidents of either persuasion who acted out-of-character as more dishonest, inconsistent, insincere, unreliable, and indecisive than presidents who stuck with their previous stands. Still, subjects also saw some merits—flexibility and open-mindedness—in a president who could adapt to the circumstances, a fact that raises questions about any view that casts stepping out of character in an exclusively negative light (283)."

We anticipate that, on balance, voters draw negative conclusions about the character of politicians who violate pledges. This hypothesis, if true, has important implications. Politicians who sign pledges tie their own hands by exposing themselves to potential costs—in the form of negative perceptions about character, leading to fewer votes on Election Day—if they subsequently violate their commitments. Pledged candidates therefore have an electoral incentive to advocate pledge-consistent policies. This incentive arises because voters, not interest groups, enforce the commitments.

Second, we hypothesize that pledges influence expectations about what politicians would do in office. In particular, pledges should enhance the credibility of pledge-consistent policy statements. Consider, for example, one politician who previously pledged to implement policy x and another who abstained from pledging. If both politicians now advocate x, we expect that voters will perceive the pledged politician as more likely to follow through. We have less clear predictions about how voters would respond to a politician who now advocates a contradictory policy, y. On the one hand, voters could see the pledged politician as less likely to implement y because he previously pledged x and may still secretly prefer it. On the other hand, voters might see the pledged politician as an especially credible advocate of the new policy. Knowing that the politician would pay an electoral price for breaking the pledge, voters might conclude that he would not have changed course unless he had truly converted.

As we explain later in the paper, the pledge can bind candidates not only by putting a politician's character on the line, but also by shaping expectations about future action. The first mechanism should always operate; the second should apply only in some political circumstances. In general, though, we anticipate that the pledge will give candidates an extra incentive to advocate pledge-consistent policies.

3. RESEARCH DESIGN

We know of no systematic research about whether and how pledges tie the hands of politicians. In this section we develop an experimental technique for estimating the effect of pledges and apply it to the Taxpayer Protection Pledge. Launched in 1986 by Americans for Tax Reform, a group headed by Grover Norquist, the Taxpayer Protection Pledge (also known as the "no new taxes" pledge) commits signatories to "oppose any and all efforts to increase the marginal income tax rate for individuals and businesses." Signatories further vow to "oppose any net reduction or elimination of deductions and credits, unless matched dollar for dollar by further reducing tax rates."

We study the Taxpayer Protection Pledge for two reasons. First, it is the most common pledge in American politics. In the decades since its inception, the pledge has attracted hundreds of signatories and become a nearly universal Republican creed. 236 of the 242 Republican representatives and 40 of the 47 Republican senators and in the 112th Congress signed the pledge, as did all major contenders for the 2012 Republican presidential nomination.³

Second, the Taxpayer Protection Pledge has become highly contested, making it ideal for studying whether pledges bind even when they become inconvenient. In 2010 the U.S. federal debt exceeded \$13 trillion, nearly equal to the entire U.S. gross domestic product. In the midterm election that year, many Republicans cited the debt as a national emergency and called for immediate action to restore fiscal balance. After scoring major victories across the nation and taking control of the House of Representatives, though, Republicans faced a potential bind:

(Sept. 14, 2011). In the 2012 Republican presidential primary, the only notable holdout was Gov.

Jon Huntsman, who refused to take any pledges.

³ Americans for Tax Reform, The Taxpayer Protection Pledge Signers, 112th Congressional List

although they had ridden to office on a platform of debt reduction, they had also pledged never to increase taxes, thereby forswearing one device for bringing receipts in line with expenditures.

Shortly after the midterm election, two bipartisan commissions recommended dealing with the debt not only by cutting spending, but also by increasing taxes.⁴ President Obama and congressional Democrats also developed plans that included higher revenues, setting up a showdown with Republicans. By summer 2011 the situation reached crisis proportions. Political gridlock over the debt raised fears of a national default, and rating agencies such as Standard & Poor's downgraded U.S. bonds for the first time in history. This situation provided an ideal opportunity to investigate whether pledges bind even when changing circumstances might prompt politicians to rethink their positions and renege on prior commitments.

Accordingly, we designed an experiment to study how the Taxpayer Protection Pledge affects the incentive to endorse a cuts-only approach to deficit reduction, instead of proposing a mix of spending cuts and tax hikes. The experiment, embedded in a public opinion poll, involved four steps. First, we asked respondents how they wanted to address the national debt. Our question read, "To deal with the U.S. national debt, do you think the federal government should cut spending but not raise taxes, raise taxes but not cut spending, or both cut spending and raise taxes?" We included the question so that we could group respondents according to their policy preferences, and study how each group evaluated the candidates in our experiment.

Second, we displayed the text of the Taxpayer Protection Pledge and noted that all candidates for state and federal office had been asked to sign it (Figure 1). We then described two senators who varied randomly in whether they had previously taken the Taxpayer Protection

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⁴ The National Commission on Fiscal Responsibility and Reform, chaired by Alan Simpson and Erskine Bowles, was created in 2010 by President Barack Obama. The Debt Reduction Task Force, chaired by Pete Domenici and Alice Rivlin, was formed by the Bipartisan Policy Center.

Pledge, and in how they were now proposing to deal with the debt. The scenario began, "Some senators have signed the 'no new taxes' pledge. Other senators have not. We would like your opinion about two senators, whose names will remain confidential. They are Senator A and Senator B." By representing candidates with letters, we were able to test the pure effect of the pledge, without the potentially confounding effects of party or other candidate attributes.

[Figure 1 about here]

We reported whether each senator had signed the pledge two years ago (p) or not (n), and whether they now wanted to tackle the debt entirely through spending cuts (c) or through a mix of spending cuts and tax hikes (t). Thus, each candidate had one of four histories: pc, pt, nc, or nt. Figure 1 displays an example in which respondents chose between Senator A with history pc and Senator B with history nt. We did not present scenarios involving two candidates with identical histories, because respondents would not have had a reason to prefer one candidate over the other. Thus, our experiment contained six types of contests: pc vs. pt; pc vs. nc; pc vs. nt; pt vs. nc; pt vs. nt; and nc vs. nt. We gave each respondent one of these six contests, randomized who was a or a, and asked "On this issue, which Senator do you prefer?"

Third, we measured expectations about how the candidates would behave. Specifically, we reminded each respondent of the statements Senator *A* had made and asked: "If you had to guess, what do you think Senator *A* would try to do in the future?" The response options were "cut spending but not raise taxes," "raise taxes but not cut spending," or "both cut spending and raise taxes." We repeated this procedure for Senator *B*.

Finally, we measured perceptions of characteristics that people often want candidates to have. We included four characteristics—provides strong leadership, knowledgeable, honest, and moral—as proxies for competence and integrity, which are known to mediate support for

candidates (Kinder et al. 1980; Markus 1981). We included a fifth characteristic, open minded, not only because voters regard it as important (Kinder et al. 1980), but also because candidates who change positions might appear open minded (Sigelman and Sigelman 1986).

Each respondent evaluated Senators A and B on one of the five traits, which we selected at random. To do this, we redisplayed Senator A's history of positions and asked: "In your opinion, does the phrase 'he [provides strong leadership / is knowledgeable / is honest / is moral / is open minded]' describe Senator A extremely well, very well, moderately well, slightly well, or not well at all?" We concluded by asking respondents to judge Senator B on the same trait.

4. DATA

The experiments discussed in this article were administered by Knowledge Networks, an Internet-based polling firm, with support from the National Science Foundation. Knowledge Networks uses random digit dialing to recruit participants and provides Internet access to households, resulting in a nationally representative sample of U.S. adults. Recent research, based on a national field experiment in which different firms administered the same questionnaire, showed that Knowledge Networks data are typically more accurate than data from telephone surveys and non-probability Internet samples (Chang and Krosnick 2009).

The interviews took place in July–August 2011, and 1,195 people (64% of invitees) completed the survey. Of these, 58% wanted to deal with the national debt entirely through spending cuts; an additional 38% thought the solution should involve higher taxes as well as lower spending; and the remainder favored tax hikes but no spending cuts. Polls by other researchers, with similarly worded questions, generated comparable distributions of opinion. For example, a Quinnipiac University survey in October 2011 asked registered voters, "From what

you know so far, do you think the deficit-reduction proposal should include some increases in tax revenue or should it include only cuts in government spending?" Among respondents who took a position, 55% favored a cuts-only approach.⁵

We divided respondents into two groups, those who favored spending cuts only (group c, comprising 58% of the sample) versus those who wanted more taxes (group t, comprising 42% of the sample), and analyzed each group separately. Our split-sample analysis has two advantages. First, it reveals whether reactions to the pledge depend on policy preferences. Second, it allows us to assess how the consequences of the pledge would vary if support for taxes were higher or lower than in our sample, either because of shifting preferences in the electorate as a whole, or because the contest involved a subset of voters, such as the electorate in a primary.

Define $V_g(A^a, B^b)$ as the percentage of respondents in group $g \in \{c, t\}$ who preferred candidate A with history $a \in \{pc, pt, nc, nt\}$ in a race against candidate B with history $b \in \{pc, pt, nc, nt\}$. Table 1 gives this percentage for both group of voters, for every permutation of A^a, B^b . Recall that we did not actually administer scenarios in which the two candidates had identical histories, because citizens would have been indifferent when the candidates were tied. Thus, Table 1 shows a value of 50 percent in every cell where a = b.

[Table 1 about here]

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⁵ *Quinnipiac University Poll* (Nov. 3, 2011). Polls with different question wordings showed stronger support for taxes. For example, a Quinnipiac poll in July 2011 asked, "Do you think any agreement to raise the national debt ceiling should include only spending cuts or should it also include an increase in taxes for the wealthy and corporations?" Given that additional levies would have fallen entirely on wealthy individuals and corporations, the poll found 73% support for tax increases. See *Quinnipiac University Poll* (July 14, 2011).

⁶ We also assumed that when $a \neq b$, voters did not prefer candidates based on whether they were called A or B. We tested this assumption and confirmed that, for all histories $h \neq h'$, support for A^h over $B^{h'}$ was statistically indistinguishable from support for B^h over $A^{h'}$. Consequently, we pooled the responses to scenario A^h , $B^{h'}$ with the responses to scenario A^h , B^h . Table 1 therefore shows an antisymmetric pattern in which $V_g(A^h, B^{h'}) = 100 - V_g(A^{h'}, B^h)$.

Table 1 reveals two striking patterns. First, many citizens actually chose candidates who did not represent their views, over candidates who shared their views but broke the pledge. As the bottom half of Table 1 shows, 80 percent of voters who wanted higher taxes chose A^{nt} over B^{nc} , but only 62 percent choose A^{pt} over B^{nc} . Similarly, 78 percent chose A^{nt} over B^{pc} , but only 68 percent picked A^{pt} over B^{pc} . Thus, when facing cuts-only opponents, candidates who advocated higher taxes did 10–18 points worse if they previously pledged than if they had not. As we show later in the paper, voters may have behaved this way because they interpreted pledge-breaking as a signal of poor character and, for many voters, the negative inferences about character proved decisive.

Second, the pledge proved influential even when neither candidate broke it, because it attracted voters who wanted cuts alone and repelled voters who wanted higher taxes. For example, among cuts-only voters (top half of Table 1), A^{pc} received 74 percent of the vote against B^{nc} , whereas A^{nc} tied that same opponent. In this example, A^{pc} outperformed A^{nc} by 24 points. Pro-tax voters (bottom half of Table 1) had the opposite reaction: they gave 19 percentage points less support A^{pc} than to A^{nc} when the opponent took a cuts-only position. As we document below, the pledge generated these reactions by changing the expectations of voters, who thought that candidates who recommended cuts alone were more likely to follow through if they had pledged than if they had not.

5. THE EFFECT OF THE PLEDGE ON THE INCENTIVE TO ADVOCATE CUTS ONLY

Based on the values in Table 1, we estimated how the pledge affects the incentive to take a cuts-only position, instead of proposing a mix of spending cuts and tax hikes. Our approach involved a comparison of two quantities. The first quantity is the number of votes a candidate

would gain (or lose) by calling for cuts alone if that candidate had signed the pledge. The second quantity is the number of votes that same candidate would gain (or lose) by calling for cuts alone, if that candidate had not signed the pledge. The difference between these two quantities gives the effect of the pledge; it tells how the pledge alters the electoral incentive to take a cuts-only position instead of recommending higher taxes as well as spending cuts.

5.1. An Estimator for the Effect of the Pledge

To make this approach more precise, suppose A has pledged, and hold B's history constant at b. If A recommends cuts only, he will garner $V_g(A^{pc}, B^b)$ percent of the vote among members of group g. If A calls for higher taxes as well as spending cuts, he will receive $V_g(A^{pt}, B^b)$ percent of the votes in group g. The difference,

$$\delta_g^{p|b} = V_g(A^{pc}, B^b) - V_g(A^{pt}, B^b), \tag{1}$$

measures how much better or worse A would perform in the eyes of group g if he proposed cuts alone, instead of advocating a mix of taxes and cuts. If $\delta_g^{p|b} > 0$, A would gain votes by recommending cuts alone. If $\delta_g^{p|b} < 0$, A would secure more votes by recommending higher taxes as well as spending cuts. Finally, if $\delta_g^{p|b} = 0$, A's position would not affect his support from voters in group g.

Now suppose that A has not signed the pledge. Fixing the opponent's history at b, candidate A would secure $V_g(A^{nc}, B^b)$ percent of the vote in group g by advocating cuts alone, versus $V_g(A^{nt}, B^b)$ percent by proposing a blend of spending cuts and tax hikes. The difference,

$$\delta_v^{n|b} = V_g(A^{nc}, B^b) - V_g(A^{nt}, B^b),$$
 (2)

indicates how the behavior of group g would change if A ran a cuts-only campaign instead of a cuts-and-taxes campaign.

To isolate the effect of the pledge on the incentive to recommend cuts alone, we subtract equation (2) from equation (1), thereby netting out the consequences of taking a cuts-only stand in the absence of the pledge. Our estimator is

$$\Delta_g^b = \delta_g^{p|b} - \delta_g^{n|b}. \tag{3}$$

The quantity $\delta_g^{p|b}$ represents how much a candidate who had previously pledged would attract or repel group g by calling for cuts only, instead of cuts and taxes, when competing against an opponent with history b. The quantity $\delta_g^{n|b}$ represents how much a candidate who did not pledge would attract or repel the same group by adopting the same cuts-only position against the same opponent. The difference, Δ_g^b , tells how the pledge moderates the electoral incentive to call for cuts alone instead of recommending both cuts and taxes. If $\Delta_g^b > 0$, then pledging would increase the electoral incentive for A to focus on spending cuts—and to avoid recommending higher taxes—when courting group g in a race against someone with history b.

5.2. The Estimated Effect of the Pledge

By inserting the percentages from Table 1 into Equations (1)–(3), we estimated how the pledge affected the electoral incentive to address the debt entirely through spending cuts, rather than through a mix of cuts and taxes. Our findings appear in Table 2.

[Table 2 about here]

To see how to read the table, consider the top panel, which pertains to voters who want cuts only (group c). The first column shows that 94 percent of respondents in this group chose A^{pc} over B^{nt} , whereas only 29 percent chose A^{pt} over B^{nt} . Consequently, $\delta_c^{p|nt} = 94 - 29 = 65$. Thus, in a race against B^{nt} , a candidate who pledged would have done 65 percentage points better among members of group c by advocating cuts alone than by seeking a combination of cuts and taxes. Moving down the first column of Table 2, we see that 94 percent of voters in

group c chose A^{nc} over B^{nt} . By assumption, voters would have been indifferent between A^{nt} and B^{nt} , and would have broken the tie by selecting A half the time. It follows that $\delta_c^{n|nt} = 94 - 50 = 44$. Thus, an unpledged candidate would have gained 44 percent among members of group c by calling for cuts alone instead of cuts and taxes.

In this example, both $\delta_c^{p|nt}$ and $\delta_c^{n|nt}$ are positive. This means that, when competing against B^{nt} to attract votes from group c, candidate A always has an electoral incentive to advocate cuts only, regardless of whether A pledged. Nonetheless, the incentive to run a cuts-only campaign is stronger when A has pledged than when A has not. The extra incentive is $\Delta_c^{nt} = 65 - 44 = 21$, meaning that the pledge strengthens the incentive to run a cuts-only campaign by 21 percentage points. The 95% confidence interval around this estimate ranges from 7 to 35 percent.

We have seen one example of how the pledge creates a large incentive to avoid calling for taxes. This example is typical of a general pattern: as the top half of Table 2 reveals, the pledge affects the incentives of candidates who are courting group *c*, regardless of their opponent's history. The estimated power of the pledge is 21 points when facing nt, 19 points when facing pt, 25 points when facing nc, and 23 points when facing pc. In all these scenarios, the pledge substantially amplifies the benefits of running a cuts-only campaign.

The bottom half of Table 2 summarizes the reactions of voters who want higher taxes. Here, the effect of the pledge varies with the political history of the opponent. The pledge creates a 29-point incentive to avoid taxes when running against nt and a 21-point incentive when running against pt. In contrast, the effect of the pledge runs in the opposite direction—though it is not statistically distinguishable from zero—in races against nc and pc. Thus, the pledge can deter candidates from calling for higher taxes, even when appealing to voters who actually prefer

higher taxes, but the deterrent is large and statistically significant only in races against opponents who advocate higher taxes.

Table 2 presents estimates for two mutually exclusive and exhaustive groups: voters who want spending cuts only, and those who want to increase taxes. By combining the estimates from these two groups, we can infer how much the pledge would incentivize a candidate to recommend cuts alone when speaking to the electorate as a whole. Let τ be the percentage of voters who want higher taxes, and let $1-\tau$ represent the complimentary percentage in subgroup that wants cuts alone. Given τ , the electoral incentive for A to run a cuts-only campaign against B^b is $\Delta^{b|\tau} = \left(1-\frac{\tau}{100}\right)\Delta^b_c + \frac{\tau}{100}\Delta^b_t$, a convex combination of the estimates in the top and bottom panels of Table 2.

If, as in our sample, 58% the electorate wants cuts alone while the remaining 42% wants higher taxes, the overall effect of the pledge will be approximately 24 points against nt, 20 points against pt, 14 points against nc, and 10 points against pc. Thus, given the mix of preferences in our survey, the pledge incentivizes vote-seeking candidates to avoid pro-tax rhetoric in races against every possible opponent.

For other mixtures of voters, our data support two conclusions. First, the pledge will always heighten the incentive to run a cuts-only campaign against pro-tax opponents (nt and pt), regardless of the composition of the electorate. This is true because, when competing against either B^{nt} or B^{pt} , the effect of the pledge on candidate A is positive for both groups of voters, and therefore positive for any mixture of the two groups. Second, the pledge will usually heighten the incentive to take a cuts-only position against cuts-only opponents (nc and pc). This conclusion holds because Δ_c^{nc} and Δ_c^{pc} are strongly positive, whereas Δ_t^{nc} and Δ_c^{pc} are only

slightly negative. Consequently, the pledge will incentivize candidates to run cuts-only campaigns against cuts-only opponents, unless the vast majority of voters want higher taxes.

6. MECHANISMS: HOW THE PLEDGE AFFECTS PERCEPTIONS OF TRAITS AND PROXIMITY

In this section, we examine the mechanisms that give the pledge its power. We show that the pledge influences politics in two ways: by affecting judgments about the traits of candidates (the trait mechanism) and by altering expectations about what candidates would do if elected (the proximity mechanism). After discussing these mechanisms in isolation, we explain how they work in tandem. When candidates are courting group c, the trait and proximity mechanisms reinforce each other, but when candidates are courting group t, the mechanisms can work in opposite directions. As we will see, the interplay of these two mechanisms explains why the pledge always incentivizes candidates to avoid taxes when courting group c, but only sometimes does so when courting group t.

6.1. The Trait Mechanism

We asked participants to rate candidates on one of the following traits, selected at random: strong leader, moral, honest, knowledgeable, or open minded. Participants indicated whether they thought the trait described each candidate extremely well, very well, moderately well, slightly well, or not well at all. We mapped these answers onto a scale from 0 (not well at all) to 100 (extremely well), and computed the mean for each type of candidate on each trait.

With these estimates in hand, we inferred how the pledge would affect the incentive to adopt a cuts-only position if citizens cared only about traits. Let $S_g(h)$ be the mean score that members of group g awarded to a candidate with history h on one of the traits in our study.

Building on the framework we introduced earlier, the effect of the pledge on the trait-based incentive to advocate cuts only against an opponent with history h is

$$[S_g(pc) - S_g(h)] - [S_g(pt) - S_g(h)] + [S_g(nt) - S_g(h)] - [S_g(nc) - S_g(h)],$$

where each term in square brackets represents the difference in trait scores between the candidate and his opponent. This expression simplifies to

$$[S_g(pc) - S_g(pt)] - [S_g(nc) - S_g(nt)],$$

which is the benefit of running a cuts-only campaign after pledging, less the benefit of running a cuts-only campaign after not having pledged, where benefit is measured by trait scores rather than votes. We computed this effect for each of the five traits and present our findings in Table 3.

[Table 3 about here]

Consider the top panel, which summarizes how citizens who wanted cuts only perceived the traits of different types of candidates. The first column shows that, on the trait of strong leadership, candidates with history pc received an average score of 65, whereas those with history pt received an average score only 29. Thus, if members of group c cared only about strong leadership, the incentive to run a cuts-only campaign after having pledged would be 65–29=36, which appears as 35 in Table 3 due to rounding. Continuing down the first column, candidates with history nc received an average leadership score of 49, versus 33 for candidates with history nt. Thus, if group c judged candidates entirely on strong leadership, the incentive for an unpledged candidate to run a cuts-only campaign would be 49–33=16, which shows up as 15 in Table 3 due to rounding.

We are now ready to compute the effect of the pledge. On average, group c regards cutsonly candidates as stronger leaders than cuts-and-taxes candidates, but the incentive to eschew taxes is more powerful when the candidate has pledged than when he has not. As the last row in Table 3 shows, the net effect of the pledge in this example is 35-15=20 points, with a confidence interval from 8 to 32. To the extent that members of group c want strong leaders, signing the pledge substantially increases the incentive to avoid taking a pro-tax position.

The pledge exerted a similar impact on group c's perceptions of morality, honesty, and knowledge. The effect of the pledge was 25 points on the morality scale, 24 points on the honesty scale, and 18 points on the knowledge scale. Surprisingly, the pledge had a similar effect on perceptions of open mindedness. Following Sigelman and Sigelman (1986), we expected that deviations from the pledge might demonstrate open mindedness, but group c did not respond this way. They viewed pro-tax candidates as less open minded, especially when such candidates had taken and violated the pledge. Overall, then, the pledge increased the incentive to take an antitax stance by coloring group c's perceptions of leadership, morality, honesty, and knowledge. These effects were not counterbalanced by perceptions of open mindedness.

The last column of Table 3 presents an average of the five trait scores. We computed the average not only to summarize how citizens might respond if they took all five traits into account, ⁸ but also to smooth over sampling variability. Each participant in our study commented on only one trait. Consequently, each cell in the top half of Table 3 is based on about 70 observations. The row-wise averages, computed from five times as much data, tell the same story with greater precision. Signing the pledge increases the trait-based incentive to take an anti-tax position by about 20 points, with a confidence interval of 14 to 26 on a 100-point trait scale.

⁷ This pattern may have arisen because breaking the pledge involves an especially large change in position. In another study, citizens regarded changes in position as proof of open mindedness, but only when the changes in position were small (Tomz and Van Houweling 2010).

⁸ We assumed that each trait was equally important, but readers could compute different averages by weighing some traits more heavily than others.

The bottom half of Table 3 presents the reactions of the other group of citizens, who think the government should address the debt by increasing taxes as well as cutting spending. The estimates for this group are less precise, because there were only 50 observations for each candidate-trait combination. Nevertheless, the pattern is similar: for all traits except knowledge, candidates had a stronger incentive to avoid taxes after pledging than after not pledging. The average effect of the pledge, computed by pooling data from all five traits, was 16 points with a confidence interval from 9 to 23. Hence, to the extent that citizens want candidates with good traits, the pledge creates a powerful incentive to avoid calling for higher taxes, even when appealing to citizens who believe that taxes should be raised.

6.2. The Proximity Mechanism

We have seen how the pledge affects perceptions of traits. Does it also alter expectations about what politicians would do in office? To find out, we asked each respondent for their best guess about what the candidates would do if elected. We assigned a value of 0 if they expected a candidate to increase taxes without cutting spending, 50 if they expected a candidate to increase taxes and cut spending, or 100 if they expected a candidate to cut spending without increasing taxes. Table 4 gives the mean and 95% confidence interval for each type of candidate.

[Table 4 about here]

The top half of Table 4 summarizes the expectations of citizens who wanted spending cuts only. On average, they expected candidates with history nt to have an action score of 46, and candidates with history pt to have an action score of 45. Both values are close to 50, meaning that group c thought candidates who were calling for spending cuts and tax hikes would pursue that combination while in office. Moreover, the two values are statistically

indistinguishable from each other. Evidently, group c did not think that pt, who signed but violated the pledge, would behave differently from nt, who never pledged in the first place.

What did group c expect from candidates who took a more conservative, anti-tax position? The average expectation for candidates with history pc was 87, substantially higher than the average of 76 for candidates with history nc. Apparently, group c believed that cuts-only candidates were more credible if they had pledged than if they had not. In summary, members of group c thought that pc was most likely to implement their preferred policy; that nc would be a second-best advocate for their ideal outcome; and that nt and pt would be equally poor representatives of the anti-tax cause.

The pattern of expectations was similar among citizens who wanted higher taxes (bottom half of Table 4). They, too, anticipated that nt would behave about the same as pt. The averages for those two types of candidates were 55 and 57, fairly close to 50 and not significantly different from each other. Pro-tax voters predicted that nc would be relatively more likely to avoid taxes, and that pc would be the most tax-averse of all.

Using these findings, we can infer how the pledge would affect the incentives of candidates if citizens made decisions entirely on expectations about policy and gave no weight to perceptions of traits. Let $D_g(h)$ be the policy-based utility that group g would get from a candidate with history h. Assume that $D_g(h)$ is a decreasing function of the distance between the policy the group wants and the policy they expect the candidate to pursue if elected. Although we did not measure $D_g(h)$, our data imply a ranking of utilities. The group that wants cuts alone would rank $D_c(pc) > D_c(nc) > D_c(pt) \approx D_c(nt)$, where pt and nt give approximately the same utility because they are expected to take the same actions. The group that wants more taxes would have the reverse ranking, $D_t(pc) < D_t(nc) < D_t(pt) \approx D_t(nt)$.

Applying our now-familiar framework, the effect of the pledge on the incentive to propose cuts alone against an opponent with history h would be

$$[D_g(pc) - D_g(h)] - [D_g(pt) - D_g(h)] + [D_g(nt) - D_g(h)] - [D_g(nc) - D_g(h)],$$

where each term in square brackets represents the difference in policy-based utility scores between the candidate and his opponent. Given that $D_g(pt) \approx D_g(nt)$ for both groups in our study, this expression simplifies to

$$D_g(pc) - D_g(nc),$$

which is positive for group c and negative for group t.

Thus if citizens judged candidates entirely on expectations about policy, the pledge would magnify the benefit of proposing cuts alone when pursuing group c, but magnify the cost of taking that same position when appealing to group. This finding has a surprising political implication: signing the pledge would strengthen the subsequent incentive to recommend cuts-only policies to cuts-only audiences, but it would weaken the incentive to take a cuts-only position when appealing to pro-tax audiences.

To understand the intuition behind these incentives, consider the calculations of a candidate who is courting group c. If members of this group cared only about policy and not about traits, candidates who signed the pledge would have a powerful reason to recommend cuts only, because pc would tie opponents with the same history and dominate everyone else, whereas pt would never beat anyone. Candidates who did not pledge would maximize their standing by recommending cuts only, because members of group c prefer nc over nt. The incentive to insist on cuts alone would be weaker, however, because the perceived difference between nc and nt would be smaller than the perceived difference between pc and pt.

When candidates are courting pro-tax constituents, this logic is reversed. If the members of group t cared only about policy, candidates who previously signed the pledge would have an incentive to break their commitment and start stumping for taxes. The reason is that, on policy grounds, pt is the most desirable candidate—a distinction he shares with nt—whereas pc is the least desirable candidate. Unpledged candidates would have their own incentive to recommend taxes, but that incentive would be weaker, because group t would perceive less difference between nt and nc than between pt and pc. Thus, if citizens think only about the expected actions of candidates, the pledge motivates candidates to run a cuts-only campaign before audience c, while deterring them from running such a campaign before audience t.

These conclusions may need to be softened, however, when we make the jump from voter utility to electoral outcomes. There are some scenarios in which the contrast between candidates is already so stark that the pledge might not affect the choices of citizens on Election Day. To develop this point as sharply as possible, suppose that citizens voted mechanistically according to the expectations in Table 4. Table 5 displays the percentage of the vote that A would expect to receive in a race against B. For each opponent, we compute the electoral incentive to advocate cuts only if candidate A has signed the pledge, and contrast it with the incentive to take that same position if candidate A has not signed the pledge. The difference gives the impact of the pledge on the incentive to run a cuts-only campaign.

[Table 5 about here]

Consider the behavior of voters who want cuts only (top half of Table 5). If candidate A faced B^{nt} , A would win unanimously calling for cuts alone. It would not matter whether A had previously pledged, since both A^{pc} and A^{nc} would get 100% of the vote against B^{nt} . If, on the other hand, A presented a pro-tax platform, he would tie B^{nt} and reap 50% of the vote. The tie

would occur independent of whether A had pledged, because voters expect pt candidates to behave the same as nt candidates. Hence, A would do 100-50=50 points better by recommending cuts alone than by calling for higher taxes, and the electoral reward for taking cuts-only stance would not depend on whether A had pledged. The same conclusion would hold if A faced B^{pt} .

In contrast, the pledge would play a role in scenarios involving cuts-only opponents. Against B^{nc} , for example, the reward for recommending cuts alone would be 100 points if A had pledged, versus 50 he had not, for a net effect of 100–50=50. Against B^{pc} , A would gain 50 points by taking a cuts-only position after pledging, but gain nothing by making the same move in the absence of the pledge. Here, the net effect is 50–0=50. In both these scenarios, the pledge would amplify the benefit of calling for cuts only.

In summary, if cuts-only citizens voted mechanistically in line with their policy preferences, the pledge would affect the incentives of candidates, but only when they face cuts-only opponents. When the audience wants higher taxes (bottom half of Table 5), the same conclusion applies, but with a fascinating twist. The effect of the pledge will be zero in races involving pro-tax opponents, and *negative* in races against cuts-only opponents. A negative effect means that the pledge will magnify the cost of taking a cuts-only position and encourage candidates to recommend taxes instead.

The negative effect deserves special attention. In a race against B^{nc} , A would do 100 points worse by playing pc than by playing pt, but only 50 points worse by playing nc than by playing nt. In this example, the pledge deters A from calling for cuts alone because such a move would drive group t into the arms of B^{nc} , who sings the same cuts-only tune but lacks the credibility associated with the pledge. In a race against a different opponent, B^{pc} , a candidate who has not pledged could win unanimously by calling for cuts alone or higher taxes, but a

candidate who pledged could win unanimously only by proposing more taxes. These scenarios illustrate a paradox: if citizens choose according to expectations about what candidates would do in office, the pledge can, in some circumstances, backfire by motivating candidates to call for higher taxes.

6.3. Traits and Proximity in Tandem

The foregoing results suggest how the trait and proximity mechanisms might combine to produce the effects in Table 2. When candidates are catering to voters who want cuts only, the pledge should heighten the incentive to avoid taxes because the trait and proximity mechanisms reinforce each other. The trait-based reward for recommending cuts alone is always larger when the candidate has pledged than when he has not (Table 3). Moreover, the proximity-based reward is positive when battling nc and pc and zero when battling nt and pt (Table 5). Overall, then, the pledge should always tie the hands of candidates when pursuing cuts-only voters. This is, in fact, what we found. No matter which opponent A was facing, the pledge increased the electoral incentive to take a cuts-only position (Table 2).

When candidates pursue pro-tax voters, the trait and proximity mechanisms can pull in opposite directions. If group t cared only about traits, the pledge would strengthen the electoral incentive to advocate cuts only (Table 3). If group t based decisions entirely on policy, the effect of the pledge would be negative in races against nc and pc, and zero in races against nt and pt (Table 5). To the extent that group t cares about both traits and proximity, two conclusions follow: the pledge should incentivize candidates to run cuts-only campaigns against pro-tax opponents, while having an indeterminate effect in races against cuts-only opponents. (The effect

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⁹ Although the pledge affects perceptions of traits and proximity in ways that could explain the patterns in Table 2, we cannot be sure these mechanisms are driving the decisions of voters. On the difficulties of estimating causal mechanisms, see Bullock and Ha (2011). Future research could employ innovative experimental designs, as in Imai, Tingley, and Yamamoto (2012).

could be positive, zero, or negative, depending on how voters weigh traits relative to proximity.) These predictions match the pattern in the bottom row of Table 2, where the pledge has a positive effect in races against nt and pt, and a slightly negative—though statistically insignificant—effect in races against nc and pc.

7. IMPLICATIONS FOR CAMPAIGN STRATEGIES

In the previous section we identified the mechanisms that give the pledge its power. We also explained why the pledge always incentivizes candidates to take anti-tax positions when courting group c, but only sometimes encourages them to take such positions when courting group t. In this section we extend our analysis by examining how the pledge affects the campaign strategies of candidates.

Suppose A and B have partial histories: each has already accepted or declined the pledge, but neither has announced whether he now recommends cuts alone or a blend of cuts and taxes. If each wants to maximize his expected share of the popular vote, what policy positions are best? When the candidates finally endorse either cuts alone or cuts and taxes, they will convert their partial histories into complete ones, which we denote as a and b. At that point, A^a can expect to receive $\left(1 - \frac{\tau}{100}\right)V_c(A^a, B^b) + \frac{\tau}{100}V_t(A^a, B^b)$ percent of the popular vote, and B^b can expect to capture the remainder. Using this fact, we can find the vote-maximizing strategies of the two candidates.

Figure 2 presents the optimal strategies if both candidates have pledged $(A^p \text{ vs. } B^p)$, if neither candidate has pledged $(A^n \text{ vs. } B^n)$, if only A has pledged $(A^p \text{ vs. } B^n)$, and if only B has pledged $(A^n \text{ vs. } B^p)$. Within each graph, the letters denote the optimal strategies, and the solid lines measure the support A would receive if both candidates followed their optimal strategies.

The dashed lines show the support A would receive if A unilaterally deviated from the equilibrium, meaning that A switched his position on whether to address the debt with cuts alone versus cuts-and-taxes, while B continued to play his equilibrium strategy. Because the solid lines represent optimal strategies for A and B, A would lose votes by deviating. The dashed lines are, therefore, lower than the solid ones.

[Figure 2 about here]

The first row of graphs illustrates the power of the pledge. If both candidates have pledged, neither will call for higher taxes unless an overwhelming majority of voters—at least 70%—want that policy. If neither has pledged, they will take pro-tax positions whenever public sentiment for taxes is at least 60%. Thus, the critical level of τ —the level at which it would become optimal for both candidates to agree on higher taxes, rather than cuts alone—is substantially higher when the candidates have pledged than when they have not. Put another way, the pledge makes candidates less responsive to public opinion; it locks candidates into antitax positions even when a large majority of voters want higher taxes.

The second row of graphs shows that the pledge is even more potent when one candidate has pledged and the other has not. In such a situation, the pledged candidate will maintain his anti-tax stance unless at least 98% of voters want higher taxes. The pledge binds tightly because breaking it would alienate members of group c without attracting members of group t. Some members of group t would renounce the pledged candidate for breaking his promise, and cast

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 $^{^{10}}$ We expected the threshold to be about 50%, but in our data the threshold was 60%. This unexpected pattern results from a difference in the way voters in group c and those in group t choose. Fully 94% of voters who favor cuts alone will choose an unpledged candidate that favors cuts alone over an unpledged opponent who favors cuts and taxes. In contrast, when they encounter the same candidates, only 80% of voters who indicated that they favored some taxes will choose the candidate who advocates some taxes. The larger mismatch between the expressed preferences and observed choices of voters in group t, leads the strategy of cuts and taxes to be less attractive than we anticipated even when neither candidate has pledged.

their votes for the unpledged candidate instead. Meanwhile, members of group t would continue to prefer the unpledged candidate for having better character, even though on average they see both candidates as equally credible advocates of the pro-tax position.

Remarkably, the pledge also heightens the incentive for the unpledged candidate to take a cuts-only position. With the pledged candidate pinned to the right side of the policy space, the unpledged candidate can maximize his votes by shifting right, thereby stealing voters from the pledged candidate. In equilibrium, the unpledged candidate will not call for higher taxes unless at least 68 percent of voters want that outcome. This value is substantially higher than 60, the point at which pro-tax policies become optimal when neither candidate has pledged, and is quite close to the 70 percent threshold when both have pledged. Thus, the pledge not only ties the hands of signatories, but also encourages nonsignatories to recommend cuts only, even when as much as 68 percent of voters would prefer to increase taxes.

8. CONCLUSION

Our experiments suggest that signatories would almost never find it electorally optimal to break the "no new taxes" pledge. In the most likely general election scenario, pitting a pledged Republican against an unpledged Democrat, breaking the pledge would hurt the Republican's electoral prospects unless nearly all voters (98%) wanted higher taxes. Had the same Republican abstained from pledging, he would have found it electorally profitable to advocate higher taxes if as few as 60% of voters wanted that outcome. Hence, the pledge is quite effective at locking politicians into anti-tax positions.

Remarkably, the pledge binds even during periods of national crisis, when economic and political circumstances might tempt signatories to renege. We ran our experiment at a time when

Washington was focused on the skyrocketing debt, ratings agencies were threatening to downgrade U.S. government bonds, and bi-partisan commissions were arguing that tax increases would be necessary to solve the crisis. We also ensured, in our scenarios, that new taxes would be paired with spending cuts and devoted to deficit reduction. Even in these extenuating circumstances, the pledge strongly tied the hands of politicians.

Consistent with our findings, many participants in the 2011 standoff over national debt claimed that the pledge prevented Congress from reaching a compromise that included revenue increases as well as spending cuts. Majority Leader Harry Reid (D-NV) argued on the Senate floor that Republicans were "terrified to violate the infamous Grover Norquist tax pledge," and former Senator Alan Simpson (R-WY) added that many Republicans in Congress felt "trapped" by the pledge. Others countered that Republicans opposed taxes not because they had pledged, but because taxes would be counterproductive. Although our experiments do not reveal the true motives of members of Congress, they do imply that, if signatories ever concluded that tax hikes were warranted, the pledge would deter them from acting on those policy convictions.

Surprisingly, the pledge also incentivizes nonsignatories to avoid raising taxes. This seemingly perverse effect arises because the pledge pins signatories to the conservative edge of the political spectrum. An unconstrained opponent could respond by positioning himself just to the left of the pledged candidate, i.e., by espousing a cuts-only position but declining to pledge. In standard models of spatial competition, this strategy would help the opponent gain support among moderate voters without causing liberal voters to defect. This fact has significant

¹¹ Congressional Record (Nov. 2, 2011): S7014.

¹² "The Pledge: Grover Norquist's Hold on the GOP." 60 Minutes (Nov. 20, 2011).

¹³ When asked how the pledge was affecting his caucus, House Speaker John Boehner replied: "Listen, our conference is opposed to tax hikes because we believe tax hikes will hurt our economy and put Americans out of work." *Christian Science Monitor* (Nov. 7, 2011).

implications for the power of interest groups. By sponsoring pledges, a group can encourage all candidates to converge toward the group's preferred position.

On the other hand, pinning candidates to one extreme of the political spectrum could prove risky by giving opponents the freedom to take positions the group dislikes. Suppose, for example, that one candidate signs an extremely conservative pledge. An opponent could maximize his vote by taking a slightly less conservative position, but that same opponent might find it possible to attract a majority while adopting a liberal position. Had neither candidate pledged, electoral incentives would lead the candidates converge on a centrist position. Thus, one might imagine that conservative pledges could backfire by making liberal positions more electorally viable, and vice-versa.

Although possible in theory, the Taxpayer Protection Pledge evidently does not have this effect in practice. In our data, the amount of public support for taxes that would be required for a pro-tax candidate to win, is at least as high when the opponent has pledged as when the opponent has not. Specifically, an unpledged candidate who advocated higher taxes would need at least 62% of voters to favor more taxes, in order to beat a pledged opponent who advocated cuts alone. Had the opponent been unpledged, the threshold—the amount of pro-tax sentiment required for a pro-tax candidate to win—would have been 2 percentage points lower. Thus, our experiment provides no evidence that the sponsors of pledges incur risks or that the risks outweigh the rewards.

Through the careful drafting of pledges, groups can lock-in future gains as well as current ones. The Taxpayer Protection Pledge commits politicians to oppose any increases in marginal tax rates for individuals and businesses. If future legislation reduces taxes, signatories are bound to defend the new rates. Attempting to restore the previous rates would be attacked as an effort to

raise taxes and a violation of the pledge. More generally, pledges with directional language function like one-way ratchets that lock in policy gains, ensuring that policies turn in only one direction.

Convincing candidates to pledge may prove difficult, given that pledging could bind them to positions they might want to abandon in the future. Nevertheless, the electoral pressure to sign can be overwhelming, especially during partisan primaries. As Grover Norquist explained, "It is difficult to imagine winning a Republican primary without having signed the pledge." Many Republicans took the Taxpayer Protection Pledge presumably because they viewed it as necessary for their party's nomination (Hacker and Pierson 2010). Pledges proliferate during primaries because the groups that sponsor pledges have preferences that are disproportionately popular with one political party or the other. As the electorate sorts into increasingly homogeneous partisan camps (Abramowitz 2010; Levendusky 2009), we expect pledges to become even more widespread in the future.

Although pledges tend to spread during primaries, there are other circumstances when politicians might sign. A group could take advantage of a brief window of opportunity when the policies they advocate are popular in general, not simply with one political party. Alternatively, groups could conduct an "outside lobbying" campaign with the aim of swaying public opinion at least temporarily in their favor (Kollman 1998) and locking down signatories at a high point. Finally, groups could apply levers such as campaign contributions to bend candidates to their side, and use pledges to cement commitments. Even international organizations have started

¹⁴ "The Pledge: Grover Norquist's Hold on the GOP." 60 Minutes (Nov. 20, 2011).

trading money for pledges; in 2012 the European Union offered the carrot of bailout funds if Greek leaders would to sign a public pledge to enact austerity measures.¹⁵

Nevertheless, some politicians refuse to pledge on any topic. Jon Huntsman explained during his 2011 run for the Republican presidential nomination: "I have a pledge to my wife, and I pledge allegiance to my country, but beyond that, no pledges." He added that he would "love to get everybody to sign a pledge to take no pledges." Additionally, some groups have such narrow preferences that pledges would seem inappropriate, if not unseemly, to voters. Finally, some issues might be too technical for a pledge that would be enforced by the American people. Future experiments could identify the conditions under which candidates would sign pledges in the first place.

We have argued that pledges provide a powerful tool for addressing the commitment problem at the heart of politician-group relations. Of course, pledges are not the only way for groups to secure the policies they want. In addition to—or instead of—sponsoring pledges, groups can use strategies of reciprocity to deter politicians from shirking, and they can screen politicians to make sure they are supporting ideologically sympathetic types. Groups can also shape outcomes by providing expertise to legislators who share their goals (Hall and Deardorff 2006) or by incentivizing legislators to develop expertise in areas of interest (Esterling 2007).

Pledges represent the firm end of a continuum of policy commitments, and differ from simple statements in at least two ways. First, pledges are signed commitments. The Taxpayer Protection Pledge, for example, must be signed in the presence of two witnesses. When a candidate signs a pledge, he makes a particularly solemn commitment, thereby raising the

¹⁶ "The Republican Debate at the Reagan Library," *New York Times* (Sept. 7, 2011). Huntsman attracted little support and dropped from the race in January 2012.

¹⁵ "Raw Feelings as Greece Waits for E.U. Rescue," New York Times (Feb. 15, 2012).

potential reputational or characterological cost of reneging. Second, interest groups carefully craft pledges with the goal of making them enforceable. The Taxpayer Protection Pledge contains simple language and does not include loopholes. As the sponsors explain, "There are no exceptions to the Pledge. Tax-and-spend politicians often use 'emergencies' to justify increasing taxes. In the unfortunate event of a real crisis or natural disaster, the legislator should propose spending cuts in other areas to finance the emergency response." Moreover, if questions of interpretation arise, the interest group that drafted the pledge can act as the ultimate arbiter of its meaning.

Both features blunt the ability of candidates to deny, conceal, or explain away instances in which they renege on past commitments. Thus pledges foreclose standard strategies that candidate might employ when they change their positions (Karol 2009). Future research could examine the implications of violating other types of policy commitments. Work could, for example, compare the effects of breaking ambiguous versus precise policy statements, or verbal versus signed commitments. Research could also investigate the consequences of taking inconsistent actions, such as casting contradictory roll call votes.

The findings in this paper have significant consequences for policy representation in democracies. We have shown that voters who disagree with a pledge are nonetheless willing to enforce it. Consequently, pledges can be powerful even when candidates sign them to please narrow constituencies, such as pressure groups and participants in partisan primaries. By deterring politicians from responding to changing circumstances, including shifts in the preferences of the electorate, pledges can contribute to non-representative outcomes. We do not claim that representation would be better if voters ignored the past commitments of candidates.

¹⁷ http://www.atr.org/federal-taxpayer-protection-questions-answers-a6204

Letting candidates off the hook would allow them to make statements they have no intention of fulfilling (Banks 1990), whereas screening candidates based on honesty may be an effective way to promote representation (Fearon 1999). Nevertheless, in a world where voters disapprove of pledge-breaking, interest groups can use pledges to lock-in policies that the majority would not freely choose.

REFERENCES

- Abramowitz, Alan I. 2010. The Disappearing Center. New Haven: Yale Univ. Press.
- Ansolabehere, Stephen, John M. de Figueiredo, and James M. Snyder, Jr. 2003. "Why is There so Little Money in U.S. Politics?" *Journal of Economic Perspectives* 17(1): 105–30.
- Allegeier, A. R., et al. 1979. "The Waffle Phenomenon: Negative Evaluations of Those Who Shift Attitudinally." *Journal of Applied Social Psychology* 9(2): 170–82.
- Banks, Jeffrey S. 1990. "A Model of Electoral Competition with Incomplete Information." Journal of Economic Theory 50(2): 309–25.
- Baron, David P. 1989. "Service-Induced Campaign Contributions and the Electoral Equilibrium." *Quarterly Journal of Economics* 104(1): 45–72.
- Baron, David P., and Jongryn Mo. 1993. "Campaign Contributions and Party-Candidate Competition in Services and Policies." In *Political Economy*, eds. Barnett, Hinich, and Schofield, 313–54. New York: Cambridge Univ. Press.
- Bawn, Kathleen, Martin Cohen, David Karol, Seth Masket, Hans Noel, and John Zaller. 2012. "A Theory of Political Parties: Groups, Policy Demands and Nominations in American Politics" *Perspectives on Politics* (forthcoming).

- Bullock, John G., and Shang E. Ha. 2011. "Mediation Analysis is Harder than it Looks." In *Cambridge Handbook of Experimental Political Science*, eds. James Druckman, Donald Green, James Kuklinski, and Arthur Lupia, 508–21. New York: Cambridge Univ. Press.
- Carlson, James M., and Kathleen Dolan. 1985. "The Waffle Phenomenon and Candidates' Image." *Psychological Reports* 57: 795–98.
- Chang, Linchait, and Jon A. Krosnick. 2009. "National Surveys Via RDD Telephone Interviewing Versus the Internet." *Public Opinion Quarterly* 73(4): 641–78.
- Downs, Anthony. 1957. An Economic Theory of Democracy. New York: Harper Collins.
- Esterling, Kevin. 2007. "Buying Expertise: Campaign Contributions and Attention to Policy Analysis in Congressional Committees." *American Political Science Review* 101(1):93–109.
- Fearon, James D. 1999. "Electoral Accountability and the Control of Politicians: Selecting Good

 Types versus Sanctioning Poor Performance." In *Democracy, Accountability, and*Representation, eds. Manin, Przeworski, and Stokes. New York: Cambridge Univ. Press.
- Fox, Justin, and Lawrence Rothenberg. 2011. "Influence Without Bribes: A Noncontracting Model of Campaign Giving and Policymaking." *Political Analysis* 19(3): 325–41.
- Hacker, Jacob and Paul Pierson. 2010. Winner-Take-All Politics. New York: Simon and Schuster.
- Hall, Richard L., and Alan V. Deardorff. 2006. "Lobbying as Legislative Subsidy." *American Political Science Review* 100(1): 69–84.
- Imai, Kosuke, Dustin Tingley, and Teppei Yamamoto. 2012. "Experimental Designs for Identifying Causal Mechansims." *Journal of the Royal Statistical Society A*: 1–27.

- Karol, David. 2009. Party Position Change in American Politics: Coalition Management. New York: Cambridge Univ. Press.
- Kinder, Donald R., Mark D. Peters, Robert P. Abelson, and Susan T. Fiske. 1980. "Presidential Prototypes." *Political Behavior* 2(4): 315–37.
- Kollman, Ken. 1998. *Outside Lobbying: Public Opinion and Interest Group Strategies*.

 Princeton, NJ: Princeton Univ. Press.
- Kroszner, Randall S., and Thomas Stratmann. 1998. "Interest-Group Competition and the Organization of Congress." *American Economic Review* 88(5): 1163–87.
- Kroszner, Randall S., and Thomas Stratmann. 2005. "Corporate Campaign Contributions, Repeat Giving, and the Rewards to Legislator Reputation." *Journal of Law & Economics* 48(1): 41–71.
- Levendusky, Matthew. 2009. *The Partisan Sort*. Chicago: Univ. of Chicago Press.
- Markus, Gregory B. 1981. "Political Attitudes During an Election Year: A Report on the 1980 NES Panel Study." *American Political Science Review* 76(3): 538–60.
- McCarty, Nolan, and Lawrence S. Rothenberg. 1996. "Commitment and the Campaign Contribution Contract." *American Journal of Political Science* 40(3): 872–904.
- Milyo, Jeffrey, David Primo, and Timothy Groseclose. 2000. "Corporate PAC Campaign Contributions in Perspective." *Business and Politics* 2(1): 75–88.
- Morton, Rebecca, and Charles Cameron. 1992. "Elections and the Theory of Campaign Contributions: A Survey and Critical Analysis." *Economics and Politics* 4(1): 79–108.
- Sigelman, Lee, and Carol K. Sigelman 1986. "Shattered Expectations: Public Responses to 'Out-of-Character' Presidential Actions." *Political Behavior* 8(3): 262–86.

- Snyder, James M., Jr. 1992. "Long-Term Investing in Politicians; or, Give Early, Give Often." *Journal of Law & Economics* 35: 15–43.
- Stokes, Donald E. 1963. "Spatial Models of Party Competition." *American Political Science Review* 57(2): 368–77.
- Stratmann, Thomas. 1998. "The Market for Congressional Votes: Is Timing of Contributions Everything?" *Journal of Law & Economics* 41(1): 85–114.
- Tomz, Michael, and Robert P. Van Houweling. 2010. "Candidate Repositioning." Typescript.

Table 1: Support for Candidate A over Candidate B

| | Candidate B | | | | | |
|--------------------------------------|-----------------------|-----------------------|----------------------|----------------------|--|--|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, | | |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) | | |
| Didn't pledge, more taxes (A^{nt}) | 50 | 71 | 6 | 6 | | |
| Pledged, more taxes (A^{pt}) | 29 | 50 | 5 | 7 | | |
| . , | | | 50 | 26 | | |
| Didn't pledge, cuts only (A^{nc}) | 94 | 95 | 50 | 26 | | |
| Pledged, cuts only (A^{pc}) | 94 | 93 | 74 | 50 | | |

Among voters who want to increase taxes

| | | late B | | |
|--|-----------------------|-----------------------|----------------------|----------------------|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) |
| Didn't pledge, more taxes (A ^{nt}) | 50 | 77 | 80 | 78 |
| Pledged, more taxes (A^{pt}) | 23 | 50 | 62 | 68 |
| Didn't pledge, cuts only (A^{nc}) | 20 | 38 | 50 | 69 |
| Pledged, cuts only (A^{pc}) | 22 | 32 | 31 | 50 |

Note: The top panel gives the percentage of the vote that Candidate *A* received in a race against Candidate *B*, among voters who wanted spending cuts only. The bottom panel gives the percentage of the vote that Candidate *A* received in a race against Candidate *B*, among voters who wanted to increase taxes. We assumed that each candidate would get half the vote when running against an opponent with an identical record. All other values were based on a sample of approximately 115 respondents per cell (top panel) or 83 respondents per cell (bottom panel).

Table 2: Effect of the Pledge on Candidate A's Electoral Incentive to Advocate Cuts Only

| | Candidate B | | | | | | |
|---|-----------------------|-----------------------|----------------------|----------------------|--|--|--|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, | | | |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) | | | |
| Pledged, cuts only (A^{pc}) | 94 | 93 | 74 | 50 | | | |
| Pledged, more taxes (A^{pt}) | 29 | 50 | 5 | 7 | | | |
| Incentive, if pledged (δ^p) | 65 | 43 | 69 | 43 | | | |
| Didn't pledge, cuts only (A^{nc}) | 94 | 95 | 50 | 26 | | | |
| Didn't pledge, more taxes (A^{nt}) | 50 | 71 | 6 | 6 | | | |
| Incentive, if didn't pledge (δ^n) | 44 | 24 | 44 | 20 | | | |
| Effect of pledge on incentive to | 21 | 19 | 25 | 23 | | | |
| advocate cuts only $(\Delta = \delta^p - \delta^n)$ | (7 to 35) | (5 to 33) | (12 to 38) | (10 to 37) | | | |

Among voters who want to increase taxes

| | Candidate B | | | | | |
|---|-----------------------|-----------------------|----------------------|----------------------|--|--|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, | | |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) | | |
| Pledged, cuts only (A^{pc}) | 22 | 32 | 31 | 50 | | |
| Pledged, more taxes (A^{pt}) | 23 | 50 | 62 | 68 | | |
| Incentive, if pledged (δ^p) | -1 | -18 | -31 | -18 | | |
| Didn't pledge, cuts only (A^{nc}) | 20 | 38 | 50 | 69 | | |
| Didn't pledge, more taxes (A^{nt}) | 50 | 77 | 80 | 78 | | |
| Incentive, if didn't pledge (δ^n) | -30 | -39 | -30 | -9 | | |
| Effect of pledge on incentive to | 29 | 21 | -1 | -9 | | |
| advocate cuts only $(\Delta = \delta^p - \delta^n)$ | (9 to 47) | (0 to 40) | (-20 to 19) | (-29 to 11) | | |

Note: The table summarizes the effect of the pledge on Candidate A's incentive to run a cuts-only campaign, instead of recommending more taxes, when competing against Candidate B. The incentive to run a cuts-only campaign conditional on having pledged is δ^p , the support A would receive with history pc, less the support he would receive with history pc. The incentive to run a cuts-only campaign conditional on not having pledged is δ^n , the support A would receive with history nc, less the support he would receive with history nc, less the support he would receive with history nc, less the support he would receive with history nc, less the support he would receive with history nc, the effect of the pledge on the incentive to advocate cuts only. 95% confidence intervals appear in parentheses.

Table 3: Effect of the Pledge on the Trait-Based Incentive to Advocate Cuts Only

| | | | Trait | | | _ |
|----------------------------------|-----------|------------|------------|-----------|-----------|------------|
| | Strong | | | Knowl- | Open- | |
| Candidate's history | leader | Moral | Honest | edgable | minded | Average |
| Pledged, cuts only (pc) | 65 | 63 | 51 | 61 | 50 | 58 |
| Pledged, more taxes (pt) | 29 | 27 | 25 | 28 | 29 | 28 |
| Incentive, if pledged | 35 | 36 | 26 | 33 | 21 | 30 |
| Didn't pledge, cuts only (nc) | 49 | 42 | 50 | 54 | 43 | 48 |
| Didn't pledge, more taxes (nt) | 33 | 32 | 47 | 39 | 35 | 37 |
| Incentive, if didn't pledge | 15 | 10 | 2 | 16 | 9 | 10 |
| Effect of pledge on incentive to | 20 | 25 | 24 | 18 | 12 | 20 |
| advocate cuts only | (8 to 32) | (12 to 37) | (11 to 36) | (5 to 30) | (1 to 24) | (14 to 26) |

Among voters who want to increase taxes

| | | | Trait | | | |
|----------------------------------|--------------|------------|------------|-------------|------------|-----------|
| | Strong | | | Knowl- | Open- | • |
| Candidate's history | leader | Moral | Honest | edgable | minded | Average |
| Pledged, cuts only (pc) | 30 | 43 | 42 | 28 | 28 | 34 |
| Pledged, more taxes (pt) | 35 | 39 | 29 | 46 | 41 | 38 |
| Incentive, if pledged | -5 | 3 | 12 | -18 | -14 | -4 |
| Didn't pledge, cuts only (nc) | 31 | 40 | 30 | 39 | 30 | 34 |
| Didn't pledge, more taxes (nt) | 52 | 50 | 62 | 55 | 55 | 55 |
| Incentive, if didn't pledge | -20 | -10 | -31 | -17 | -26 | -21 |
| Effect of pledge on incentive to | 15 | 13 | 44 | -1 | 12 | 16 |
| advocate cuts only | (-2 to 32) | (-7 to 32) | (27 to 59) | (-14 to 13) | (-3 to 28) | (9 to 23) |

Note: The table summarizes the effect of the pledge on the incentive to run a cuts-only campaign, where incentive is measured by the trait scores that voters assign to candidates. The incentive to run a cuts-only campaign *conditional on having pledged* is he score a candidate would receive with history *pc*, less the score he would receive with history *pt*. The incentive to run a cuts-only campaign *conditional on not having pledged* is the score a candidate would receive with history *nc*, less the score he would receive with history *nt*. The difference, in the bottom row, is the effect of the pledge on the trait-based incentive to advocate cuts only. 95% confidence intervals appear in parentheses.

Table 4: Effect of the Pledge on Expectations about the Candidate's Position

| Candidate's history | Expected action | 95% C.I. |
|--------------------------------|-----------------|------------|
| Didn't pledge, more taxes (nt) | 46 | (43 to 50) |
| Pledged, more taxes (pt) | 45 | (41 to 48) |
| Didn't pledge, cuts only (nc) | 76 | (73 to 80) |
| Pledged, cuts only (pc) | 87 | (84 to 90) |

Among voters who want to increase taxes

| Candidate's history | Expected action | 95% C.I. |
|--------------------------------|-----------------|------------|
| Didn't pledge, more taxes (nt) | 55 | (52 to 58) |
| Pledged, more taxes (pt) | 57 | (53 to 60) |
| Didn't pledge, cuts only (nc) | 75 | (71 to 79) |
| Pledged, cuts only (pc) | 80 | (76 to 84) |

Note: Each respondent indicated what they expected candidates to do if elected. We assigned a value of 0 if they expected a candidate to increase taxes without cutting spending, 50 if they expected a candidate to increase taxes and cut spending, or 100 if they expected a candidate to cut spending without increasing taxes. The table gives the mean and 95% confidence interval for each type of candidate.

Table 5: Expected Effect of the Pledge if Voters Cared Only about Policy

| | Candidate B | | | | | |
|---|-----------------------|-----------------------|----------------------|----------------------|--|--|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, | | |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) | | |
| Pledged, cuts only (A^{pc}) | 100 | 100 | 100 | 50 | | |
| Pledged, more taxes (A^{pt}) | 50 | 50 | 0 | 0 | | |
| Incentive, if pledged | 50 | 50 | 100 | 50 | | |
| Didn't pledge, cuts only (A^{nc}) | 100 | 100 | 50 | 0 | | |
| Didn't pledge, more taxes (A^{nt}) | 50 | 50 | 0 | 0 | | |
| Incentive, if didn't pledge | 50 | 50 | 50 | 0 | | |
| Effect of pledge on incentive to advocate cuts only | 0 | 0 | 50 | 50 | | |

Among voters who want to increase taxes

| | Candidate B | | | | | |
|---|-----------------------|-----------------------|----------------------|----------------------|--|--|
| | Didn't pledge, | Pledged, | Didn't pledge, | Pledged, | | |
| Candidate A | more taxes (B^{nt}) | more taxes (B^{pt}) | cuts only (B^{nc}) | cuts only (B^{pc}) | | |
| Pledged, cuts only (A^{pc}) | 0 | 0 | 0 | 50 | | |
| Pledged, more taxes (A^{pt}) | 50 | 50 | 100 | 100 | | |
| Incentive, if pledged | -50 | -50 | -100 | -50 | | |
| Didn't pledge, cuts only (A ^{nc}) | 0 | 0 | 50 | 100 | | |
| Didn't pledge, more taxes (A^{nt}) | 50 | 50 | 100 | 100 | | |
| Incentive, if didn't pledge | -50 | -50 | -50 | 0 | | |
| Effect of pledge on incentive to advocate cuts only | 0 | 0 | -50 | -50 | | |

Note: The table gives percentage of the vote that A would expect to receive in a race against B, if citizens voted entirely on expectations about the policies candidates would pursue. The incentive to run a cuts-only campaign conditional on having pledged is the support A would receive with history pc, less the support he would receive with history pt. The incentive to run a cuts-only campaign conditional on not having pledged is the support A would receive with history nc, less the support he would receive with history nt. The difference, in the bottom row, is the effect of the pledge on the incentive to advocate cuts only. The effect can be positive, zero, or negative, depending on the opponent A is facing and the group to whom A is appealing.

Figure 1: Measuring Preferences over Candidates

In recent years, every candidate for state or federal office has been asked to sign a "no new taxes" pledge. Here is a copy of the "no new taxes" pledge.

I pledge to the taxpayers and to the American people that I will:

ONE, oppose any and all efforts to increase the marginal income tax rate for individuals and businesses; and

TWO, oppose any net reduction or elimination of deductions and credits, unless matched dollar for dollar by further reducing tax rates.

Some Senators have signed the "no new taxes" pledge. Other Senators have not. We would like your opinion about two Senators, whose names will remain confidential. They are **Senator A** and **Senator B**.

Senator A:

Two years ago, he signed the "no new taxes" pledge.

This year, he says that to deal with the debt, the government should cut spending but not raise taxes.

Senator B:

Two years ago, he did not sign the "no new taxes" pledge.

<u>This year</u>, he says that to deal with the debt, the government should cut spending <u>and</u> raise taxes.

On this issue, which Senator do you prefer?

Select one answer only

- Senator A
- Senator B

Figure 2: Optimal Campaign Strategies

The solid lines show the support Candidate A would receive if both candidates followed their optimal strategies. The dotted lines show the support A would receive if A unilaterally deviated from the optimal strategy.

