

# THE TYRANNY OF THE SINGLE-MINDED: GUNS, ENVIRONMENT, AND ABORTION

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*Abstract*—We study how electoral incentives affect policy choices on secondary issues, which only minorities of voters care intensely about. We develop a model in which office and policy-motivated politicians vote in favor of or against regulations on these issues. We derive conditions under which politicians flip-flop, voting according to their policy preferences at the beginning of their terms but in line with the preferences of single-issue minorities as they approach reelection. To assess the evidence, we study U.S. senators' votes on gun control, the environment, and reproductive rights. In line with the model's predictions, we find that election proximity has a pro-gun effect on Democratic senators and a pro-environment effect on Republican senators; these effects arise for senators who are not retiring, do not hold safe seats, and represent states where the single-issue minority is of intermediate size. Also in line with our theory, election proximity does not affect votes on reproductive rights due to the presence of single-issue minorities on both sides.

## I. Introduction

PASSION often runs high in politics. Within an electorate, some individuals feel so passionate about a particular issue that they are willing to cast their votes based on a candidate's stance on that issue alone. For instance, some voters may be concerned mostly with politicians' stance on reproductive rights, others with their position on gun control, environmental regulations, or LGBT rights.

Single-issue voters often seem to have disproportionate power relative to their size. A striking example is provided by gun rights supporters in the United States. In the wake of the murder of twenty children and six staff at Sandy Hook Elementary School in December 2012, opinion polls showed that 90% of Americans were in favor of an expansion of background checks on gun purchases. However, the 10% who opposed these gun controls got its way in April 2013, when the Senate failed to pass the Manchin-Toomey amendment to strengthen background checks. Even after the more recent mass shootings in Las Vegas in October 2017 (which left 58 people dead and hundreds wounded) and at a high school in Florida in February 2018 (in which 17 people were killed and more than two dozen others were wounded), new gun controls

have little chance of success in Congress, notwithstanding support from the vast majority of Americans.

In this paper, we examine how single-minded minorities can shape politicians' decisions on three policy issues: gun control, environment, and reproductive rights. There are three main reasons for focusing on these issues. First, they are prototypical secondary issues, which only minorities of voters care intensely about.<sup>1</sup> Based on Gallup surveys carried out between February and December 2017, less than 0.5% of respondents ranked abortion as the most important problem facing the country; the corresponding shares for gun control and environment are less than 2% and 3%, respectively.<sup>2</sup>

Second, there are key differences among these issues. Two of them are dominated by a strong minority on one side. In the case of gun control, gun-rights supporters belonging to organizations like the National Rifle Association (NRA), and Gun Owners of America (GOA) dominates an apathetic majority that favors tighter regulations.<sup>3</sup> In the case of the environment, there is a minority of "green" voters belonging to organizations like Greenpeace or the National Wildlife Federation, but no single-issue "brown" minority.<sup>4</sup> By contrast, in the case of reproductive rights, there are two opposite single-issue minorities of similar size and intensity: some individuals are strongly pro-choice and belong to organizations such as the National Abortion and Reproductive Rights Action League (NARAL); others are strongly pro-life and belong to organizations such as the National Right to Life (NRLC).

Third, our identification strategy relies on variation in voting behavior across and within U.S. senators. These legislators often vote on regulations related to gun control, environment, and reproductive rights. For other secondary

<sup>1</sup>In the literature, List and Sturm (2006) mention environmental policy and gun control as "typical examples of such secondary policy issues," while Besley and Coate (2008) mention gun control or abortion as examples of policy issues that are salient to minorities of voters.

<sup>2</sup>By comparison, more than 20% considered Dissatisfaction with Government/Poor Leadership as the most important problem; the shares for Health and Immigration were around 10% and 8%. Earlier Gallup surveys confirm the secondary nature of our three policy issues in earlier decades. Based on surveys carried out in 1977, 1987, 1997, and 2007, the share of respondents ranking environment as the most important problem was always less than 3%, while the corresponding shares for gun control and abortion were never above 1%. We thank Jerry Hansen for providing us with these data.

<sup>3</sup>As Goss (2006) pointed out, there is a "missing movement" for gun control in America: in terms of number of members and intensity of their preferences, gun-control groups like the Brady Campaign to Prevent Gun Violence pale in comparison to gun-rights groups.

<sup>4</sup>Voters often dislike environmental regulations. For example, a Gallup poll in 2017 asked whether environmental protection should be given priority at the risk of curbing economic growth or if economic growth should be given priority even if the environment suffers a bit; 35% of respondents stated that economic growth should be given priority. However, voters who are against environmental regulations tend to oppose taxation and regulation more generally rather than being focused on the environment.

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policy issues, legislation is mostly at the state level or through the courts.<sup>5</sup> Moreover, for the three issues we study, we can rely on lists of relevant congressional votes provided by corresponding single-issue organizations (Gun Owners of America, the League of Conservation Voters, and National Right to Life Committee).

We focus on one channel through which single-issue voters can shape politicians' choices: the intensity of their policy preferences. The broad idea is that politicians only respond to the interests of voters who make them accountable on a policy issue. Going back to the example of gun regulations, after the Senate voted against the Manchin-Toomey amendment on background checks, President Obama asked, "The American people are trying to figure out: How can something have 90% support and yet not happen?" His answer was that the 90% who support gun controls lack the passion and focus of the 10% who oppose them: "Ultimately, you outnumber those who argued the other way. But they make sure to stay focused on this one issue during election time."<sup>6</sup>

An alternative channel through which vocal minorities could affect policy choices is money. Politicians may be willing to support policies favored by special interests in exchange for their financial support. However, relatively little money is actually paid to politicians on secondary policy issues such as gun control, the environment, and reproductive rights. The size of lobbying expenditures and campaign contributions related to these issues pales in comparison to what is spent on other policy issues, such as finance/insurance, health, or construction.<sup>7</sup>

We develop a simple theoretical model to study how single-issue minorities affect politicians' choices on secondary issues. Politicians serve two-period terms, at the end of which

<sup>5</sup>In the case of lesbian, gay, bisexual, and transgender (LGBT) rights, for example, Massachusetts was the first state to legalize same-sex marriage in 2004. It was followed by 36 other states, until same-sex marriage was legalized at the federal level through a Supreme Court decision in June 2015.

<sup>6</sup>Single-mindedness is key to understanding the power of the National Rifle Association (NRA). "The NRA is considered by many the most powerful lobbying group in the country, despite relatively modest financial resources and just 4 million members. . . . The NRA focuses almost exclusively on gun control, which enables its leaders to doggedly pursue their legislative ends. Perhaps more important, many NRA members are as single-minded as the organization itself. Polls often show that more Americans favor tightening gun control laws than relaxing them, but gun-rights advocates are much more likely to be single-issue voters than those on the other side of the question. As a result, the NRA can reliably deliver votes" (see "Why Is the NRA So Powerful? How the Gun Lobby Leverages Modest Resources into Outsized Influence," *Slate*, June 29, 2012).

<sup>7</sup>The data on lobbying expenditures and campaign contributions come from the Center for Responsive Politics. As shown in figures C-1, C-2, and C-3 of the online appendix, spending on the three secondary issues of interest represents a tiny fraction of the spending on other policy issues in terms of both lobbying expenditures and campaign contributions. For example, expenditures related to reproductive rights are only 0.5% of those on finance/insurance and health and less than 5% those on construction; expenditures on gun regulations and environmental regulations are respectively 2% and 3.5% compared to expenditures on finance/insurance or health, and 19% and 31% compared to expenditures on construction. Looking at campaign contributions to U.S., spending on the three single issues represents around 1.5% of the spending on finance/insurance, 3% of spending on health, and 7% of spending on construction.

they face reelection. During their mandates, they are called to vote in favor of or against regulations on gun control, environment, and reproductive rights. They care about remaining in office but also have their own policy preferences, which may reflect their party line on these issues. The three policy issues are salient only to minorities of pro-issue or anti-issue voters.

We derive conditions under which politicians will change their voting behavior during their terms in office. In our model, politicians who face a trade-off between policy preferences and reelection motives may flip-flop, voting according to their preferences at the beginning of their terms and in line with the preferences of a single-issue minority when they are close to facing reelection. Election proximity should instead have no impact on the voting behavior of politicians who share the same preferences as the single-issue minority.

Our model predicts heterogeneous effects across secondary issues. This is because the relative strength of single-issue minorities, which depends on their size and preference intensity, varies across issues. In the case of gun regulations, the pro-gun minority is stronger than the anti-gun minority. In the case of environmental regulations, the pro-environment minority is stronger than its anti-environment counterpart. Finally, in the case of regulations on reproductive rights, there are two equally strong minorities of single-issue voters, one pro-life and one pro-choice. Election proximity should thus have a pro-gun (pro-environment) effect on the voting behavior of politicians who are in favor of (against) gun regulations (environmental regulations); it should instead have no impact on politicians' voting behavior on reproductive rights. The model also predicts that election proximity should have no effect on politicians who are retiring or hold safe seats, as they do not face a trade-off between policy preferences and reelection motives. Moreover, politicians should only flip-flop when the single-issue minority is neither too small nor too large.

To assess the evidence, we examine the determinants of U.S. senators' votes on regulations on gun rights, the environment, and reproductive rights. The staggered structure of the U.S. Senate—senators serve six-year terms and one-third are up for reelection every two years—provides a quasi-experimental setting to verify whether election proximity affects the decisions of incumbent politicians. For any given vote, we can compare the behavior of senators who belong to three different "generations," that is, they face elections at different times.<sup>8</sup> We can also study whether election proximity affects the stance of individual senators over time, exploiting

<sup>8</sup>This strategy builds on a vast literature that examines the impact of election proximity on legislative behavior (Amacher & Boyes, 1978; Thomas, 1985; Glazer & Robbins, 1985; Levitt, 1996; Bernhard & Sala, 2006). Rather than focusing on senators' choices on specific policy issues, most of these papers analyze how election proximity affects senators' ideological positions, captured by summary indexes of their voting record on a broad set of issues (e.g., ADA scores, D-Nominate, and W-Nominate scores). Other studies compare senators' voting scores to measures of their constituencies' preferences and examine how election proximity affects the gap between the two.

the fact that senators cast multiple votes on the same issue during their terms in office.

We have assembled a novel data set that allows us to link senators' voting behavior on the three policy issues of interest to a wealth of characteristics of the legislators and their constituencies. To identify the relevant votes to be included in the analysis, we rely on lists of votes assembled by single-issue organizations.

The empirical results provide strong support for the model's predictions. First, we show that senators flip-flop on gun control and environment, the two issues dominated by a strong single-issue minority: election proximity increases the likelihood that Democratic senators vote pro-gun and that Republican senators vote pro-environment. In the case of reproductive rights, election proximity has no effect on the behavior of senators: Democratic senators vote pro-choice, while Republican senators vote pro-life, in line with their own preferences and with the interests of the single-issue minority on the same side. We next show that these effects do not arise for senators who are retiring or hold safe seats and are thus not concerned about losing office. Finally, election proximity has a pro-gun (pro-environment) effect on Democratic (Republican) senators only when the pro-gun (pro-environment) group in their state is of intermediate size.

Our findings contribute to the debate about the shortcomings of voting as a way to keep politicians accountable. It has been argued that in representative democracies, voters are limited in their ability to make politicians accountable for their policy choices. This is because citizens have only one vote to punish or reward politicians on a bundle of issues (Besley & Coate, 2008). Electoral accountability has thus no bite, especially for policy issues that are of secondary importance to most voters. Contrary to this argument, List and Sturm (2006) emphasize the role of electoral incentives in shaping U.S. governors' choices on state-level environmental regulations, which are of secondary importance to most voters. They argue that electoral incentives still matter in the presence of single-issue voters, who base their voting decisions solely on the policies related to their specific issue of interest. Our paper shows that electoral accountability driven by single-issue voters is a widespread phenomenon that spans other policy issues and other levels of policymaking. Our theoretical model and empirical findings show that electoral incentives are a key determinant of national choices on gun control the environment, and reproductive rights. Rather than responding to the median voter, politicians are accountable to different single-issue minorities of voters on different policy issues. Because they see the policy space as unidimensional, these minorities keep politicians in check and shape their policy choices.

The rest of the paper is organized as follows. In section II, we briefly outline our theoretical model. Section III presents our main empirical results. The last section concludes. In the online appendix, we discuss the related literature in more detail in section A, present the full version of the theoretical model in section B, and in section C describe the data

and variables used in our empirical analysis (section C also includes additional results).

## II. Theoretical Framework

In section B of the online appendix, we develop a simple model of politicians' choices to help structure our empirical analysis. We build on standard probabilistic voting models (Enelow & Hinich, 1982; Lindbeck & Weibull, 1987; Dixit & Londregan, 1995; Grossman & Helpman, 1996; Persson & Tabellini, 2001; and Stromberg, 2004). We focus on the decisions of an incumbent, who serves a mandate lasting two periods, with elections taking place at the end of the second period. The incumbent is both policy and office motivated, and in each period, she is called to vote on three policy issues: gun control regulations, environmental regulations, and regulations on reproductive rights. As discussed in section I, a key feature of these policy issues is their secondary nature—the fact that the majority of the electorate does not care intensely about them. To reflect our empirical analysis, we consider the three issues separately that is, in each period, the incumbent votes on one piece of legislation related to each policy issue.

The model delivers three propositions. Proposition 1 characterizes the behavior of an anti-issue incumbent. It shows that election proximity can only have a pro-issue effect on such an incumbent and that she flip-flops only when the pro-issue minority in her constituency is of intermediate size. Proposition 2 characterizes the behavior of a pro-issue incumbent. It shows that election proximity can only have an anti-issue effect on such an incumbent and that she flip-flops only when the anti-issue minority in her constituency is of intermediate size. Proposition 3 shows that an incumbent who is not affected by reelection incentives (either because she is retiring or she holds a safe seat) never flip-flops.

To map these propositions into empirical predictions, we examine the impact of election proximity on the voting behavior of U.S. senators on regulations concerning gun control, the environment, and reproductive rights. As discussed before, the staggered structure of the U.S. Senate, in which members serve six-year terms and one-third are up for reelection every two years, allows us to compare the voting behavior of different generations of senators, depending on how close they are to facing reelection.

In terms of voters' preferences, we work under the following assumptions, justified above: (a) the pro-gun minority is substantially larger than the minority in favor of gun regulations (i.e.,  $\Delta^{gun} < 0$  in the model); (b) the pro-environment minority is substantially larger than the anti-environment minority (i.e.,  $\Delta^{env} > 0$ ); and (c) there are no substantial size or intensity differences between the pro-life and pro-choice minorities (i.e.,  $\Delta^{repr} \simeq 0$ ).

We also need a proxy for the policy preferences of incumbents ( $\omega(s)$  in the model). For this purpose, we assume that senators' policy preferences reflect their party line: Republican senators are pro-gun, opposed to environmental regulations, and pro-life, while Democratic senators are

pro-gun control, pro-environment, and pro-choice. As discussed in section B of the online appendix, a large body of literature finds that politicians from the same party tend to vote similarly, either because politicians with similar preferences select into the same party or because parties use rewards and punishments to influence their members' voting behavior (Poole & Rosenthal, 1985, 2007; Krehbiel, 1993; Levitt, 1996; Ansolabehere, Snyder, & Stewart, 2001; McCarty, Poole, & Rosenthal, 2001). These findings suggest that party affiliation can be used as a proxy for senators' policy preferences. The assumption that Republicans are more likely to be pro-gun, anti-environment, and pro-life (and conversely for Democrats) is in line with previous studies reviewed in section A of the online appendix on U.S. congressmen's votes on gun regulations (Langbein & Lotwis, 1990), environmental regulations (Nelson, 2002), and reproductive rights (Washington, 2008). It also finds support in our data on roll-call votes on these issues.<sup>9</sup>

Propositions 1 and 2 lead to our first testable prediction:

**Prediction 1.** Election proximity should increase the likelihood that Democratic senators vote pro-gun and that Republican senators vote pro-environment; it should have no effect on the voting behavior of Democrats and Republicans voting on reproductive rights.

In the model, incumbents flip-flop when they face a trade-off between their policy preferences and their reelection motives. Notice that measurement error in our proxy of incumbents' policy preferences works against us, making it harder to find support for prediction 1. To see this, take the example of gun control and suppose that some Democrats are actually pro-gun and some Republicans are actually anti-gun. Contrary to prediction 1, Republicans should then be the ones to flip-flop (since they face a trade-off between their true policy preferences and their electoral incentives), while Democrats should vote pro-gun throughout their terms in office.

Proposition 3 suggests that senators who are not concerned about reelection because they are retiring or because they hold safe seats should not flip-flop, voting in line with their policy preferences throughout their terms in office. This result leads to our next testable predictions:

**Prediction 2.** Election proximity should not have a pro-gun (pro-environment) effect on the voting behavior of Democratic (Republican) senators who are retiring.

**Prediction 3.** Election proximity should not have a pro-gun (pro-environment) effect on the voting behavior of Democratic (Republican) senators who hold safe seats.

Propositions 1 and 2 highlight the ambiguous effect that the size of the single-issue minority can have on the flip-

flopping behavior of incumbents. For example, consider  $n_p$ , the size of the pro-issue minority. Proposition 1 shows that when  $n_p$  is either sufficiently small (condition b is satisfied) or sufficiently large (condition c is satisfied) an anti-issue incumbent does not flip-flop. In the former case, she always vote against the issue, while in the latter case, she always votes in favor. It is only when  $n_p$  is of intermediate size (condition c is satisfied) that the incumbent flip-flops. This means that  $n_p$  has a nonmonotonic effect on incumbents' incentives to flip-flop. Similarly, proposition 2 shows that  $n_a$ , the size of the anti-issue minority, has an ambiguous effect on the flip-flopping behavior of a pro-issue politician. This leads to our last testable prediction:

**Prediction 4.** Election proximity should have a pro-gun (pro-environment) effect on the voting behavior of Democratic (Republican) senators only when the pro-gun (pro-environment) minority in their state is of intermediate size.

### III. Empirical Methodology and Results

To assess the validity of the model's predictions, we have assembled a novel data set that allows us to link U.S. senators' voting behavior on each policy issue to a wealth of characteristics of the legislators and their constituencies. (We describe our data in section C.1 of the online appendix.)

We follow two complementary strategies to identify the effect of election proximity on senators' voting behavior. First, we exploit variation in the voting behavior of different senators, depending on which generation they belonged to at the time of the vote. Second, we exploit changes in the voting behavior of individual senators over time.

#### A. The Impact of Election Proximity, Party Differences

To assess the validity of prediction 1, we estimate the following linear probability model:

$$\begin{aligned} \text{Vote}_{ijvt} = & \lambda_0 + \lambda_1 \text{Senate3}_{it} \times \text{Democrat}_{it} + \lambda_2 \text{Senate12}_{it} \\ & \times \text{Republican}_{it} + \lambda_3 \text{Senate3}_{it} \times \text{Republican}_{it} \\ & \lambda_5 \mathbf{X}_{it} + \lambda_3 \mathbf{W}_{jt} + \delta_j + \delta_t + \epsilon_{ijvt}. \end{aligned} \quad (1)$$

The dependent variable is  $\text{Vote}_{ijvt}$ , which is equal to 1 if senator  $i$  from state  $j$  votes pro-issue (i.e., pro-gun, pro-environment, or pro-choice) on vote  $v$  in year  $t$ . The main regressor of interest is  $\text{Senate3}_{it}$ , the dummy variable for the third generation of senators, identifying legislators who are closest to facing reelection. For ease of exposition, we combine the first and second generations of senators into one omitted category,  $\text{Senate12}_{it}$ .<sup>10</sup>  $\text{Democrat}_{it}$  and  $\text{Republican}_{it}$

<sup>9</sup>Based on our samples of votes, Republican senators are around 42 percentage points more likely to vote pro-guns, 38 percentage points less likely to vote pro-environment, and 72 percentage points more likely to vote pro-life than Democratic senators.

<sup>10</sup>The qualitative results are similar if we only include first-generation senators in the omitted category, although some of the coefficients of interest are less precisely estimated, as we lose statistical power (in particular, for

are dummy variables taking the value of 1 if a senator  $i$  belongs to the Democratic or Republican party in year  $t$ , respectively.<sup>11</sup> In these regressions, we cluster standard errors at the state level.

According to the first prediction of our theoretical model, whether senators flip-flop should depend on the issue under consideration and on their party affiliation. In the case of gun regulations, election proximity should increase the probability that Democratic senators vote pro-gun;  $\lambda_1$  should thus be positive and significant, while  $\lambda_2$  should not be significantly different from  $\lambda_3$  for gun-related votes. When it comes to environmental regulations, election proximity should instead increase the probability that Republican senators vote pro-environment;  $\lambda_1$  should thus be insignificant, while  $\lambda_2$  and  $\lambda_3$  should be negative and significant, with  $\lambda_3$  significantly smaller than  $\lambda_2$ . Finally, election proximity should have no impact on senators' voting behavior on reproductive rights because of the presence of intense minorities on both sides of the issue;  $\lambda_1$  should thus be insignificant, and  $\lambda_2$  should not be significantly different from  $\lambda_3$ .

The matrix  $\mathbf{X}_{it}$  includes additional controls for legislators (e.g., gender, age), and  $\mathbf{W}_{jt}$  is a matrix of state-specific characteristics (e.g., crime rate, education). In our benchmark specifications, we also include two sets of fixed effects:  $\delta_j$  are state dummies, capturing time-invariant characteristics of constituencies that may affect senators' voting behavior (e.g., rural), and  $\delta_t$  are year dummies, which allow us to account for year-specific variables (e.g., share of Democratic senators in Congress). In alternative specifications, we replace the year dummies with vote dummies or add interactions between state and year dummies. Notice that when we include these interactions, we identify the effect of election proximity based on differences in the voting behavior of senators from the same state in the same year. This allows us to account for changes in state-level preferences on a given issue due to a local shock (e.g., a shooting rampage).

When we estimate equation (1), we identify the effect of election proximity exploiting variation in the voting behavior of different senators, depending on which generation they belonged to at the time of the vote. This identification strategy relies on the staggered structure of the Senate. This guarantees that at any point in time, a third of legislators are close to facing reelection (i.e., whenever a vote is cast in the Senate, one-third of members belong to the third generation).

Still, one might be concerned that the timing of the votes could be correlated with characteristics of the senators who belong to the third generation. For example, votes on gun control may always be timed so that some Democratic senators are close to facing reelection. If this is the case, a positive correlation between belonging to the third generation and voting pro-gun may be driven by selection effects in the timing of

the votes rather than by the impact of election proximity (although the inclusion of year or vote dummies alleviates these concerns, allowing us to control for the composition of the Senate at the time of the vote).

Our second empirical strategy allows us deal with this concern, exploiting variation in the voting behavior of individual senators over time to identify the effect of election proximity. This strategy relies on the fact that senators usually serve for long periods of time and cast several votes on each policy issue while belonging to different generations. In this case, if the results confirm our model's predictions, they cannot be driven by selection effects in the timing of the votes: if the votes on a particular policy issue were always timed so that some particular senators are close to reelection, we should not find any evidence of flip-flopping when relying only on within-senator variation.<sup>12</sup>

We estimate the following linear probability model:

$$\begin{aligned} \text{Vote}_{ijvt} = & \lambda_0 + \lambda_1 \text{Senate3}_{it} \times \text{Democrat}_{it} + \lambda_2 \text{Senate12}_{it} \\ & \times \text{Republican}_{it} + \lambda_3 \text{Senate3}_{it} \times \text{Republican}_{it} \\ & \lambda_4 \mathbf{X}_{it} + \lambda_3 \mathbf{W}_{jt} + \delta_i + \delta_t + \epsilon_{ijvt}, \end{aligned} \quad (2)$$

where  $\delta_i$  are senator dummies. In these regressions, we cluster standard errors at the senator level. The interpretation and expected signs of the key variables of interest are the same as for model (1): for votes on gun control,  $\lambda_1$  should be positive and significant, while  $\lambda_2$  should not be significantly different from  $\lambda_3$ ; for votes on environmental regulations,  $\lambda_1$  should be insignificant, while  $\lambda_2$  and  $\lambda_3$  should be negative and significant, with  $\lambda_3$  significantly smaller than  $\lambda_2$ ; and for votes on reproductive rights,  $\lambda_1$  should thus be insignificant, and  $\lambda_2$  should not be significantly different from  $\lambda_3$ .

Tables 1 to 3 present the results of estimating models (1) and (2) for each of the three policy issues. The specifications in each table differ in terms of the regressors and fixed effects included, or the econometric methodology employed, but all provide strong support for the first prediction of our model. Focusing on the key regressors, we see that the estimated coefficients  $\lambda_1$ ,  $\lambda_2$ , and  $\lambda_3$  match the expected sign and significance. To save on space, in tables 1 to 3 we only report the coefficients of our key variables of interest (see tables 1 to 3 in section C.3 of the online appendix for a longer version of these tables, which includes the coefficients of the auxiliary controls).

The estimates in table 1 confirm that Democratic senators are more likely to vote pro-gun as they approach reelection (the coefficient of the interaction variable  $\text{Senate3}_{it} \times \text{Democrat}_{it}$  is always positive and significant). By contrast, Republican senators do not change their voting behavior during their terms (the test at the bottom of the table is never

votes on gun regulations, for which the number of observations is much smaller).

<sup>11</sup>In section C.4 of the online appendix, we show that results remain unchanged if we drop senators who change party, and therefore both dummy variables are time invariant.

<sup>12</sup>Further reassurance against the endogeneity of the timing of the votes comes from regressing the number of votes on gun and environmental regulations in a given congress against the number or share of Democratic and Republican senators running for reelection in that Congress. The results of these regressions show no significant cross-party differences.

TABLE 1.—THE IMPACT OF ELECTION PROXIMITY ON VOTES ON GUN REGULATIONS: PARTY DIFFERENCES

Dependent Variable	Vote <sub><i>ijvt</i></sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub><i>it</i></sub> × Democrat <sub><i>it</i></sub>	0.071* (0.038)	0.072* (0.037)	0.070* (0.037)	0.085** (0.041)	0.103** (0.045)	0.103** (0.043)	0.099** (0.043)
Senate3 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub>	0.460*** (0.048)	0.457*** (0.048)	0.456*** (0.049)	0.460*** (0.066)	0.395*** (0.110)	0.386*** (0.117)	0.382*** (0.117)
Senate12 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub>	0.430*** (0.044)	0.429*** (0.045)	0.429*** (0.045)	0.434*** (0.063)	0.363*** (0.110)	0.359*** (0.116)	0.356*** (0.116)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	1,460	1,460	1,460	1,460	1,460	1,460	1,460
R <sup>2</sup>	0.591	0.594	0.645	0.694	0.218	0.226	0.341
Test Senate3 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub> = Senate12 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub> ( <i>p</i> -value)	0.101	0.134	0.136	0.324	0.158	0.254	0.254

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-gun on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1994–2012. The last row reports the *p*-value of the test. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5%, and 10%.

TABLE 2.—THE IMPACT OF ELECTION PROXIMITY ON VOTES ON ENVIRONMENTAL REGULATIONS: PARTY DIFFERENCES

Dependent Variable	Vote <sub><i>ijvt</i></sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub><i>it</i></sub> × Democrat <sub><i>it</i></sub>	−0.004 (0.007)	−0.003 (0.007)	−0.003 (0.007)	−0.004 (0.008)	−0.002 (0.007)	−0.002 (0.007)	−0.002 (0.007)
Senate3 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub>	−0.366*** (0.023)	−0.370*** (0.023)	−0.370*** (0.023)	−0.374*** (0.027)	−0.246*** (0.062)	−0.243*** (0.064)	−0.245*** (0.063)
Senate12 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub>	−0.388*** (0.023)	−0.391*** (0.023)	−0.392*** (0.023)	−0.391*** (0.028)	−0.260*** (0.061)	−0.256*** (0.064)	−0.259*** (0.063)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	37,277	37,277	37,277	37,277	37,277	37,277	37,277
R <sup>2</sup>	0.360	0.361	0.423	0.437	0.022	0.022	0.125
Test Senate3 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub> = Senate12 <sub><i>it</i></sub> × Republican <sub><i>it</i></sub> ( <i>p</i> -value)	0.007	0.009	0.009	0.074	0.086	0.088	0.074

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-environment on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1971–2012. The last row reports the *p*-value of the test. \*\*\*, \*\* and \* indicate statistical significance at 1%, 5%, and 10%.

significant). These results are in line with our prediction that the presence of a strong minority of gun-rights activists can make Democrats vote against their own preferences when they are close to reelection.<sup>13</sup>

In terms of magnitude, the effect is very stable across specifications. When comparing across senators, Democrats are between 7.0 and 8.5 percentage points more likely to vote pro-gun in the last two years of their mandates. This effect is slightly larger (around 10 percentage points) when we only exploit variation in the voting behavior of individual sena-

tors over time. As expected, Republican senators are significantly more likely to vote pro-gun, but their behavior does not change as they get closer to reelection.

Table 2 reports the results for votes on environmental regulations. As expected, Democratic senators do not change their voting behavior over time (the coefficient of the interaction *Senate3<sub>it</sub> × Democrat<sub>it</sub>* is never significant). By contrast, Republican senators are more likely to vote pro-environment when they are close to reelection: the estimated coefficient,  $\lambda_2$  and  $\lambda_3$  are both negative and significant (i.e., Republican senators are less environmentally friendly than Democratic senators), but the coefficient of the interaction term *Senate3<sub>it</sub> × Republican<sub>it</sub>* is significantly smaller in absolute terms than the coefficient of *Senate12 × Republican<sub>it</sub>* (see the test at the bottom of the table). These results are in line with the first prediction of our model: when it comes to environmental

<sup>13</sup>Senator Tom Harkin (D-IA) provides an example of a Democrat who flip-flopped on gun control: he cast eleven votes on gun-related legislation (four in the 105th Congress, four in the 106th, one in the 109th, one in the 110th, and three in the 111th) and voted pro-gun only once during the 110th Congress (in 2008), the only time in which a vote occurred when he belonged to the third generation of senators.

TABLE 3.—THE IMPACT OF ELECTION PROXIMITY ON VOTES ON REPRODUCTIVE RIGHTS: PARTY DIFFERENCES

Dependent Variable	Vote <sub>ijvt</sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub>it</sub> × Democrat <sub>it</sub>	−0.030 (0.021)	−0.030 (0.021)	−0.030 (0.021)	−0.033 (0.025)	0.002 (0.012)	0.002 (0.012)	0.002 (0.012)
Senate3 <sub>it</sub> × Republican <sub>it</sub>	−0.735*** (0.053)	−0.737*** (0.051)	−0.737*** (0.052)	−0.743*** (0.063)	−0.055 (0.064)	−0.055 (0.064)	−0.059 (0.068)
Senate12 <sub>it</sub> × Republican <sub>it</sub>	−0.737*** (0.051)	−0.738*** (0.050)	−0.738*** (0.051)	−0.738*** (0.060)	−0.049 (0.058)	−0.049 (0.058)	−0.052 (0.062)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	4,995	4,995	4,995	4,995	4,995	4,995	4,995
R <sup>2</sup>	0.730	0.731	0.747	0.770	0.020	0.020	0.098
Test Senate3 <sub>it</sub> × Republican <sub>it</sub> = Senate12 <sub>it</sub> × Republican <sub>it</sub> ( <i>p</i> -value)	0.888	0.939	0.957	0.721	0.574	0.574	0.559

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable  $Vote_{ijvt}$  is coded as 1 when senator  $i$  from state  $j$  voted pro-choice on vote  $v$  in year  $t$ . All specifications include senator controls. The sample covers the period 1997–2012. The last row reports the  $p$ -value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

regulations, only Republican senators face a trade-off between their policy preferences (which lead them to vote against regulations at the beginning of their terms) and their reelection motives (which lead them to vote in line with the preferences of the green single-issue minority at the end of their terms).

The estimates of table 2 imply that election proximity increases the probability of Republican senators voting pro-environment by between 1.7 and to 2.2 percentage points (when comparing across senators) and by between 1.3 and 1.4 percentage points (when exploiting only within-senator variation).<sup>14</sup>

When it comes to votes on reproductive rights, the evidence in table 3 is again very supportive of the first prediction of our theoretical model. In the case of regulations related to reproductive rights, no politician should face a trade-off between policy preferences and reelection motives due to the presence of strong pro-choice and pro-life minorities. We would thus expect senators of both parties to vote according to their policy preferences throughout their terms. Indeed, the results in table 3 show that Republicans are less likely to vote pro-choice than Democrats (the coefficients of the interactions  $Senate3_{it} \times Republican_{it}$  and  $Senate12 \times Republican_{it}$  are negative and significant), but election proximity has no significant impact on their voting behavior (in all specifications, the coefficient of  $Senate3_{it} \times Democrat_{it}$  is very small and insignificant, and concerning Republicans, the test at the bottom of the table is also insignificant).

Summing up, the results of tables 1 to 3 confirm that election proximity has a pro-gun effect on Democratic senators and a pro-environment effect on Republican senators. As ex-

pected, senators' voting behavior on reproductive rights is unaffected by election proximity. These results are identified by comparing the behavior of different senators voting on the same legislation, as well as the behavior of individual senators voting on different legislation.

In our analysis so far, we have allowed the party affiliation variable to be time varying, given that a few senators in our sample changed from one party to the other (Ben Nighthorse Campbell, Jim Jeffords, Richard Shelby, and Arlen Specter), while others switched from one of the parties to being independent (e.g., Joe Lieberman and Bernie Sanders). We have verified that the results of tables 1 to 3 continue to hold if we drop from our sample the senators who switched parties (see tables C-2, C-3, and C-4 in the online appendix). Compared to our benchmark regression, the main difference is that we can no longer identify differences in parties' stances on gun control, the environment, and reproductive rights in the specifications that include senator fixed effects (columns 5 to 7). However, the results confirm the first prediction of our theoretical model: only Democratic senators flip-flop on gun control, becoming more pro-gun as they approach reelection; only Republican senators flip-flop on the environment, becoming greener as they approach reelection; and election proximity does not affect votes on reproductive rights by senators from either party.

### B. Reelection Motives

Having found strong support for the first prediction of our model, we now assess the validity of the second and third predictions. These can be seen as placebo tests for the idea that reelection motives, and the contrast with policy preferences, are the reason that some politicians flip-flop.

We first use variation in the voting behavior of retiring versus nonretiring senators to verify whether reelection motives

<sup>14</sup>Senator Wayne Allard (R-CO) provides an example of flip flopping on environmental regulations: he voted pro environment only 10 times out of 108, and this happened during the 105th Congress (when he belonged to the third generation), and in the 109th and 110th Congress (when he belonged to the second and third generation, respectively).

TABLE 4.—THE IMPACT OF ELECTION PROXIMITY ON DEMOCRATS VOTING ON GUN REGULATIONS: RETIRING SENATORS

Dependent Variable	Vote <sub>ijvt</sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub>it</sub> × Not Retiring <sub>it</sub>	0.095** (0.037)	0.094** (0.035)	0.094** (0.035)	0.081* (0.045)	0.116** (0.044)	0.120*** (0.042)	0.119*** (0.042)
Senate3 <sub>it</sub> × Retiring <sub>it</sub>	-0.156 (0.156)	-0.175 (0.156)	-0.174 (0.156)	0.017 (0.041)	-0.121 (0.253)	-0.198 (0.242)	-0.196 (0.243)
Senate12 <sub>it</sub> × Retiring <sub>it</sub>	-0.013 (0.095)	-0.061 (0.090)	-0.059 (0.091)	-0.073 (0.058)	-0.056 (0.189)	-0.078 (0.182)	-0.075 (0.182)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	725	725	725	725	725	725	725
R <sup>2</sup>	0.529	0.539	0.556	0.729	0.286	0.317	0.346
Test Senate3 <sub>it</sub> × Retiring <sub>it</sub> = Senate12 <sub>it</sub> × Retiring <sub>it</sub> ( <i>p</i> -value)	0.256	0.377	0.378	0.091	0.708	0.487	0.484

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-gun on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1994–2012. The last row reports the *p*-value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

are the reason behind the flip-flopping documented in table 1 (for Democrats voting on gun control) and table 2 (for Republicans voting on environment). To assess the validity of prediction 2, we focus on Democrats voting on gun regulations and Republicans voting on environmental regulations and estimate

$$Vote_{ijvt} = \lambda_0 + \lambda_1 \text{Senate3}_{it} \times \text{Not Retiring}_{it} + \lambda_2 \text{Senate12}_{it} \times \text{Retiring}_{it} + \lambda_3 \text{Senate3}_{it} \times \text{Retiring}_{it} + \lambda_5 \mathbf{X}_{it} + \lambda_3 \mathbf{W}_{jt} + \delta_j + \delta_t + \epsilon_{ijvt}. \quad (3)$$

The variable *Retiring<sub>it</sub>* takes the value of 1 for senators stepping down for exogenous reasons (see the online appendix for details). Our theoretical model suggests that  $\lambda_1$  should be positive and significant, as Democratic (Republican) senators seeking reelection should become more pro-gun (environment), while  $\lambda_2$  should not be significantly different from  $\lambda_3$ .

Table 4 presents the results of the regressions on gun votes for Democratic senators. We find strong support for prediction 2, as retiring Democratic senators do not flip-flop (see the test at the bottom of the table). The results also confirm prediction 1: the coefficient on the interaction term *Senate3<sub>it</sub> × Not Retiring<sub>it</sub>* is always positive and significant and indicates that Democratic senators seeking reelection are between 8 and 12 percentage points more likely to vote pro-gun at the end of their terms.

Moving to the behavior of Republican senators on environmental policy, the results of table 5 show that only senators seeking reelection become greener at the end of their terms: the coefficient of the interaction term *Senate3<sub>it</sub> × Not Retiring<sub>it</sub>* indicates that nonretiring senators are around 3 percentage points more likely to vote pro-environment when they approach reelection. By contrast, retiring senators do

not change their voting behavior during their terms (see the test at the bottom of the table).

The results of tables 4 and 5 are robust to dropping from our sample senators who switched party. The results of tables C-5 and C-6 in the online appendix confirm that as they approach the end of their term, Democratic senators become more pro-gun and Republican senators become more pro-environment but only if they are seeking reelection.

We next assess the validity of prediction 3. To verify whether election proximity has no effect on the voting behavior of senators who hold safe seats, we estimate:

$$Vote_{ijvt} = \lambda_0 + \lambda_1 \text{Senate3}_{it} \times \text{No Safe Seat}_{it} + \lambda_2 \text{Senate12}_{it} \times \text{Safe Seat}_{it} + \lambda_3 \text{Senate3}_{it} \times \text{Safe Seat}_{it} + \lambda_5 \mathbf{X}_{it} + \lambda_3 \mathbf{W}_{jt} + \delta_j + \delta_t + \epsilon_{ijvt}. \quad (4)$$

The variable *Safe Seat<sub>it</sub>* takes the value of 1 when the vote difference between senator *i* and the runner-up in the last election before year *t* was above the 90th percentile of the vote margin distribution (see details in the online appendix). According to our model,  $\lambda_1$  should be positive and significant, while  $\lambda_2$  should not be significantly different from  $\lambda_3$ . The results of estimating equation (4) are reported in tables 6 and 7. In line with prediction 3, they show that Democratic (Republican) senators who hold safe seats do not flip-flop on gun control (environment): the *p*-value of the tests at the bottom of the tables is never significant. By contrast, politicians who were elected with smaller margins do change their voting behavior when they approach reelection, in line with prediction 1: Democratic senators become more pro-gun (the coefficient of the *Senate3<sub>it</sub> × No Safe Seat<sub>it</sub>* in table 6 is always positive and significant), while Republican senators become greener (the coefficient of the *Senate3<sub>it</sub> × No Safe Seat<sub>it</sub>* in table 7 is positive and significant in all but one specification).



TABLE 5.—THE IMPACT OF ELECTION PROXIMITY REPUBLICANS VOTING ON ENVIRONMENTAL REGULATIONS: RETIRING SENATORS

Dependent Variable	Vote <sub>ijvt</sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub>it</sub> × Not Retiring <sub>it</sub>	0.026*** (0.010)	0.026** (0.010)	0.026** (0.010)	0.024** (0.012)	0.028*** (0.009)	0.028*** (0.009)	0.028*** (0.009)
Senate3 <sub>it</sub> × Retiring <sub>it</sub>	-0.027 (0.025)	-0.024 (0.025)	-0.021 (0.024)	0.006 (0.047)	-0.006 (0.023)	-0.005 (0.023)	-0.004 (0.023)
Senate12 <sub>it</sub> × Retiring <sub>it</sub>	-0.024 (0.020)	-0.023 (0.020)	-0.024 (0.019)	0.012 (0.037)	-0.017 (0.018)	-0.017 (0.018)	-0.018 (0.018)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	17,514	17,514	17,514	17,514	17,514	17,514	17,514
R <sup>2</sup>	0.258	0.260	0.396	0.353	0.039	0.039	0.223
Test Senate3 <sub>it</sub> × Retiring <sub>it</sub> = Senate12 <sub>it</sub> × Retiring <sub>it</sub> (p-value)	0.875	0.986	0.864	0.763	0.504	0.477	0.400

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable  $Vote_{ijvt}$  is coded as 1 when senator  $i$  from state  $j$  voted pro-environment on vote  $v$  in year  $t$ . All specifications include senator controls. The sample covers the period 1971–2012. The last row reports the  $p$ -value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

TABLE 6.—THE IMPACT OF ELECTION PROXIMITY ON DEMOCRATS VOTING ON GUN REGULATIONS: SAFE SEAT SENATORS

Dependent Variable	Vote <sub>ijvt</sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub>it</sub> × No Safe Seat <sub>it</sub>	0.091** (0.042)	0.087** (0.042)	0.087** (0.042)	0.099** (0.041)	0.122** (0.051)	0.121** (0.049)	0.120** (0.049)
Senate3 <sub>it</sub> × Safe Seat <sub>it</sub>	0.068 (0.092)	0.087 (0.091)	0.085 (0.091)	0.207 (0.187)	0.022 (0.093)	0.052 (0.090)	0.049 (0.090)
Senate12 <sub>it</sub> × Safe Seat <sub>it</sub>	0.052 (0.076)	0.045 (0.072)	0.042 (0.071)	0.204 (0.133)	-0.009 (0.098)	0.030 (0.093)	0.026 (0.093)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	704	704	704	704	704	704	704
R <sup>2</sup>	0.519	0.528	0.546	0.728	0.286	0.314	0.344
Test Senate3 <sub>it</sub> × Safe Seat <sub>it</sub> = Senate12 <sub>it</sub> × Safe Seat <sub>it</sub> (p-value)	0.854	0.653	0.635	0.988	0.653	0.766	0.755

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable  $Vote_{ijvt}$  is coded as 1 when senator  $i$  from state  $j$  voted pro-gun on vote  $v$  in year  $t$ . All specifications include senator controls. The sample covers the period 1994–2012. The last row reports the  $p$ -value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

The results of tables 6 and 7 are robust to dropping senators who switched party. The results of this robustness checks are reported in tables C-7 and C-8 in the online appendix. As they approach the end of their term, Democratic (Republican) senators become more pro-gun (environment), but only if they do not hold safe seats.<sup>15</sup>

### C. Heterogeneous Effects across States

In line with the first two predictions of our model, the results presented in the two previous sections show that elec-

tion proximity affects the voting behavior of senators on secondary policy issues. As expected, Democratic (Republican) senators who are seeking reelection are more likely to vote pro-gun (pro-environment) at the end of their terms, while no senator flip-flops on reproductive rights votes.

We next assess the validity of the fourth prediction of our model: Democratic (Republican) senators should flip-flop on gun control (environment) only when the size of the pro-gun (green) minority in their constituency is neither too small nor too large.

We first consider gun votes. When looking at Democratic senators in our sample, many are elected in states that are traditionally Democratic leaning, which have low levels of per capita subscriptions to gun magazines (e.g., California and New Jersey). However, others are elected in Democratic-leaning states (e.g., Oregon and Vermont) and traditionally

<sup>15</sup>The results of tables 6 and 7 should continue to hold as long as the vote margin is large enough for senators not to be concerned about losing office. We have tried rerunning equation (4) using a lower threshold (85th percentile) of  $Margin\ of\ Victory_{it}$  to define safe seats. The results continue to hold.

TABLE 7.—THE IMPACT OF ELECTION PROXIMITY ON REPUBLICANS VOTING ON ENVIRONMENTAL REGULATIONS: SAFE SEATS SENATORS

Dependent Variable	Vote <sub>ijvt</sub>						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Senate3 <sub>it</sub> × No Safe Seat <sub>it</sub>	0.024** (0.009)	0.025*** (0.009)	0.025*** (0.009)	0.023* (0.012)	0.029*** (0.008)	0.029*** (0.008)	0.029*** (0.008)
Senate3 <sub>it</sub> × Safe Seat <sub>it</sub>	0.034 (0.022)	0.035 (0.023)	0.036 (0.023)	0.011 (0.035)	0.003 (0.019)	0.004 (0.019)	0.005 (0.019)
Senate12 <sub>it</sub> × Safe Seat <sub>it</sub>	0.020 (0.015)	0.022 (0.014)	0.023 (0.014)	0.015 (0.035)	-0.002 (0.013)	-0.002 (0.014)	-0.002 (0.014)
State controls	no	yes	yes	yes	no	yes	yes
Year dummies	yes	yes	no	yes	yes	yes	no
State dummies	yes	yes	yes	yes	no	no	no
Vote dummies	no	no	yes	no	no	no	yes
State × Year dummies	no	no	no	yes	no	no	no
Senator dummies	no	no	no	no	yes	yes	yes
Observations	17,407	17,407	17,407	17,407	17,407	17,407	17,407
R <sup>2</sup>	0.260	0.261	0.396	0.355	0.039	0.039	0.222
Test Senate3 <sub>it</sub> × Safe Seat <sub>it</sub> = Senate12 <sub>it</sub> × Safe Seat <sub>it</sub> (p-value)	0.408	0.468	0.477	0.745	0.755	0.718	0.713

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level in columns 1–4 and senator level in columns 5–7. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-environment on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1971–2012. The last row reports the *p*-value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

Republican-leaning states (e.g., Montana and North Dakota) with high per capita subscriptions to gun magazines.

According to prediction 4 of the model, Democratic senators should flip-flop on gun regulations only when the size of the pro-gun minority in their constituency is of intermediate size; in the alternative scenarios in which the pro-gun minority is smaller (larger), they should always vote anti-gun (pro-gun). We would then expect an inverted U-shaped relationship between the probability that a Democratic senator flip-flops and per capita subscriptions to gun magazines in his or her state. To verify this, we restrict again our sample to Democratic senators and interact the variable *Senate3<sub>it</sub>* with *Gun magazine subscriptions<sub>jt</sub>* and its square term. Our theory suggests that the estimate for the linear term should be positive, while the square term should have a negative sign.

The results reported in table 8 strongly support the fourth prediction of our model: the coefficient for the linear term is positive and significant, while the coefficient for the square term is negative and significant. The test at the bottom of the table indicates that *Senate3<sub>it</sub>* and the two interaction terms are jointly significant at 5%.

Figure C-7 in the online appendix provides a graphical representation of these results based on the specifications of column 2 of table 8. This figure shows the marginal effects for Democratic senators belonging to *Senate3<sub>it</sub>* for different percentiles of the distribution of gun magazine subscriptions. This allows us to illustrate how the impact of election proximity on senators' voting behavior varies with the size of the pro-gun minority in their constituency. Notice that the marginal effects are not significant for the lowest and highest percentiles of gun magazine subscriptions, confirming that election proximity has a pro-gun effect on Democratic senators only when the pro-gun group in their constituency is of intermediate size.

We next examine whether the impact of election proximity on Republicans' voting behavior on the environment de-

TABLE 8.—THE IMPACT OF ELECTION PROXIMITY ON DEMOCRATS VOTING ON GUN REGULATIONS, BY SIZE OF THE PRO-GUN MINORITY

Dependent Variable	Vote <sub>ijvt</sub>		
	(1)	(2)	(3)
Senate3 <sub>it</sub>	-0.137 (0.138)	-0.135 (0.141)	-0.134 (0.142)
Senate3 <sub>it</sub> × Gun Magazine Subscriptions <sub>jt</sub>	0.047* (0.024)	0.049* (0.025)	0.049* (0.025)
Senate3 <sub>it</sub> × Gun Magazine Subscriptions <sub>jt</sub> <sup>2</sup>	-0.002** (0.001)	-0.002** (0.001)	-0.002** (0.001)
Gun Magazine Subscriptions <sub>jt</sub>	0.129** (0.061)	0.141** (0.062)	0.142** (0.062)
Gun Magazine Subscriptions <sub>jt</sub> <sup>2</sup>	-0.003** (0.001)	-0.004** (0.002)	-0.004** (0.002)
State controls	no	yes	yes
Year dummies	yes	yes	no
State dummies	yes	yes	yes
Vote dummies	no	no	yes
Observations	725	725	725
R <sup>2</sup>	0.529	0.540	0.557
Joint test for Senate3 <sub>it</sub> and interactions (p-value)	0.033	0.022	0.022

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-gun on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1994–2012. The last row reports the *p*-value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

pends on the size of the green minority in their constituency. To this purpose, we use data from List and Sturm (2006) on state-level membership in the three largest environmental organizations (Greenpeace, Friends of the Earth, and the Sierra Club). We then interact the dummy *Senate3<sub>it</sub>* with the variable *Membership in Green Organizations<sub>j</sub>* and its square term.

The results are reported in table 9. In line with prediction 3 of our model, the coefficient for the linear interaction term is positive and significant, while the coefficient for the square term is negative and significant. The test at the bottom of the table indicates that *Senate3<sub>it</sub>* and the two interaction terms are jointly significant at 1%.

TABLE 9.—THE IMPACT OF ELECTION PROXIMITY ON REPUBLICANS VOTING ON ENVIRONMENTAL REGULATIONS, BY SIZE OF THE GREEN MINORITY

Dependent Variable	Vote <sub><i>ijvt</i></sub>		
	(1)	(2)	(3)
Senate3 <sub><i>it</i></sub>	-0.061*	-0.060*	-0.065**
	(0.030)	(0.031)	(0.032)
Senate3 <sub><i>it</i></sub> × Membership in Green Organizations <sub><i>j</i></sub>	0.158**	0.156**	0.171**
	(0.062)	(0.064)	(0.065)
Senate3 <sub><i>it</i></sub> × Membership in Green Organizations <sub><i>j</i></sub> <sup>2</sup>	-0.060**	-0.059**	-0.067**
	(0.025)	(0.027)	(0.027)
State controls	no	yes	yes
Year dummies	yes	yes	no
State dummies	yes	yes	yes
Vote dummies	no	no	yes
Observations	16,855	16,855	16,855
R <sup>2</sup>	0.260	0.262	0.396
Joint test for Senate3 <sub><i>it</i></sub> and interactions ( <i>p</i> -value)	0.013	0.016	0.013

The table reports coefficients of a linear probability model. Robust standard errors in parentheses, adjusted for clustering at the state level. The dependent variable *Vote<sub>ijvt</sub>* is coded as 1 when senator *i* from state *j* voted pro-environment on vote *v* in year *t*. All specifications include senator controls. The sample covers the period 1971–2012. The last row reports the *p*-value of the test. \*\*\*, \*\*, and \* indicate statistical significance at 1%, 5%, and 10%.

Figure C-8 in the online appendix shows the marginal effects for Republican senators belonging to *Senate3<sub>it</sub>* for different percentiles of membership in green groups, based on the specification of column 2 of table 9. The marginal effects are significant only for intermediate percentiles, although the effect becomes smaller and insignificant only for the top percentiles of membership in green groups. The results confirm that election proximity has a greening effect on the voting behavior of Republican senators, but only when the green minority in their constituency is of intermediate size.

We have verified that the heterogeneous effect of election proximity across constituencies are not driven by senators who switched party. As can be seen from tables C-9 and C-10, even when dropping these senators, we find that the size of the single-issue minority has a clear nonmonotonic effect on the probability that Democrats become more pro-gun and Republicans become more pro-environment as they approach reelection.

#### IV. Conclusion

In this paper, we have shown that minorities of single-issue voters can shape politicians' choices on the issues that are salient to them. The key idea is that when it comes to secondary issues like gun control, the environment, and reproductive rights, office-motivated politicians are only accountable to minorities of voters who care intensely about these issues, knowing that the rest of the electorate will decide whether to reelect them based on their stance on other policy issues.

To capture this idea, we have described a simple model in which office and policy-motivated politicians are called to support or oppose regulations on gun control, the environment, and reproductive rights during their terms in office. In this model, politicians might flip-flop, voting according

to their preferences at the beginning of their terms and in line with the preferences of single-issue minorities at the end of their terms. Election proximity should affect politicians' choices on gun control and the environment, policy issues dominated by strong minorities on one side (pro-gun and pro-environment). In particular, as they approach reelection, Democratic (Republican) politicians should become more pro-gun (pro-environment). Election proximity should have no impact on the choices of Republican (Democratic) politicians on gun control (environment), since they do not face a conflict between their policy preferences (or those of their party) and their reelection motives. Similarly, Republican and Democratic politicians should not flip-flop on reproductive rights, a secondary issue characterized by strong minorities on both sides (pro-choice and pro-life). The model also predicts that the effects of election proximity should only arise for senators who are not retiring, do not hold safe seats, and represent states in which the single-issue minority is of intermediate size.

To assess the validity of these predictions, we have studied the voting behavior of U.S. senators on legislation related to gun control, the environment, and reproductive rights. The staggered structure of the U.S. Senate, in which members serve six-year terms and one-third are up for reelection every two years, allows us to compare the voting behavior of different generations of senators, depending on how close they are to facing reelection. We obtain three main results. First, as they approach reelection, Democratic senators are more likely to vote pro-gun, while Republican senators are more likely to vote in favor of environmental regulations. As expected, election proximity has no effect on senators' voting behavior on reproductive rights. Second, Democratic (Republican) senators flip-flop on gun control (the environment), but only if they are seeking reelection (i.e., not retiring). Finally, we find evidence of heterogeneous effects across states: election proximity affects the voting behavior of Democratic (Republican) senators only when the pro-gun (pro-environment) group in their constituency is neither too small nor too large. Our results are robust to including a rich set of controls for legislators and their constituencies and exploiting variation both across and within senators.

These findings highlight that politicians systematically respond to the interests of different single-issue voters on different secondary policy issues. The influence of these voters across several issues gives credence to the argument that the multidimensionality of the policy space does not necessarily impair electoral accountability. Because single-issue voters see the policy space as unidimensional, they can use voting to punish and reward politicians for specific policies, thereby keeping them in check. Instead of a tyranny of the majority, democracies may thus be afflicted by a tyranny of the single-minded.

Our analysis suggests that U.S. members of Congress's choices on secondary issues may often diverge from what the majority of American citizens want. As we stressed in section I, a clear example of this gap is the failure of the

Senate to pass even mild gun regulations, which are supported by the overwhelming majority of the electorate. One might expect to see policy outcomes that reflect the preferences of the median voter in the sixteen U.S. states that allow for direct initiatives.<sup>16</sup> However, there are at least three reasons to believe that the outcome of such initiatives may not always coincide with the preferences of the majority of voters. First, there may be a bias in terms of which propositions end up on the ballot. This is because organizing initiatives is very costly in terms of both time and money, and single-issue voters may be more willing to incur such costs.<sup>17</sup> Second, direct initiatives are likely to suffer from a bias in turnout if single-issue voters are more willing to incur the costs of voting (e.g., spending time to register, rearranging work schedules, getting to the polls, and gathering information on the candidates). Finally, initiatives often suffer from framing effects.<sup>18</sup>

An important avenue for future research is to understand how voters' preference intensity affects the role of lobby groups. The literature has emphasized various channels through which lobbies may affect policy outcomes, for example, by offering campaign contributions to incumbent politicians (Grossman & Helpman, 1994), pledging the votes of their members (Bombardini & Trebbi, 2011), and making it easier for special interests to have access to politicians and providing issue-specific information to politicians (Blanes i Vidal, Draca, & Fons-Rosen, 2012; Bertrand, Bombardini, & Trebbi, 2014). Our results suggest that the power of single-issue lobby groups rests in the intensity of their members' preferences.<sup>19</sup> These organizations can play a key role, allowing single-issue voters to keep politicians accountable: they provide information to their members about politicians' choices on their key issue of interest; and they remind politicians that their members are willing to cast their votes based on this issue alone.

<sup>16</sup>The direct initiative process allows ordinary citizens to draft a petition in the form of a legislative bill or constitutional amendment. If the petition receives sufficient popular support, the measure is then placed directly on a ballot, without the need to first submit it to the legislature.

<sup>17</sup>Organizing an initiative is a complex legal process, involving several steps: (1) preliminary filing of a proposed petition with a designated state official; (2) review of the petition for conformance with statutory requirements and, in several states, a review of the language of the proposal; (3) preparation of a ballot title and summary; (4) circulation of the petition to obtain the required number of signatures of registered voters, usually a percentage of the votes cast for a statewide office in the preceding general election; and (5) submission of the petition to the state officials, who must verify the number of signatures. Organizing a successful initiative is also financially very costly, since it usually requires hiring specialized firms to run opinion polls before drafting the petition and to collect the required number of signatures.

<sup>18</sup>See "Gun Safety versus Gun Control," *Economist*, January 24, 2013.

<sup>19</sup>This is, for example, what was argued about the NRA in Eric Lipton and Alexander Burns: "The True Source of the N.R.A.'s Clout: Mobilization, Not Donations," February 24, 2018.

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