The Motivational Basis of Constituency Work: How Intrinsic and Extrinsic Motivations Interact

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Abstract: Behavioral economists and social psychologists have shown that extrinsic motivations can crowd out intrinsic motivations to act. This study examines this crowding out effect in the context of legislative behavior. By exploiting the federal nature of Swiss elections, we examine if response rates to requests of voters residing inside or outside a candidate's district vary based on the electoral competition candidate legislators face. We report two main findings. First, we find a high response rate among Swiss candidates (66 percent) which remains high for voters who reside outside a candidate's district (59 percent) suggesting that intrinsic motivations are a key driver of constituency effort. Second, the response to voters who reside inside a candidate's district is more pronounced for candidates confronted with a high degree of electoral competition. This suggests that extrinsic motivations are important for constituency work, but at the same time their presence might crowd out intrinsic motivations. This evidence suggests that the relationship between electoral competition and responsiveness might be less straightforward than assumed.

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1 Introduction

Legislators' responsiveness to voters is the central tenet of democratic governance. Elections provide voters with the opportunity to bend public policy to their favour, and in turn incentivize legislators to be responsive to voter needs. Assessing the extent to which elections constrain legislators has been a core focus of political science research. Although electoral considerations are widely considered crucial for legislators' constituency work (Cain, Ferejohn and Fiorina 1984; Ashworth and Mesquita 2006; Mayhew 1974), empirical studies have produced mixed results. One body of work suggests that legislator responsiveness is primarily driven by extrinsic motivations based on electoral considerations, while another body of work points out that responsiveness of legislators may be largely driven by intrinsic motivations based on an internal desire to connect to voters or a sense of duty for example (for a useful overview of the recent empirical literature see Grose 2014). Extrinsic motivation generally refers to a tendency of individuals to perform activities based on the anticipation of external rewards, while intrinsic motivation refers to behavior that is driven by an internal desire to act rather than for some separable consequence (Deci and Ryan 2000).

The debate about which motivations drive responsiveness to constituency service requests has made a revival in recent years as researchers started conducting field experiments in which simple voters messages were sent to legislators via email or letters (Butler 2014; Grose 2014). This experimental work stresses that both types of motivations are important for understanding variation in constituency effort (Butler and Broockman 2011; Dropp and Peskowitz 2012; Broockman 2013). Yet, it leaves one important element unadressed, namely how do intrinsic and extrinsic motivations interact? Social psychologists (e.g. Deci 1975; Wilson, Hull and Johnson 1981) and behavioural economists (e.g. Frey and Oberholzer-Gee 1997; Fehr and Falk 1999; Gneezy and Rustichini 2000) have demonstrated important

ways in which extrinsic and intrinsic motivations interact and in conjunction affect human behavior (for a critique see Beretti, Figuiares and Grolleau 2013). Specifically, these studies show that extrinsic motivations "crowd out" intrinsic motivations. The reasoning is that the presence of external rewards shifts the justification for an action from an internal desire to perform to an external one. This is something that behavioral economists call the *crowding out effect* (Frey and Oberholzer-Gee 1997), and social psychologists refer to it as the *overjustification effect* (Leppner et al. 1973). By presenting evidence from a field experiment with candidates for the 2015 election of the Swiss legislature, we examine how the interaction of extrinsic and intrinsic motivations affects constituency work.

To capture the importance of intrinsic and extrinsic motivations and explore the possibility of a *crowing out effect*, we compare the response rates to service requests from voters who reside within the candidate's district, in the Swiss context *in-canton voters*, to those outside the district, *out-canton voters*. The response rate to voters residing within the candidate's district (out-canton voters) captures intrinsic motivations for constituency service as these voters cannot affect the legislators' election prospects. To examine the crowding out of intrinsic motivations by extrinsic ones, we explore how the response rate to voters residing outside a candidate's district (out-canton voters) changes with the degree of electoral safety. If crowding out exists, we should find that candidates whose seats are less secure are less likely to respond to messages of voters residing outside their district (out-canon voters) compared to candidates who are more electorally safe. Less electorally safe legislators need to fight for every vote and will concentrate their efforts on service requests from voters residing within their district (in-canton voters) as only those can affect their (re-)election. While we can randomly assign the source of constituency service requests, in-canton versus out-canton voters, we cannot randomly assign electoral safety. In order to overcome this problem, we examine a variety of different operationalizations of electoral safety. All these measures yield the same result: as electoral safety decreases,

response to voters who reside within a candidate's district (in-canton voters) increases at the expense of those residing outside (out-canton voters). This finding is consistent with the notion that extrinsic motivations can crowd out intrinsic motivations for constituency work.

Overall, the evidence presented suggests that the response rate among Swiss candidates to voters' service requests is considerable (66 percent), and remains considerable even for voters residing outside a candidate's district (out-canton voters) (59 percent). Yet, we do find significant variation in response rates based on electoral safety. As the electoral safety of a seat decreases, candidates are more likely to respond to service requests of voters who reside in their own district and can affect the election outcome (in-canton voters). This latter finding is especially interesting as it extends current work on how intrinsic and extrinsic motivations might interact to affect human behaviour from the domains of economics and psychology to the context of legislative behaviour (see also Grimmer 2013). While political scientists often assume that electoral competition is good for democracy as it allows voters to incentivize legislators to act in accordance with their interests (e.g. Dahl 1971; Downs 1957; Pitkin 1967; Manin, Przeworski and Stokes 1999), our evidence provides a rather mixed assessment. Although we find that electoral incentives raise the overall levels of constituency effort legislators engage in, they also lead to more skewed responses. This suggests that the relationship between electoral competition and responsiveness might not always be as straightforward as we might expect.

Our study also allows for some important comparative insights. First, most recent field experimental evidence stems from the US context characterized by a personalised ballot structure and campaign content (for an overview see Grose 2014), an environment that makes constituency service crucially important for securing re-election. This case selection could bias evidence in favor of extrinsic motivations. An exploration of the Swiss case helps us to explore if existing findings are applicable in a wider comparative context. Moreover,

Switzerland is an interesting case as it is one of the relatively rare systems that allows for intra-party competition. It provides citizens with the possibility of changing the ordering of candidate lists. Our Swiss evidence suggests that many of the existing findings from the US context might travel to a wider setting of (European) political systems characterised by less professionalized and more party-based competition.

We proceed as follows. First, we elaborate our theoretical framework and expectations. Next, we present our research design, ethical considerations and data. Finally, we present our results and discuss their implications for the study of constituency service more generally.

2 Theoretical Framework

Responding to constituency service[1] requests is one way in which legislators can be responsive to the preferences of ordinary voters. Yet, the time constraints for constituency work can be substantial (Butler 2014), especially in systems other than the US and UK in which legislators often lack staffers and cannot rely on volunteers. Why do legislators engage in constituency work even when they may have little time and resources to do so? The literature thus far has provided two competing answers. One strand of the literature suggests that electoral incentives are crucial (Cain, Ferejohn and Fiorina 1984; Ashworth and Mesquita 2006; Mayhew 1974). Responding to voter queries is one of the easiest ways for legislators to connect to voters and cultivate a personal vote. In their classical study on the US and the UK, Cain and colleagues (1987: 213-4) for example suggest that legislator responsiveness is primarily driven by electoral incentives, especially in marginal districts. Echoing this conclusion, recent experimental work from the Texas state legislature suggests

[1]Constituency service encompasses a variety of forms of assistance that candidates provide to their constituents, such as casework, assistance with government services/agencies, or development of potential legislation among others.

that electoral incentives affect legislators' provision of legislative public goods and increases the number of bills legislators author (Dropp and Peskowitz 2012).

This explanation is challenged by authors who suggest that although electoral incentives surely exist, constituency work is more likely to be driven by the internal motivations of legislators, such as a sense of duty or an inner satisfaction. Studies of representation have demonstrated that legislators' beliefs and role perceptions are important for understanding their legislative activities (Searing 1985*a*,*b*; Norris 1997). Recently, authors have argued that responding to constituency service requests is a powerful tool through which legislators can express group norms (Butler and Broockman 2011; Broockman 2013). In his study of black legislators in the US, Broockman (2013) for example finds that they are likely to respond to black constituents even if the electoral incentives to do so are limited. In line with theories of descriptive representation, this work suggests that legislators act in accordance to group norms and beliefs by demonstrating certain group loyalties through their activities.

These two sets of explanations reflect the core motivations, intrinsic and extrinsic, that drive human behavior more generally as defined by social psychologists and behavioral economists (e.g. Deci and Ryan 2000; Benabou and Tirole 2003). Activities based on extrinsic motivations are based on instrumental considerations and the prospect of external rewards or punishments. It is a force to act in order to attain some separable outcome (Deci and Ryan 2000). Intrinsic motivations signify behaviors driven by internal rewards, such as an innate desire to fulfil psychological needs or a desire for relatedness. An intrinsic motivation to engage in an activity originates from inside the individual in order to enhance personal satisfaction or fulfilment (e.g. White 1959; Deci and Ryan 2000). Applying this distinction to the activities of legislators, we expect constituency effort to be primarily driven by extrinsic motivations when legislators respond to enhance their chances of (re-)election (Cain, Ferejohn and Fiorina 1984; Ashworth and Mesquita 2006;

Mayhew 1974), while responding to voter messages due to intrinsic motivations is mostly based on a desire to comply to internal norms about how a legislator is supposed to act or with the aim of achieving some degree of job satisfaction (Searing 1985*a*,*b*; Norris 1997). Surely, in practice these motivations need not be mutually exclusive. Yet, aiming to understand which type dominates is important as it gives us a sense of the role that electoral competition plays in constituency work and thus may inform scholarly and public debate on institutional reform.

Motivations for behaviour are difficult to measure empirically. Recent experimental work[2] from the US context aims to capture the contrast between extrinsic and intrinsic motivations by examining response rates of black legislators to service requests from black voters residing inside and outside a legislator's district (Broockman 2013). The idea here is that if a legislator is equally responsive to voter messages from voters residing within her district compared to those from outside, the behaviour of the legislator is likely intrinsically motivated as only in-district voters can affect her (re-)election prospects. We follow this approach and compare response rates to service requests from voters residing inside a candidate's district (in-canton voters) to those residing outside the candidate's district (out-canton voters). Intrinsic motivations for constituency efforts are captured by the response to requests of to voters residing outside a candidate's district (out-canton voters) as these voters cannot affect the election outcome, while extrinsic motivations are measured through the response rate to service requests of voters residing within the candidate's district (in-canton voters).

Our study goes beyond existing work to examine how extrinsic and intrinsic motivations interact. Social psychologists (e.g. Deci 1975; Wilson, Hull and Johnson 1981) and behavioral economists (e.g. Fehr and Falk 1999; Frey and Oberholzer-Gee 1997; Gneezy and Rustichini 2000) have demonstrated important ways in which different types of motivations

[2]For recent non-experimental work see Butler, Naurin and Öhberg (2017).

might affect each other. Specifically, they demonstrate that extrinsic motivations "crowd out" intrinsic motivations. The presence of external rewards is argued to shift the justification for an action from an internal desire to perform to an external one. This is referred to as the *overjustification effect* in social psychology (Leppner, Greene and Nisbett 1973) or the *crowding out effect* in behavioral economics (Frey and Oberholzer-Gee 1997). A substantial body of experimental evidence suggests that the presence of external rewards or punishments can sometimes be in conflict with intrinsic motivation (for a more critical perspective see Beretti, Figuiares and Grolleau 2013).

We examine the interaction between intrinsic and extrinsic motivations, specifically we expect that candidates' intrinsic motivations to respond to voter messages to decrease as the extrinsic motivations to do so increase. We test this expectation by examing how response rates to voters who live outside a candidate's district, here out-canton voters, change when electoral competition intensifies. A burgeoning theoretical and empirical literature demonstrates that electoral safety affects constituency service (e.g. Mayhew 1974; Fiorina 1977; Cain, Ferejohn and Fiorina 1984; Heitshusen, Young and Wood 2005; Ashworth and Mesquita 2006; Dropp and Peskowitz 2012). The argument is that (re-)election is a necessary condition for achieving any other legislative goal. The uncertainty about (re-)election prospects forces legislators to allocate at least some of their time and resources to constituency efforts in the expectation that this will help them to secure enough votes. When the marginality of the seat increases, we expect these efforts to be more intense. Proportional electoral systems with open-lists, like the Swiss case examined here, offer incentives to cultivate a personal vote (Carey and Shugart 1995). Intra-party competition is key as a high list placement is one of the most decisive factors for (re-)election. Candidates thus want to distinguish themselves from party peers in order to secure (re-)election. We explore the possible crowding out of intrinsic motivations due to the presence of extrinsic motivations by examining response rates to voters who live

outside a candidate's district (out-canton voters) among candidates who are electorally safe (placed higher on the party list) to those of candidates who are less electorally safe (placed lower on the party list). When our intuitions are correct, we should find that as electoral safety decreases, the response rate to voters who reside outside a candidate's district (out-canton voters) should decrease, while response rate to voters inside a candidate's district (in-canton voters) should increase. A candidate who has a lower position on a party list, and less certain that she will get (re-)elected, is expected to fight for every vote that can aid her (re-)election. By consequence then, the time and effort she will spend on constituency work will be geared towards those voters that can actually make an electoral difference, i.e. voters inside her district (in-canton voters). The strategic incentives to respond to voters outside her district (out-canton voters), who cannot affect her (re-)election, should be significantly lower.

3 Experimental Set-up

In order to examine our crowding out hypothesis, we conducted a field experiment with candidates in the elections for the Swiss legislature in 2015 who were contacted by Swiss voters with a short, easy request. We gathered the email addresses of candidates from the five largest parties for the 2015 election via internet searches in order to mimic the search activities of ordinary citizens. We recruited volunteers to send emails to these current and prospective members of the Swiss Parliament (MPs and candidates) asking them about information about regulations concerning lobbying.

We chose "lobbying" as the topic of the constituency emails for several reasons. First, it is a timely topic in Swiss politics that also geared up considerable media attention during the campaign. Starting with the so-called "Markwalder affair" in spring 2015 in which the efforts to influence Swiss parliamentarians by the regime of president Nursultan

Nazarbayev of Kazakhstan were uncovered, Swiss media devoted considerable time to reporting about the topic and making lobby-data accessible to ordinary citizens. Second, the topic is not covered by any other source, e.g. it is not covered by the Voting Advice Application (VAA) device for Switzerland. So, if citizens want to know something about a candidate's stance on the topic, they have to contact the candidate personally. Third, the topic is not structured along party lines in Switzerland as there are MPs and candidates fighting for tighter regulation and against any transparency in lobbying on both sides of the aisle.

Our sample comprises of all candidates from the five largest parties running in the elections for the Swiss legislature in 2015. Since we are interested in the effects of electoral competition, we cannot limit our sample to incumbent MPs only. Unlike the US context characterized by a clear incumbency advantage, the turnover rate in the Swiss parliament is quite substantial, namely one third. This means that new candidates have a realistic chance of making it to parliament. For these reasons, we include candidates from the five largest parties in Switzerland that field candidates in all cantons. This gives us about 1,000 potential subjects[3] and provides us with the statistical power necessary to examine our expectations. Importantly, our robustness checks show that all results presented in the next section hold when we control for incumbency status or exclude all incumbents from the analysis (see Tables A10, A11 and Figures A8, A9 in the Appendix).

In order to avoid the deception accompanied by the use of fake email aliases, we have recruited 86 participants from 19 cantons[4] who were eligible to vote in the 2015 Swiss elections and asked them to send emails in their own name and native language to randomly

[3]In all about 3800 compete, but the vast majority of these are used to stuff lists or run within a specific canton only.

[4]Due to the treatment structure we could reach candidates from 22 cantons with this set-up.

selected candidates.[5] Mostly these were French or German speaking[6] university students who were informed about all the details of the experiment and consented to participate. In return they received 10 Swiss Francs. The experiment was conducted between the 2nd-4th of October 2015, about three weeks before the election.

Participants sent copies of their correspondence to the project email address and forwarded any reply they received from a candidate. In addition, they were free to communicate further via email (or otherwise) with the candidate they contacted, but were asked not to disclose the fact that the initial email was part of an experiment. If they had not heard back from the candidate by Election Day, they sent an email stating that "the candidate has not responded" to the project email address. In accordance with existing practice, we do not count automatic replies as answers (e.g. Butler 2014). When a candidate first sent an automatic reply, but later provided a substantive response, we counted the second response as the response.

An issue might be that the answers come from the staff rather than the candidate herself. This issue is not very relevant in the Swiss case as electoral campaigns are not very professionalized and candidates usually do not employ any staff. According to the official Swiss Election Study candidate survey from 2015 only 10 percent of candidates report to employ staff (SELECTS 2016). Most MPs do not rely on staff to aid with their work. We did check all answers manually and did not find any answers sent by assistants or staff.

We operationalize intrinsic and extrinsic motivations by varying the origin of the sender. We randomly allocated candidates to receive either an email of a voter living in the same electoral district, i.e. an in-canton voter, or a voter living outside, i.e. an out-canton

[5]See Butler, Karpowitz and Pope (2012) for a similar setup.

[6]Switzerland is a multilingual country. About 66 percent speak German, 23 percent French and 8 percent Italian. For the purpose of our experiment, we split the cantons by language groups so that candidates only receive emails in their mother tongue. The Italian speaking population predominantly resides in one canton so cannot be included in our experiment.

voter, who is not eligible to vote for the candidate (see also Broockman 2013).[7] The residential municipality of the sender was mentioned in the opening statement of the email.[8] We also varied whether the email mentioned that the sender voted for the same or a different party in the last elections. Switzerland employs an open-list proportional electoral system, personal votes can also come either from your own list by the cumulation of a candidate's name or from other lists, so called "panachage votes" (Selb and Lutz 2015). As a consequence, both treatment conditions, in- or out-party, tap into extrinsic motivations as both in-party and out-party voters can be very beneficial for cultivating personal vote. Hence, we expect to find no significant differences between these treatments.

The text of the email is presented in the box below, the elements that were manipulated are shown in brackets.

> Dear [candidate name]
>
> My name is [*name of voter*] and I live in [*municipality of voter*]. There are elections coming up and I am making up my mind whom to vote for. Last time, I voted [*did not vote*] for your party.
>
> Different topics cross my mind but I particularly care about lobbying. Related to this topic, I have a question for you. The answer will be important for my decision whom to vote for. Are you in favour of tighter regulation regarding lobbying in the National Council?
>
> Thank you very much in advance

[7] One could ague that parties' central offices might ask their candidates to respond to all of emails, including out-canton ones, in order to help other candidates from the same party. Yet, in the Swiss context this is not likely as cantonal parties act highly independent because federal party organisation is weak.

[8] The "out-canton" condition included only neighboring cantons in order to render this scenario more credible.

[*Name of voter*]

In order to test our expectation that extrinsic motivation crowd out intrinsic ones, we explore heterogenous treatment effects based on the electoral safety of an individual candidate. Unfortunately, we cannot randomly assign electoral safety. We aim to measure it by relying on observational measures that we interact with our treatment.[9] We employ two different measures. Although neither one is ideal in and off itself, by cross-validating them we aim to increase the confidence in our results. Our first measure *Electoral Safety* is based on a comparison of individual election results while the second captures individual list places. Electoral safety compares a candidate's election result, i.e. the number of votes received[10], to the result of the candidate elected with the least amount of votes on the same list. We use the following formula to construct an electoral safety index: $safety = \frac{100}{votes_{elec}} \times votes_{cand}$, where $votes_{elec}$ is the number of votes of the candidate elected with the least votes. $votes_{cand}$ is the number of votes the candidate of interest obtained. This index takes a value greater than 100 if the candidate is elected with a better result than another elected candidate on the same list. It is lower than 100 if the candidate does not win a seat (gets less votes than the candidate elected with the least amount of votes), and it is exactly 100 if the candidate is the candidate elected with the least votes. In theory, electoral safety would be 0 if a candidate does not receive a single vote. Empirically, the lowest score we observe is 2.3.[11] Since only 16 percent of the subjects in our dataset obtained a seat in the parliament, most candidates obtain a value lower

[9]Dropp and Peskowitz (2012) use an instrumental variable approach to measure electoral safety. This is not possible in our case as sub-national elections are not held at the same time and thus no comparable instrument exists. Furthermore, it is unclear how party election results translate into election prospects for single candidates in a multiparty setting.

[10]Source Federal Statistical Office.

[11]This candidate from the canton of Basel-Stadt received 168 votes. The candidate elected with the least votes received 7,233 votes. Hence, $safety = \frac{100}{7'233} \times 168 = 2.3$.

than 100. The average electoral safety is 60 and the maximum score is 185 (see density plot A2). We also explored a non-linear relationship between electoral safety and response rates as one could argue that response rates are highest closest to the electoral threshold. We find some weak evidence supporting this idea, see Appendix A8.

We use a second measure as there might be a concern that the first one measures electoral safety after the election and could potentially capture other elements such as the performance of the other candidates on the same list or special events (e.g. gaffes or favourable news coverage). Our second measure Ballot Position is based on the positions of candidates on the party list on the ballot, the idea being that higher positions on the ballot are more electorally safe than lower ones. Since this will also depend on district magnitude, we divide ballot position by the number of seats in each canton and standardize our measure so it can take values between 0 (bad ballot position) and 1 (good ballot position). Please note that not all lists in Switzerland are non-alphabetical, so this measure is inferior to the electoral safety variable discussed above in terms of sample coverage.

We test the robustness of our ballot position measure in two ways. First, we examine the subset of lists that were ordered alphabetically. In these instances the ballot position is random and should not be a good predictor of electoral safety. When we use this ballot position measure based on alphabetic order, we should find no effects and this is indeed what the findings in Appendix A8 suggest. Second, we matched the data from the field experiment with additional information about the candidates taken from the smartvote candidate survey (age, gender and region).

4 Ethical Considerations

Field experiments with legislators raise several ethical concerns that are important to consider. First, field experiments should ideally avoid deception. Recent scholarship has

raised concerns about deliberately deceiving public officials (Butler, Karpowitz and Pope 2012). We share this concern and employ a experimental set-up that relies on real voters who use their own name and residence as well as send emails from their own mail accounts rather than aliases. These voters participated on a voluntary basis and their participation was incentivized (they received 10 Swiss Francs). Arguably, using real voters is more demanding in terms of organization, but we feel that this is outweighed by the advantage of avoiding deception. As Dickson (2011) suggests there is a difference between withholding information from and actively deceiving subjects, our experiment withholds, but does not deceive.

Second, the experiment was designed to place only a minimal burden on legislator's time. The service requests sent by email were short, and asked information about a single and specific topic that had been widely in the news. Therefore providing an answer should be fairly straightforward for a candidate who wished to respond.

Third, to minimize any harm to subjects included in this study, we refrain from referring to any particular candidate. The replication data does not include information that could reveal the identity of single candidates. While we as researchers are not interested in inference about individual candidates, others may not appreciate this limitation. Also, as Broockman (2013: 527) mentions such a precaution is particularly relevant in the context of field experiments with public officials as it reduces potential costs for future researchers. While it is generally agreed that public officials are considered less vulnerable than ordinary citizens, the fact that they control research budgets potentially complicates the matter (see also McClendon 2012). Finally, we obtained ethical approval for our experiment from the University of Geneva (School of Social Sciences ethical approval committee).

5 Data

The Swiss political system is in many ways comparable to the institutional setting of the United States. There are two parliamentary chambers at the federal level, the *Nationalrat* which is the equivalent to the US House of Representatives and the *Ständerat* which is the Swiss counterpart of the US Senate. The 200 members of the Nationalrat are elected according to a proportional electoral system with preferential voting options.[12] The Members of Parliament are elected in electoral districts which correspond to the Swiss cantons. The number of seats per canton is proportional to the number of voters, with a minimum of one seat per canton. Consequently, MPs are only accountable to the voters of their electoral district, i.e. their canton of origin. Elections are called every four years and no options for earlier election dates exist.

Currently, 10 parties are represented in the lower Chamber of parliament. We contacted candidates from the five largest Swiss parties representing over 80 percent[13] of the vote, namely the Swiss People's Party (SVP), the Social Democratic Party (SP), the Liberals (FDP), the Christian Democratic Party (CVP), and the Green Party (GPS). Except for the Green party, they competed in all electoral districts.[14] Moreover, the parties represent different political ideologies ranging from the left (SP, GPS) to the right (SVP). The FDP and the CVP are center parties.

Based on these criteria we compiled a list with 1,018 potential subjects for our experiment. 268 of the potential candidates were not contacted due to volunteers that dropped out of the study. In 13 cases we received mail delivery errors. In 77 cases we were not able

[12]Citizens cast their vote for a party list, but have the option to change the order of individual candidates on that list.

[13]We limit the analysis to large parties in order to avoid including too many stuffing candidates. Nomination on a major party list is mostly only open for individuals with previous political experience, e.g. in regional or local parliaments.

[14]The Green party did not compete in the canton of Graubuenden.

to find an email address or an online contact form.[15] This leaves us with a total number of 660 contacted candidates.[16] An overview of the social and political characteristics is provided in Appendix A2.

To assess the integrity of the randomization process, we performed a series of balance checks (Appendix A1). The aim of these are to demonstrate that the correlation between the covariates and the assigned treatment (in-canton/ out-canton) is not greater than what we would expect based on chance. We do not find that the mean values of the covariates differ systematically between the two groups. Furthermore, we cannot predict the assignment to the treatment based on the covariates.[17] Finally, we simulate a large number (5,000) of random treatments and run logistic regressions with the usual set of input variables. The collection of the log likelihood statistics of these models represents the sampling distribution under the assumption that the assigned treatment is perfectly balanced. By locating the log likelihood statistic of the model predicting our actual treatment in this distribution, we can then test if the imbalance in our treatment is larger than we would expect based on chance (see Gerber and Green 2012: 108). This is not the case. In sum, these tests increase our confidence that the assignment to the treatment is indeed balanced.

Next, we provide some information on the data structure and the descriptives. Table 1 gives a first overview of the results. The overall response rate was rather high with 66 percent.[18] Even when we consider incumbents only (as most previous studies do), the response rate remains high, (66 percent), and exceeds the rates found in many US

[15] We restricted the search time to a maximum of 5 minutes as we try to mimic the search of an ordinary citizen.

[16] To be clear, each candidate received one email.

[17] A series of log likelihood ratio tests reveal that models containing the main covariates of the analysis (age, sex, language, electoral safety, and party of the candidate) do not predict the assignment to the treatment better than an empty model (Tables A4 and A3).

[18] We cross-checked the validity of our measures with survey-based measures (e.g. importance of constituency communication) and the results show a considerable degree of overlap, see Appendix A4.

Table 1: Response rate

Total	66% (434)
Incumbent	
No	65% (374)
Yes	67% (60)
Elected	
No	65% (352)
Yes	70% (82)
Gender	
Female	68% (177)
Male	64% (257)
Language	
German	69% (367)
French	52% (67)
Political camp	
Left	72% (197)
Center	62% (167)
Right	60% (70)

Note: N in parentheses.

studies (Costa 2017). One reason for this high level of responsiveness could be the electoral campaign context that makes candidates especially responsive, or the specificities of Swiss political culture.[19] The political culture in Switzerland, characterized by frequent use of direct democracy for example, could be favourable towards maintaining close linkages to constituencies and influence the role perception of Swiss politicians (e.g. Searing 1985*b*). Women respond slightly more often to constituency requests as did German speaking politicians. When it comes to political ideology, we see a tendency for leftist politicians to answer more frequently.

Lastly, we looked into the answers in more detail. Figure 1 depicts how long it took for candidates to respond (top panel). While half of all answers were sent within 15 hours, few respondents replied only after two weeks (maximum 451 hours). A look into the length of the answers is also interesting and visualized in the bottom panel in Figure 1. About 10 percent of the responses that were less than 32 words long, which is barely more than

[19]The culture aspect is difficult to evaluate as this is the first ever field experiment with Swiss politicians.

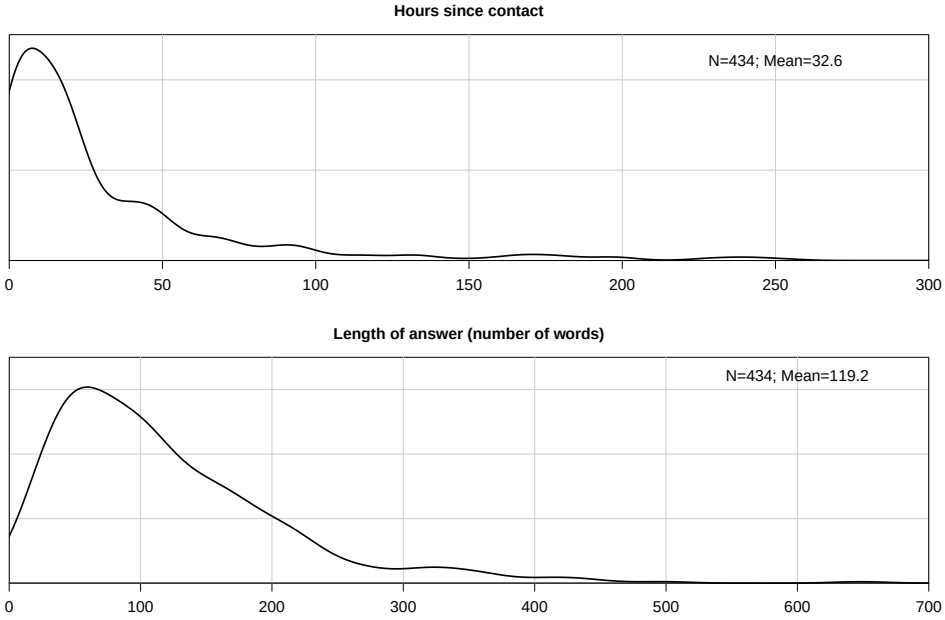


Figure 1: Kernel density distribution of answering time and length of answer

a single line answer, while some politicians wrote very long responses of 300 words and more. This is equivalent to nearly one page of text.

6 Empirical Model

Our outcome variable indicates if the candidate answered a voter's request or not. In order to approximate this binary variable, we estimate logistic regression models where candidates (i, for $i = 1, \ldots, I$) are nested in their electoral district (j, for $j = 1, \ldots, 22$). The basic model is specified as follows:

$$\Pr(y_i = 1) = \text{ logit}^{-1}(\beta_0 + \beta_1 canton_i + \mu_{j[i]}) \tag{1}$$

Where a candidate's responsiveness is a function of the cantonal treatment variable. $canton_i$ is 0 if the the request was sent from a voter living outside of the candidate's electoral district and takes the value 1 if the voter and the candidate live in the same

district. β_0 is the global average for the candidate to answer to the email. $\mu_{j[i]}$ covers the differences between the 22 random intercepts[20] and the fixed global estimate β_0.[21]

The full model is specified as follows:

$$\Pr(y_i = 1) = \text{logit}^{-1}(\beta_0 + \beta_1 canton_i + \beta_2 safety_i + \beta_3 canton_i \times safety_i + \boldsymbol{\gamma}\mathbf{X_i^T} + \mu_{j[i]}) \quad (2)$$

Where we introduce electoral safety ($safety_i$) and an interaction term between electoral safety and the in-/out-canton treatment ($canton_i \times safety_i$).

A balanced sample generates unbiased estimates of the treatment effect (Gerber and Green 2012: 95). Nevertheless, we introduce age, sex, party affiliation, the party treatment, and residence of the candidate to the equation (summarized by $\mathbf{X_i^T}$).[22] This covariate adjustment effectively reduces disturbance variability and yields a more precise estimate of the treatment effect (Gerber and Green 2012: 104). Due the non-linearity of the logistic curve, regression coefficients are hard to grasp. We thus rely on predicted probabilities and differences between predicted probabilities (first differences). In order to estimate these values we apply a simulation-based approach (King, Tomz and Wittenberg 2000).

7 Results

We begin by inspecting the response rates of the four treatment groups in Figure 2. The descriptive analysis yields two interesting observations. First, the response rates to voters residing within the candidate's district (in-canton voters) are higher than those for voters residing outside the candidate's district (out-canton voters), but the response rates for

[20] This higher level variance term captures also potential cantonal differences caused by i.e. varying district size.

[21] Since the individual level variance is already defined by the underlying probability, the context level error term ($\mu_{j[i]}$) replaces the individual level error term (ϵ_i).

[22] In addition, we ran a robustness test including incumbency status as covariate. The results remain stable (Appendix A9).

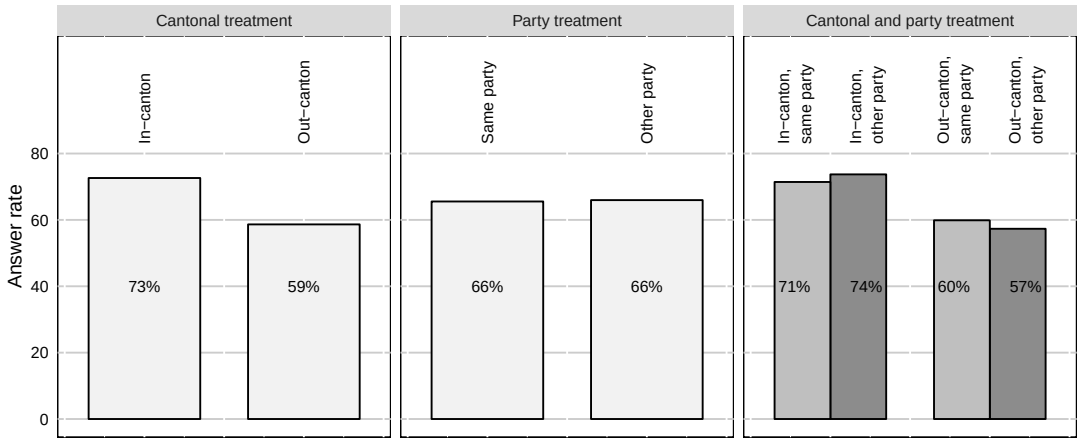


Figure 2: Treatments and response rates

out-canton voters is high across treatments. This suggests that a considerable number of candidates are intrinsically motivated. Given the higher rates of response to voters from a candidate's own district (in-canton voters), extrinsic motivations also seem important. This replicates existing findings from the US context (Grose 2014). Second, responsiveness does not seem to vary with a voter's past election behaviour. We find little difference in the response rates to service requests of those who indicate that they have previously voted for the candidate's party or those that state that they voted for another party, both for in- and out-canton voters.

Figure 3 shows the response rates for in- and out-canton voters by electoral safety. In this Figure we regrouped electoral safety into a low, medium and high level. High electoral safety indicates that the candidate has met the electoral threshold. Candidates who did not meet the threshold were split into equally sized groups (low and medium). The Figure shows that response rates increase with electoral safety. More importantly, this increase is more pronounced for out-canton voters. The more electorally safe a candidate is, the higher the response rate is to service requests of out-canton voters, and vice versa. These descriptive results provide some initial support for our expectation that extrinsic

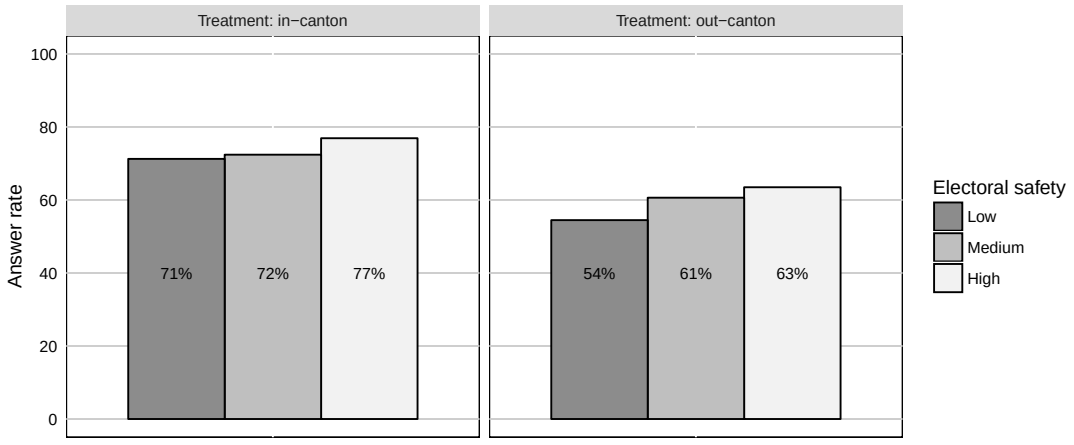


Figure 3: Cantonal treatment, electoral safety and response rates

motivations for constituency service may crowd out intrinsic ones. Let us now turn to a more thorough analysis of our crowding out hypothesis.

Table 2 summarizes the regression analyses. The first model (M_1) contains only the experimental treatment (in-canton/out-canton). The coefficient is positive and significant, indicating higher responsiveness to voter requests that originate from within the electoral district of the candidate. Compared to candidates receiving voter messages from outside their districts, candidates receiving messages from within their districts are 0.14 more likely to respond.[23] This effect remains robust in terms of magnitude and significance for various covariate adjustments (Appendix A5). These additional models moreover show that candidate responsiveness does not vary as a function of the party-treatment, which is in line with our theoretical consideration that it should not make a difference whether a constituency service request comes from a voter who previously supported the party or not. However, electorally save candidates are more likely to be responsive than electorally vulnerable candidates.

[23]The 95-percent confidence interval ranges from 0.052 to 0.224. See visualization of the predicted probabilities in Appendix A5.

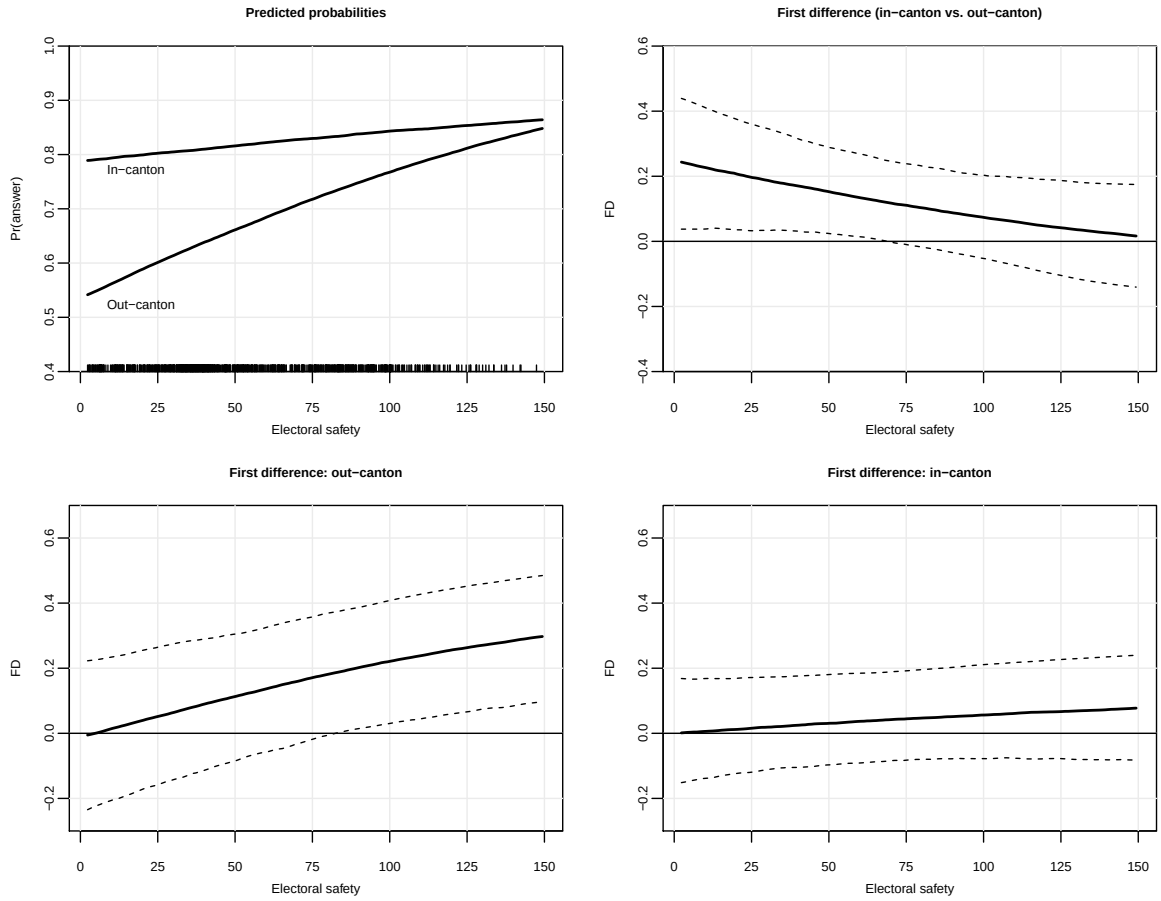
Table 2: RI logistic regression (outcome: answer)

	M_1	M_2	M_3	M_4
Treatment: in-canton	0.626	0.957	0.956	1.125
	(0.169)	(0.359)	(0.360)	(0.369)
Treatment: other party			0.016	0.029
			(0.170)	(0.172)
Electoral safety		0.007	0.007	0.010
		(0.004)	(0.004)	(0.004)
Electoral safety × in-canton		−0.005	−0.005	−0.007
		(0.005)	(0.005)	(0.005)
Age				0.004
				(0.008)
Sex: male				0.001
				(0.182)
Party of candidate: FDP				−0.484
				(0.257)
Party of candidate: CVP				−0.485
				(0.277)
Party of candidate: SVP				−0.837
				(0.291)
Party of candidate: GPS				0.056
				(0.294)
Language: French				−0.721
				(0.218)
Constant	0.356	−0.055	−0.063	0.664
	(0.138)	(0.267)	(0.286)	(0.544)
Variance: candidate	1.000	1.000	1.000	1.000
Variance: Canton	0.081	0.084	0.084	0.007
N	660	660	660	660
Group: Canton	22	22	22	22
$\ell\ell$	-416	-414	-414	-403
AIC	838	839	841	831

Note: Standard errors in parentheses. Reference categories: female (sex), SP (party of candidate), German (language).

The second model includes the cantonal-treatment, electoral safety and an interaction term between the two variables. In line with our expectation, the positive effect of receiving an in-canton mail on candidate responsiveness should decrease as a function of growing electoral safety. The negative sign of the interaction term shows that this is indeed the case. This finding holds if we add the party-treatment (M_2) or indicators for the candidate's age, gender, party affiliation and language to the model (M_3). As has been pointed out repeatedly, p-values of multiplicative interaction coefficients are misleading and not indicative of the the validity of an interaction hypothesis (Brambor, Clark and Golder

2006; Kam and Franzese 2007). We thus turn to the visualization of the effects of the full model (M_4).



Top, left: Probability to answer to citizens' requests with varying levels of electoral safety and cantonal treatment assignment. *Top, right:* First difference between the treatments across different levels of electoral safety. *Bottom, left:* First difference of different levels of electoral safety vs. minimal safety in the out-canton treatment. *Bottom, right:* First difference of different levels of electoral safety vs. minimal safety in the in-canton treatment. *Note:* Dotted lines = 95-percent confidence interval.

Figure 4: Responsiveness spit by cantonal treatment and across electoral safety

The top left panel in Figure 4 depicts the predicted probability to answer a citizen request with varying levels of electoral safety. Each tick on the x-axis stands for a candidate. While most candidates (543) did not meet the electoral threshold, 117 candidates got elected giving us enough statistical power to examine the whole range of electoral safety. The effect

of the cantonal-treatment is conditioned by electoral safety. For candidates with minimal levels of safety, the predicted responsiveness is 0.24 lower in the out-canton condition than in the in-canton condition. The gap between the in- and out-canton condition closes with increasing levels of electoral safety. If electoral safety is at 150, i.e. the candidate got 50 percent more votes than necessary to gain a seat, the difference between the two conditions is nearly zero (0.01). Moreover, when we omit highly safe candidates by only looking at up to 90 percent of the safety distribution, the difference is already down to about 0.07.[24] The top right panel in Figure 4 shows the difference of predicted probabilities of the two conditions. Until a level of electoral safety of over 60, this corresponds to roughly 53 percent of the candidates in the sample, the cantonal-treatment produces significant differences in responsiveness.[25] This means that candidates with low levels of electoral safety seem much more receptive to extrinsic motivations than candidates at moderate or high levels of safety. The bottom panels delve deeper into the conditioning role of electoral safety on candidate responsiveness. More specifically, they show how much electoral safety has to increase from its minimum value in order to produce a significant change in predicted probability to answer to citizens' requests. In the out-canton treatment, electoral safety has to increase to a level of 80 to produce significant effects. In the in-canton treatment no realistic change in electoral safety produces significant effects. This bolsters the idea that electoral safety affects responsiveness in the out-canton, but not in the in-canton scenario. Appendix A6 presents visualizations of M_2 and M_3 in Table 2. The findings remain robust regardless of which covariate adjustment we perform.

We performed extensive tests to ensure the robustness of these findings. Our alternative measure of electoral safety captures the positions of candidates on the party list the idea

[24]Based on our arguments one could speculate that the response rate for very safe candidates could even decrease again compared to those around the electoral threshold. While we lack the statistical power to analyze such a curvilinear effect in more detail, a tendency is visible in the non-linear specification of the model (Appendix A8).

[25]This is also confirmed by a t-test contrasting the predicted probabilities of electoral safety 0 vs 60.

being that higher positions on the ballot are more electorally safe than lower ones and can take values between 0 (bad ballot position) and 1 (good ballot position). Appendix A7 presents a model where the ballot position replaces the electoral-safety variable. The result of this exercise is very similar to the findings presented above. If candidates with lower ballot position are contacted from outside their district, their probability to engage in constituency service is more than 0.2 lower than if they are contacted from within their canton. This difference completely vanishes if the candidate has a higher ballot position. We further test the ballot position measure more in-depth by examining a subset of lists that were ordered alphabetically (65 cases). In these cases, the ballot position is random and we should not be able to replicate the moderating effect of ballot position on the cantonal treatment. To this end, we run a simple regression model where we aim to predict response based on the treatment, list position (now based on alphabetic order), and an interaction term between list position and treatment. The results show that alphabetic list position does not help us predict responses (Table A8).

A second robustness test introduces the squared electoral safety to relax the assumption of a linear moderating effect (Appendix A8). The results indicate that the effects of electoral safety are indeed slightly non-linear, in particular for in-canton emails. The findings regarding the crowding out effect remain robust. Third, we run a model that adjusts for incumbency status (Appendix A9). This test deals with the concern that the effects are largely driven by well-known officeholders who respond to emails because they are more in the spotlight and might have a professional staff at hand. However, our findings do not lend empirical support for this assumption. Similarly, our results hold when incumbents are excluded from the analysis altogether (Appendix A10). Fourth, we run a linear probability model to approximate the interaction effects electoral safety and the cantonal-treatment (Appendix A11). Again, the results remain robust despite this alternative modeling strategy. Fifth, we tested if responsiveness depends on the sender of

the message (Appendix A12). We find no evidence that the sex or the name of the voter affects the probability of candidates to respond to a service request. However, requests from voters residing in the canton of Valais were answered less often in general. While we are not sure why this is the case, we investigated this further by re-running the analysis without the candidates that where contacted by voters from this district. The main effects reported earlier remain robust against the exclusion of these voter messages. Finally, although during the course of the field experiment we did not detect signs that emails where answered by staff members, we test if the main findings hold when we exclude the candidates who reported to have paid staff members (Appendix A13). The results remain robust.

8 Conclusion

The reason why some legislators are more responsive to voters than others is an important topic of debate amongst political scientists. Existing work suggests that legislators are either primarily vote-seekers, and responsive to voters based on instrumental concerns relating to (re-)election. The alternative view is that legislators respond to voters based on their adherence to group norms or role perceptions. So far the literature has treated extrinsic and intrinsic motivations for constituency work as either isolated or mutually exclusive (for an exception see Grimmer 2013). Inspired by key insights about the unintended consequences of the presence of extrinsic motivations found in social psychology and behavioral economics, we explored the interaction between both sets of motivations. Our field experiment conducted with candidates for the 2015 election to the Swiss legislature adds to the current state-of-the-art not only by examining the way in which intrinsic and extrinsic motivations interact, but also by presenting experimental evidence for

all candidates running for political office, both incumbents and challengers, in a less personalised and money-driven campaign context compared to the US.

We report several important findings. First, our results suggest that responsiveness among Swiss candidates is high and comparable to US legislators. Given the more personalised ballot and campaign environment in the US compared to low levels of professionalization in the Swiss context where parties rather than candidates dominate the campaign, this finding is remarkable. It supports the idea that the extensive US evidence on constituency efforts to date is more widely applicable and qualifies US work as well. Second, we find higher response rates to messages from voters residing in the candidate's district compared to those residing outside. As only in-district voters can affect election outcomes, this finding suggests that extrinsic motivations are crucial for understanding responsiveness to constituency service requests. That said, the comparable high response rates to messages of voters residing outside a candidate's district indicates that intrinsic motivations matter as well. Third, we also find that the strategic response to voters from the candidate's own district is most pronounced among those who face a high degree of electoral competition. This latter finding suggests that when the strategic incentives for constituency effort increase, that is to say when electoral competition increases, extrinsic motivations for constituency work seem to crowd out intrinsic motivations. Although we cannot randomly assign electoral safety and therefore need to be somewhat cautious about our results, these effects are robust against a variety of different ways to tap into the electoral safety candidates face.

This latter finding extends work about crowding out effects from social psychology and behavioral economics to the realm of legislative behaviour. Although we report this in the context of constituency work, it should be expected to affect the activities of politicians more generally. This is important as contemporary democratic theory suggests that electoral competition makes it more likely that politicians will be both sympathetic

an responsive to voters' needs (see for example Dahl 1971; Downs 1957; Pitkin 1967; Manin, Przeworski and Stokes 1999). Although our evidence by no means refutes the claim that electoral incentives can increase the responsiveness of legislators, quite the contrary, we do show that this increase also heightens the bias in responsiveness. Legislators are more likely to respond to those voters that can positively affect their election outcome, while ignoring others. Our evidence may help to inform practitioners about the possible drawbacks associated with institutional reforms designed increase electoral competition. Our evidence suggests that when it comes to constituency work electoral competition may constitute somewhat of a double-edged sword.

A1 Balance Tests

Table A1 summarizes the main variables by treatment (in-canton, out-canton). This analysis does not reveal significant differences in the characteristics of the candidates between the treatments.

Table A1: Candidate characteristics by treatment

	In-canton	Out-canton	Welch's t-test
Treatment			$p = 0.352$
Same party	52% (167)	48% (157)	
Other party	48% (161)	52% (175)	
Electoral safety			$p = 0.112$
Mean [Std. Dev.]	65[32]	60[34]	
Age			$p = 0.076$
Mean [Std. Dev.]	48[10]	47[11]	
Gender			$p = 0.952$
Female	40% (129)	60% (133)	
Male	40% (195)	60% (203)	
Party			
FDP	22% (72)	23% (78)	$p = 0.762$
CVP	16% (51)	20% (68)	$p = 0.133$
SP	26% (85)	23% (78)	$p = 0.370$
SVP	18% (59)	17% (58)	$p = 0.750$
GPS	18% (57)	16% (54)	$p = 0.602$
Language			$p = 0.974$
German	81% (261)	81% (271)	
French	19% (63)	19% (65)	
Nr. of seats			$p = 0.837$
Mean [Std. Dev.]	17[11]	17[11]	

Note: N in parentheses. *Reading example*: 22 percent of the candidates in the in-canton treatment are members of the FDP. In the out-canton treatment 23 percent of the candidates are member of the FDP.

We further run several random intercept logistic regressions with the treatment as outcome variable (Table A2). None of the variables in M_1, M_2, or M_3 has a significant impact on the treatment assignment. To test if the unrestricted models M_1, M_2, M_3 perform better than the restricted (empty) model M_0, we perform likelihood ratio tests. The results of these tests (Table A3) indicate that none of the unrestricted specifications fit the data significantly better than the empty model.

Table A2: RI logistic regression (outcome: treatment in-canton)

	M_0	M_1	M_2	M_3
Treatment: other party		0.189	0.181	0.178
		(0.160)	(0.162)	(0.162)
Age			−0.014	−0.014
			(0.008)	(0.008)
Sex: male			0.016	0.014
			(0.170)	(0.170)
Party of candidate: FDP			0.293	0.280
			(0.240)	(0.241)
Party of candidate: CVP			0.459	0.412
			(0.254)	(0.262)
Party of candidate: SVP			0.166	0.223
			(0.258)	(0.268)
Party of candidate: GPS			0.032	−0.022
			(0.255)	(0.266)
Language: French			0.077	0.084
			(0.316)	(0.312)
Electoral safety				−0.002
				(0.003)
Constant	−0.035	−0.132	0.249	0.371
	(0.138)	(0.163)	(0.567)	(0.586)
Variance: candidate	1.000	1.000	1.000	1.000
Variance: Canton	0.161	0.172	0.182	0.171
N	660	660	660	660
Group: Canton	22	22	22	22
$\ell\ell$	-454	-454	-450	-450
AIC	912	913	920	921

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).

Table A3: Likelihood ratio test (M_1, M_2, M_3 vs. M_0)

M_1 vs. M_0	$\chi^2(1) = 1.395$	$p = 0.238$
M_2 vs. M_0	$\chi^2(8) = 8.611$	$p = 0.376$
M_3 vs. M_0	$\chi^2(9) = 9.187$	$p = 0.420$

Note: Change in degree of freedom in parentheses. Models are reported in Table A2.

In a third step, we test if, for a set of covariates, the imbalance is greater than we would expect from chance. This is done in two steps (see Gerber and Green 2012: 107): (i) First, we simulate 5,000 random treatments and predict each treatment with the variables in M_3 (Table A2). We collect all log likelihood statistics, which represent "the exact sampling

distribution under the null hypothesis that no covariates have any effect on the assigned treatment" (Gerber and Green 2012: 107-108). In a second step, we take the log likelihood of the model fitting the actual treatment (-450, see M_3 in Table A2) and find the p-value by locating it in the sampling distribution. Figure A1 visualizes the density plot of the simulated log likelihoods and the position of the actual test statistic (purple line). The p-value of 0.09 indicates that the imbalance in our treatment is not larger than what we would expect from chance alone.

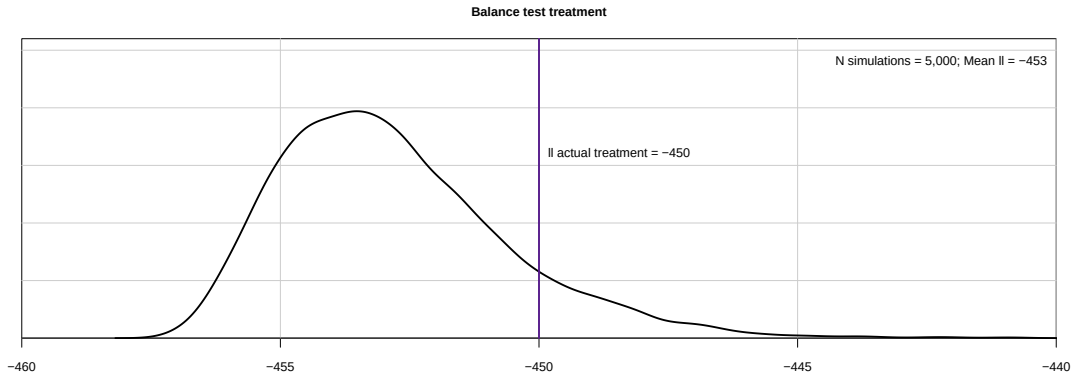


Figure A1: Density plot of simulated log likelihoods and the log likelihood of the actual treatment (M_3 in Table A2, purple line)

In sum, these tests show that there are no alarming differences in the distribution of the main variables between the in-canton and the out-canton treatment.

A2 Composition of the Sample

Table A4 shows the political and socio-demographic composition of the contacted candidates and the candidates we did not contact. There are various reasons why we where not able to contact all candidates from the five largest parties. Some of the volunteers dropped out during the study (they did non longer want to participate in the study). The most important reason however is that for many candidates no email address was found (we spend a maximum of five minutes on researching the email address of a specific candidate). Compared to the candidates we did not contact, the contacted candidates differ in terms of language (our sample contains more German-speaking candidates), gender (our sample contains more female candidates). If there should be concerns regarding this imbalances, let us mention once more that our findings are robust to the inclusion of covariates that take up exactly the variables mentioned above.

Table A4: Candidate characteristics by treatment

	Contacted	Not contacted	Welch's t-test
Age			$p = 0.721$
Mean [Std. Dev.]	47[11]	48[11]	
Gender			$p = 0.032$
Female	40% (262)	33% (118)	
Male	60% (398)	67% (240)	
Party			
FDP	22% (150)	19% (69)	$p = 0.193$
CVP	18% (119)	19% (67)	$p = 0.788$
SP	25% (163)	20% (72)	$p = 0.091$
SVP	18% (117)	22% (80)	$p = 0.083$
GPS	17% (111)	20% (70)	$p = 0.285$
Language			$p = 0.000$
German	81% (532)	60% (215)	
French	19% (128)	40% (143)	

Note: N in parentheses. *Reading example*: 22 percent of the contacted candidates where members of the FDP. 19 percent of the not-contacted candidates are member of the FDP.

A3 Descriptive Statistics: Electoral safety

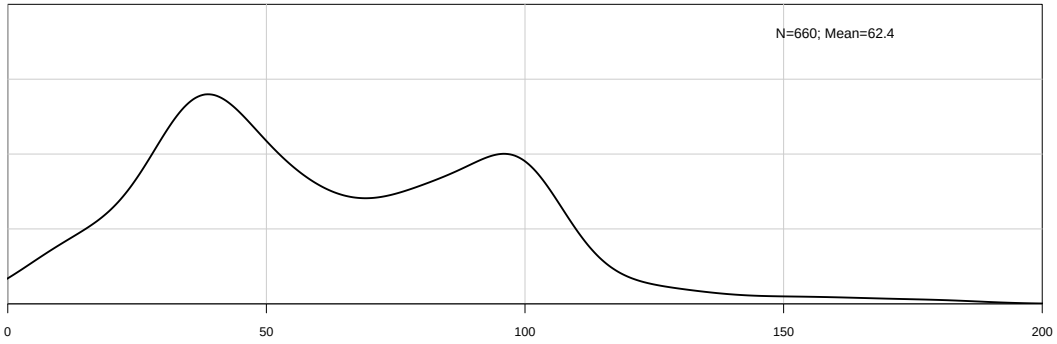


Figure A2: Density plot: electoral safety

A4 Descriptive Statistics: Reported Importance of Constituency Service

In this table we report information from the official Swiss Election Study (SELECTS) candidate survey, it reports the answers to the question "How important is the following for you: Openness to voters in constituency and communicating" and cross-tabs this with the answers to our field experiment email. As it becomes visible, there is a quite some overlap between answering positively to this survey item and answering the email request in the field experiment.

Table A5: Importance of constituency service and responsiveness

	Answer no	Answer yes	Total
Constituency Service			
Very important	28% (42)	72% (108)	46% (150)
Important	35% (50)	65% (93)	44 % (143)
Neither nor	39% (9)	61% (14)	7% (23)
Not important (at all)	40% (4)	60% (6)	3 % (10)
Total	39% (105)	61% (221)	100% (326)

A5 Treatment Effect: Further Analyses

Table A6 summarizes the effect of the cantonal-treatment in three different models. In all specifications (M_1, M_2, M_3), the effect is positive and highly significant. This bolsters the findings from M_1 in Table 2

Table A6: RI logistic regression (outcome: answer)

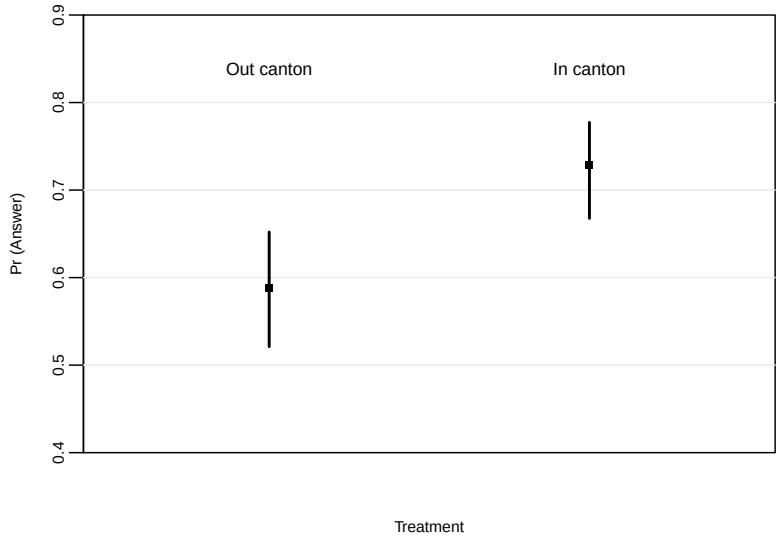
	M_1	M_2	M_3
Treatment: in-canton	0.627	0.681	0.714
	(0.169)	(0.171)	(0.173)
Treatment: other party	−0.008	0.003	0.004
	(0.168)	(0.169)	(0.170)
Electoral safety			0.007
			(0.003)
Age		0.006	0.005
		(0.008)	(0.008)
Sex: male		−0.006	−0.002
		(0.180)	(0.181)
Party of candidate: FDP		−0.506	−0.484
		(0.254)	(0.256)
Party of candidate: CVP		−0.577	−0.458
		(0.269)	(0.275)
Party of candidate: SVP		−0.625	−0.830
		(0.273)	(0.292)
Party of candidate: GPS		−0.131	0.039
		(0.280)	(0.292)
Language: French		−0.690	−0.718
		(0.206)	(0.217)
Constant	0.359	1.244	0.858
	(0.160)	(0.476)	(0.521)
Variance: candidate	1.000	1.000	1.000
Variance: Canton	0.081	0.000	0.007
N	660	660	660
Group: Canton	22	22	22
$\ell\ell$	-416	-406	-403
AIC	840	834	831

Note: Standard errors in parentheses. Reference categories: female (sex) , PS (party of candidate), German (language).

Figure A3 is based on M_1 Table 2 and visualizes the effect of the cantonal treatment. A candidate's probability to respond to a citizen's message is 0.140 (95-percent confidence interval: 0.052, 0.224) higher if the message was sent from within her district (compared

to an out-canton message). This difference in predicted probability (FD) is similar for all models in Table A6:

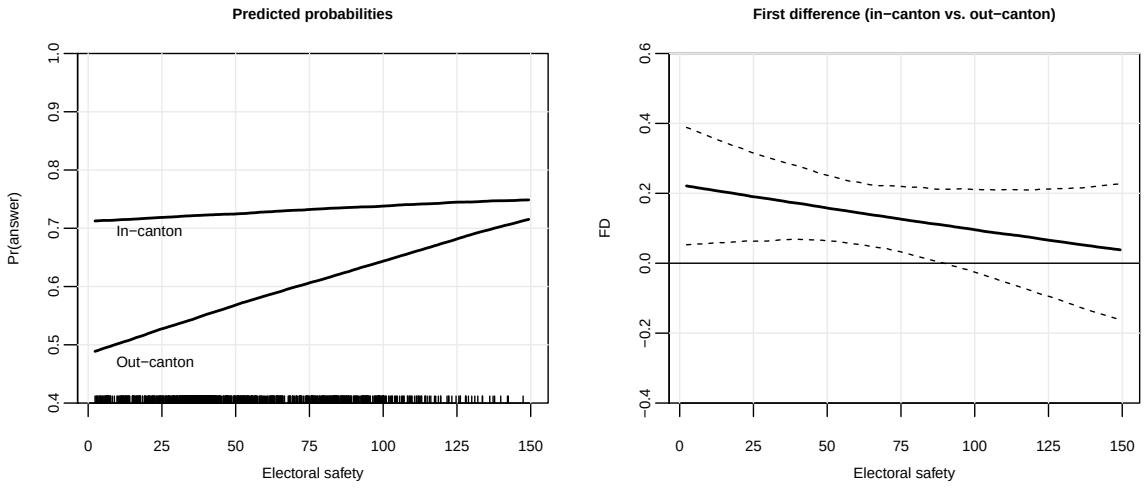
- M_1: FD = 0.14, CI = 0.04, 0.24
- M_2: FD = 0.12, CI = 0.03, 0.25
- M_3: FD = 0.13, CI = 0.01, 0.26



Note: Whiskers = 95-percent confidence interval. Visualization based on M_1 in Table 2

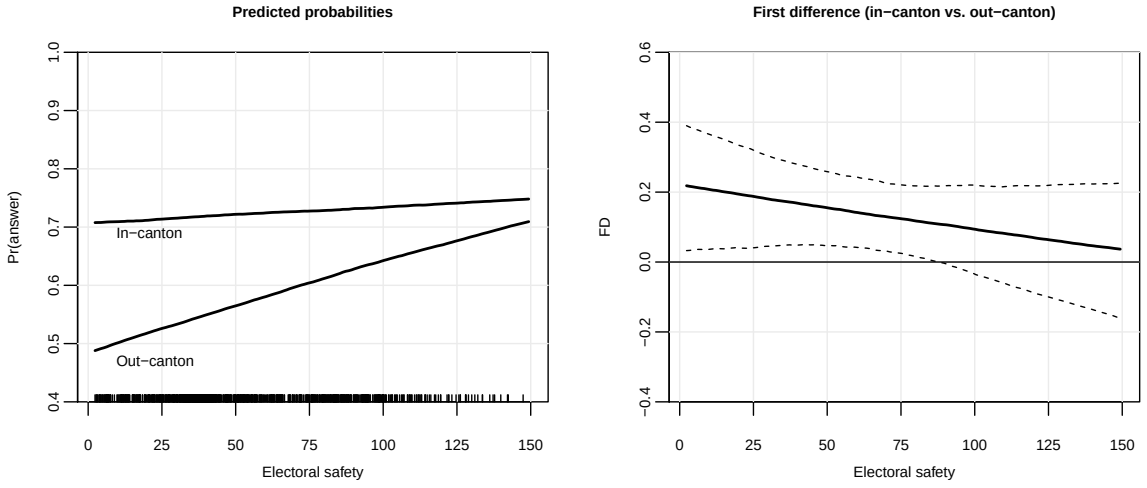
Figure A3: Responsiveness split by cantonal treatment

A6 Visualizations M_2, and M_3, Table 2



Note: Dotted lines = 95-percent confidence interval. Visualization based on M_2, Table 2.

Figure A4: Treatments and responsiveness



Note: Dotted lines = 95-percent confidence interval. Visualization based on M_3, Table 2.

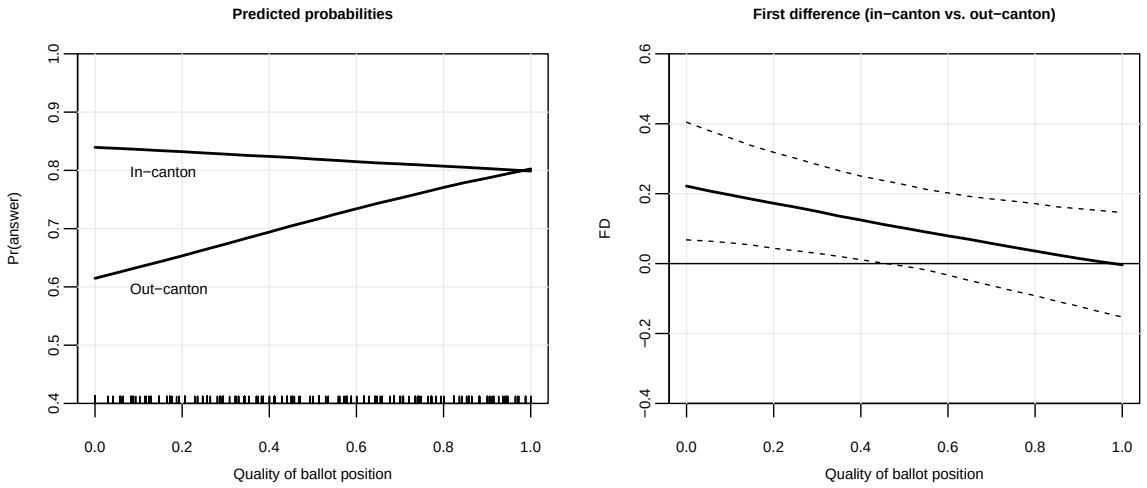
Figure A5: Treatments and responsiveness

A7 Robustness Check: List Position

Table A7: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	−0.006
	(0.181)
Treatment: in-canton	1.195
	(0.346)
Ballot: quality of position	0.949
	(0.422)
Ballot: quality of position × in-canton	−1.233
	(0.610)
Age	0.01
	(0.01)
Sex: male	0.021
	(0.191)
Party of candidate: FDP	−0.483
	(0.271)
Party of candidate: CVP	−0.573
	(0.284)
Party of candidate: SVP	−0.712
	(0.291)
Party of candidate: GPS	−0.229
	(0.286)
Language: French	−0.707
	(0.232)
Constant	0.680
	(0.542)
Variance: candidates	1.000
Variance: Canton	0.000
N	591
Group: Canton	19
$\ell\ell$	-360
AIC	745

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying quality of ballot position and cantonal treatment assignment. *Right:* First difference between the treatments across different quality of ballot position. *Note:* Dotted lines = 95-percent confidence interval.

Figure A6: Responsiveness spit by cantonal treatment and across ballot position

Table A8: RI logistic regression: only alphabetical lists (outcome: answer)

	M_1
Treatment: in-canton	1.831
	(1.140)
Ballot: quality of position	1.988
	(1.398)
Ballot: quality of position × in-canton	−0.995
	1.838
Constant	−1.326
	(0.895)
Variance: candidates	1.000
Variance: Canton	0.049
N	65
Group: Canton	7

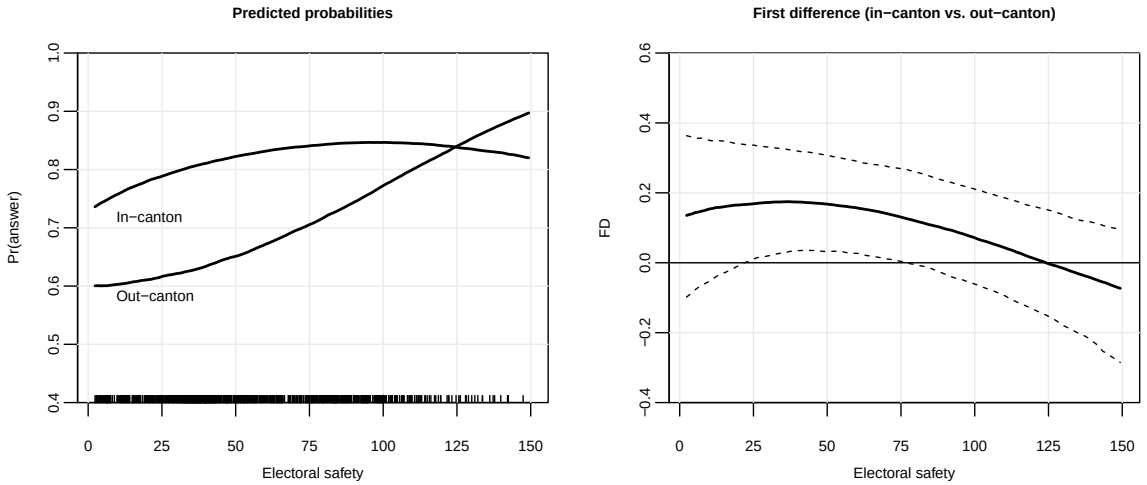
Note: Standard errors in parentheses. Only candidates candidates on alphabetical lists included.

A8 Robustness Check: Squared Electoral Safety

Table A9: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	0.032
	(0.172)
Treatment: in-canton	0.601
	(0.391)
Electoral safety	0.001
	(0.008)
Electoral safety × electoral safety	1.0E-4
	(5.0E-5)
Electoral safety × in-canton	0.013
	(0.008)
Electoral safety × electoral safety × in-canton	−1.0E-4
	(4.0E-5)
Age	0.005
	(0.008)
Sex: male	−0.006
	(0.182)
Party of candidate: FDP	−0.498
	(0.257)
Party of candidate: CVP	−0.483
	(0.277)
Party of candidate: SVP	−0.859
	(0.295)
Party of candidate: GPS	0.058
	(0.295)
Language: French	−0.740
	(0.222)
Constant	0.926
	(0.554)
Variance: candidate	1.000
Variance: canton	0.006
N	660
Group: canton	22
$\ell\ell$	-402
AIC	834

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

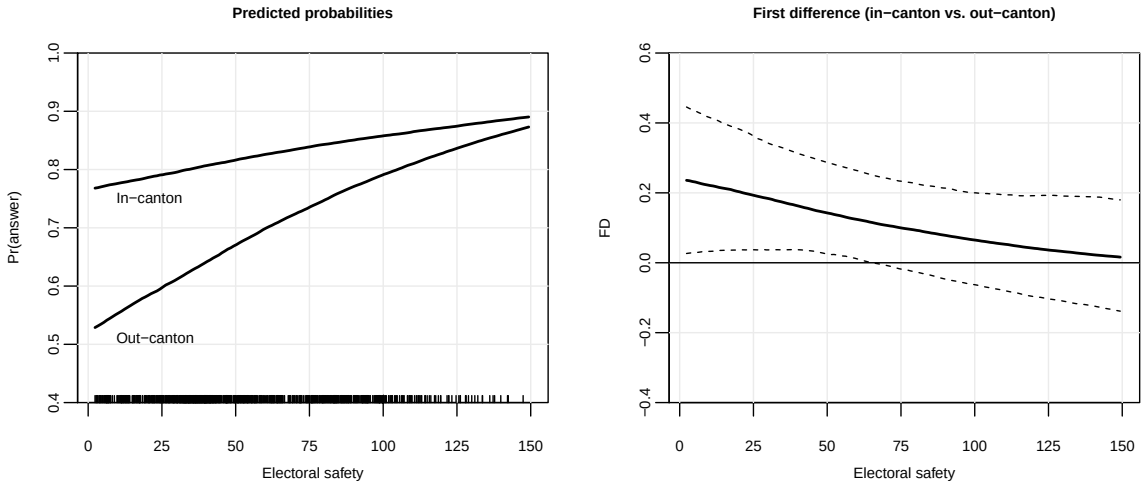
Figure A7: Responsiveness spit by cantonal treatment and across squared electoral safety

A9 Robustness Check: Controlling for Incumbency Status

Table A10: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	0.027
	(0.172)
Treatment: in-canton	1.122
	(0.369)
Electoral safety	0.013
	(0.005)
Electoral safety × in-canton	−0.007
	(0.005)
Incumbency: incumbent	−0.320
	(0.327)
Age	0.006
	(0.008)
Sex: male	−0.009
	(0.182)
Party of candidate: FDP	−0.498
	(0.258)
Party of candidate: CVP	−0.483
	(0.278)
Party of candidate: SVP	−0.879
	(0.294)
Party of candidate: GPS	0.068
	(0.295)
Language: French	−0.730
	(0.226)
Constant	0.549
	(0.563)
Variance: candidates	1.000
Variance: Canton	0.016
N	660
Group: Canton	22
$\ell\ell$	-402
AIC	832

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

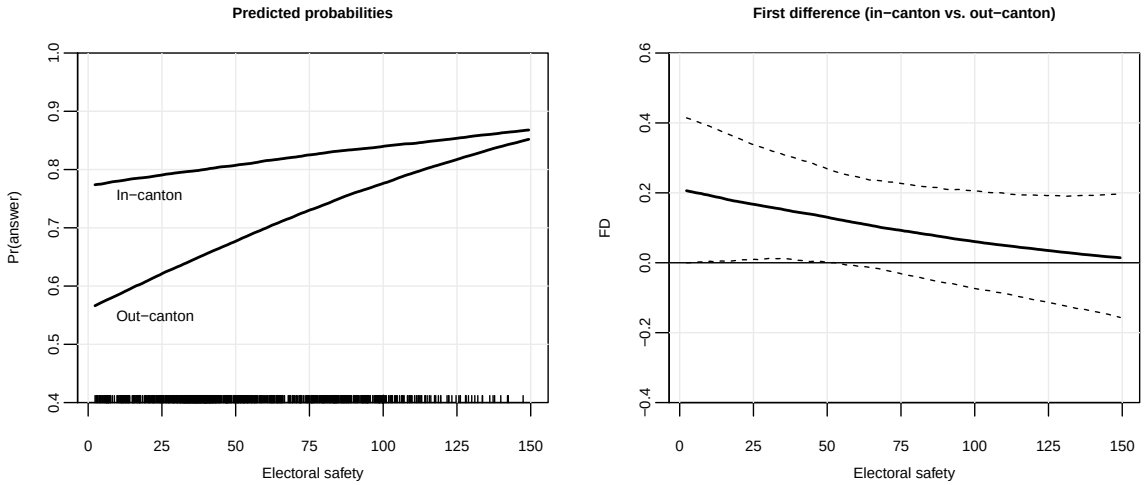
Figure A8: Responsiveness spit by cantonal treatment and across electoral safety (incumbency included)

A10 Robustness Check: Incumbents Excluded from Analysis

Table A11: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	−0.024
	(0.185)
Treatment: in-canton	0.984
	(0.415)
Electoral safety	0.012
	(0.005)
Electoral safety × in-canton	−0.004
	(0.007)
Age	0.004
	(0.009)
Sex: male	0.119
	(0.194)
Party of candidate: FDP	−0.472
	(0.281)
Party of candidate: CVP	−0.546
	(0.297)
Party of candidate: SVP	−0.996
	(0.337)
Party of candidate: GPS	−0.014
	(0.312)
Language: French	−0.711
	(0.244)
Constant	0.634
	(0.604)
Variance: candidates	1.000
Variance: Canton	0.014
N	571
Group: Canton	20
$\ell\ell$	-350
AIC	725

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

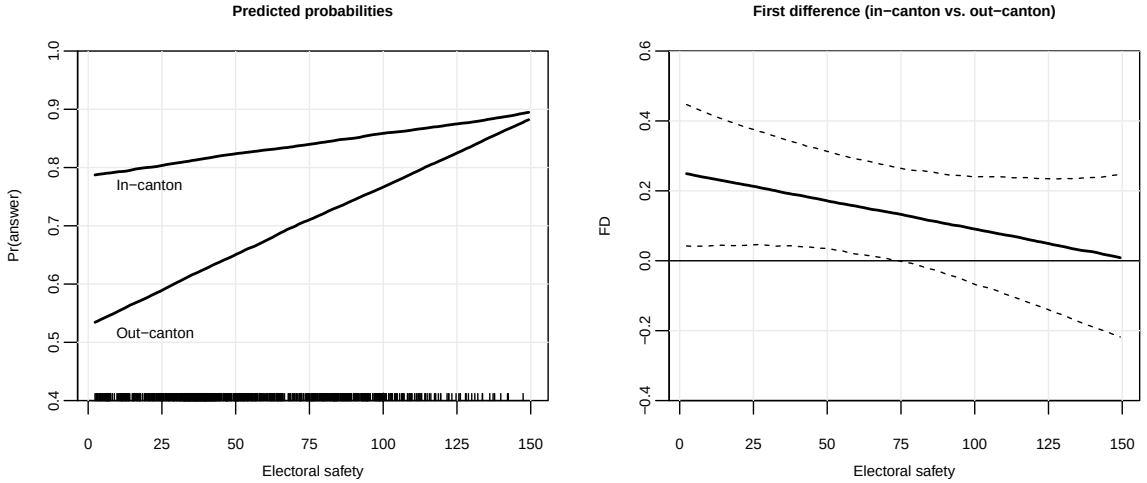
Figure A9: Responsiveness spit by cantonal treatment and across electoral safety (incumbents excluded)

A11 Robustness Check: Linear Probability Model

Table A12: RI linear regression (outcome: answer)

	M_1
Treatment: other party	0.006
	(0.036)
Treatment: in-canton	0.251
	(0.078)
Electoral safety	0.002
	(0.001)
Electoral safety × in-canton	−0.002
	(0.001)
Age	0.001
	(0.002)
Sex: male	−0.001
	(0.038)
Party of candidate: FDP	−0.099
	(0.053)
Party of candidate: CVP	−0.099
	(0.059)
Party of candidate: SVP	−0.175
	(0.060)
Party of candidate: GPS	0.012
	(0.060)
Language: French	−0.163
	(0.050)
Constant	0.659
	(0.118)
Variance: candidates	1.000
Variance: Canton	0.001
N	660
Group: Canton	22

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

Figure A10: Responsiveness spit by cantonal treatment and across electoral safety (linear probability model)

A12 Robustness Check: Volunteer Effects

Based on the email, candidates get information on the sex, the canton of residence, and the name of the sender. To test if these factors impact the likelihood to answer, we run logistic regressions with the sender characteristics as input variables. All models further control for the cantonal treatment. Model M_1 in Table A13 shows that the volunteer's gender has no impact on the probability to answer to the message. Model M_2 introduces dummies for the canton of residence. Compared to Aargau (reference category) emails from the canton of Valais were significantly less likely to be answered. To investigate this irregularity, we excluded emails sent from the canton of Valais from the analysis and run the full regression model M_3 in Table 2. The results depicted in Table A14 and Figure A11) show that all the effects remain robust. In a final step we introduced a dummy for each volunteer (table not reported). None of the volunteers was significantly more or less likely to get an answer to the request. Based on these tests we are confident, that the effects induced by the characteristics of the sender are negligible.

Table A13: RI logistic regression (outcome: answer)

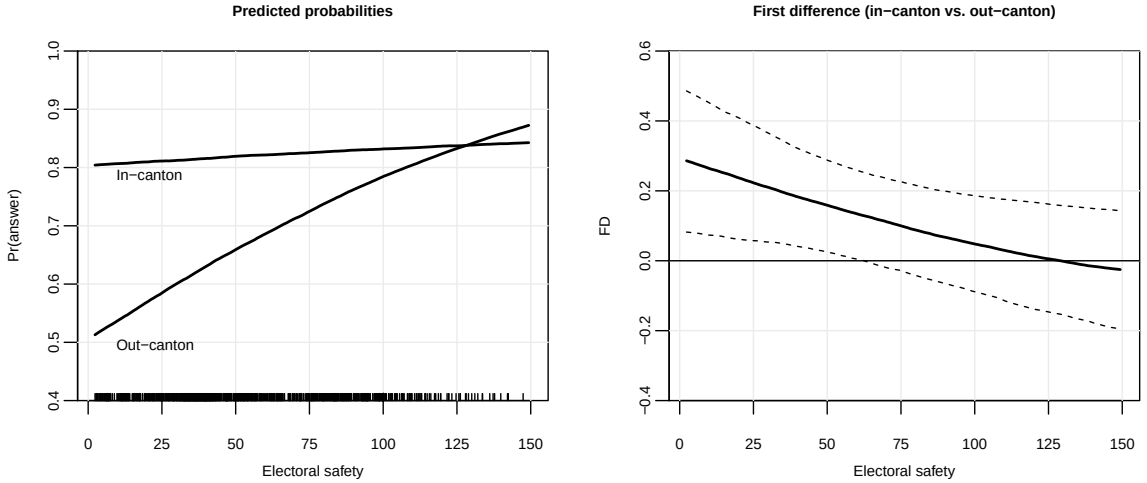
	M_1	M_2
Treatment: in-canton	0.626	0.790
	(0.169)	(0.184)
Sex: male	−0.026	
	(0.170)	
Basel-Landschaft		0.317
		(0.425)
Basel-Stadt		1.982
		(1.055)
Bern		−0.373
		(0.317)
Fribourg		−0.419
		(0.517)
Genève		−0.517
		(0.560)
Graubünden		−0.025
		(0.493)
Luzern		0.339
		(0.458)
Neuchâtel		−0.618
		(0.606)
Schaffhausen		0.186
		(0.566)
Solothurn		0.815
		(0.438)
St. Gallen		−0.050
		(0.418)
Thurgau		0.583
		(0.406)
Vaud		0.028
		(0.449)
Valais		−0.913
		(0.412)
Zug		0.782
		(0.618)
Zuerich		−0.276
		(0.315)
Constant	0.367	0.282
	0.157	(0.231)
Variance: candidates	1.000	1.000
Variance: Canton	0.088	0.000
N	660	660
Group: Canton	22	22
$\ell\ell$	-416	-401
AIC	840	839

Note: Standard errors in parentheses. Reference category: Aarau (canton)

Table A14: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	0.015
	(0.178)
Treatment: in-canton	1.381
	(0.389)
Electoral safety	0.013
	(0.004)
Electoral safety × in-canton	−0.011
	(0.006)
Age	0.006
	(0.008)
Sex: male	0.008
	(0.187)
Party of candidate: FDP	−0.529
	(0.264)
Party of candidate: CVP	−0.443
	(0.290)
Party of candidate: SVP	−0.849
	(0.297)
Party of candidate: GPS	0.072
	(0.309)
Language: French	−0.590
	(0.249)
Constant	0.352
	(0.581)
Variance: candidates	1.000
Variance: Canton	0.009
N	625
Group: Canton	21
$\ell\ell$	-377
AIC	780

Note: Candidates from the Canton of Valais excluded. Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

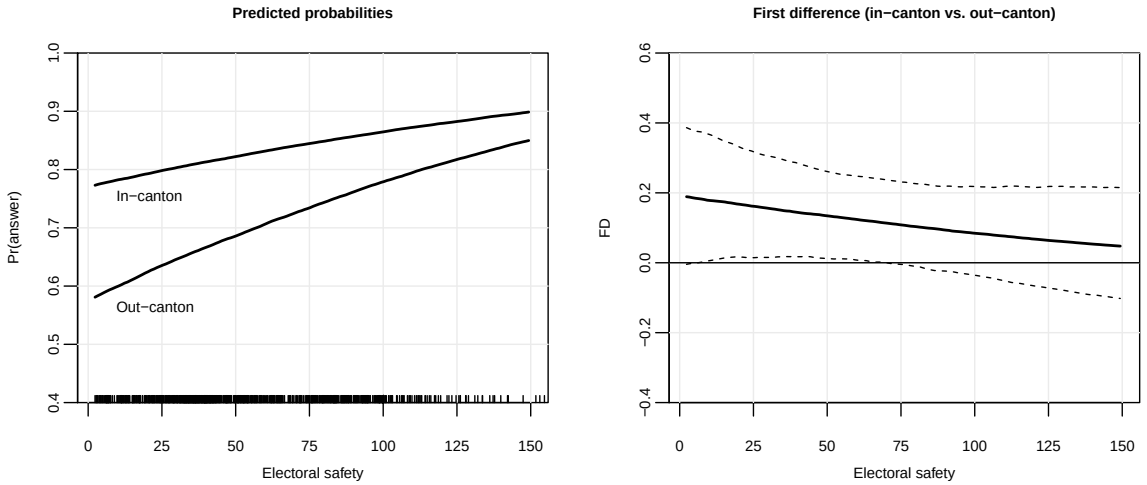
Figure A11: Responsiveness spit by cantonal treatment and across electoral safety (Valais excluded)

A13 Robustness Check: Candidates with Staff Excluded from Analysis

Table A15: RI logistic regression (outcome: answer)

	M_1
Treatment: other party	−0.043
	(0.180)
Treatment: in-canton	0.903
	(0.381)
Electoral safety	0.010
	(0.004)
Electoral safety × in-canton	−0.003
	(0.006)
Age	0.006
	(0.008)
Sex: male	−0.011
	(0.190)
Party of candidate: FDP	−0.496
	(0.272)
Party of candidate: CVP	−0.561
	(0.291)
Party of candidate: SVP	−0.931
	(0.306)
Party of candidate: GPS	−0.017
	(0.309)
Language: French	−0.740
	(0.215)
Constant	0.791
	(0.547)
Variance: candidates	1.000
Variance: Canton	0.000
N	600
Group: Canton	22
$\ell\ell$	-365
AIC	756

Note: Standard errors in parentheses. Reference categories: female (sex), PS (party of candidate), German (language).



Left: Probability to answer to citizens' requestion with varying levels of electoral safety and cantonal treatment assignment. *Right:* First difference between the treatments across different levels of electoral safety. *Note:* Dotted lines = 95-percent confidence interval.

Figure A12: Responsiveness spit by cantonal treatment and across electoral safety (incumbents excluded)

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