

ORIGINAL ARTICLE

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.

Keywords: Comparative politics; industrialized countries; elections and campaigns; European politics and integration; field experiments

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 favor, 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 (Mayhew, 1974; Cain *et al.*, 1984; Ashworth and Mesquita, 2006), 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 (e.g., 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 unaddressed, namely how do intrinsic and extrinsic motivations interact? Social psychologists (e.g., Deci, 1975; Wilson *et al.*, 1981) and behavioral 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 *et al.*, 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 *crowding 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-canton 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 behavior from the domains of economics and psychology to the context of legislative behavior (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., Downs, 1957; Pitkin, 1967; Dahl, 1971; Manin *et al.*, 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 personalized 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 characterized 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 service¹ 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 (Mayhew, 1974; Cain *et al.*, 1984; Ashworth and Mesquita, 2006). 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 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, 1985a,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 fulfill 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 fulfillment (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 (Mayhew, 1974; Cain *et al.*, 1984; Ashworth and Mesquita, 2006), while responding to voter messages due to intrinsic motivations is mostly

¹Constituency 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.

based on a desire to comply with internal norms about how a legislator is supposed to act or with the aim of achieving some degree of job satisfaction (Searing, 1985a,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 behavior are difficult to measure empirically. Recent experimental work² 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/his district compared to those from outside, the behavior of the legislator is likely intrinsically motivated as only in-district voters can affect her/his (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 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 *et al.*, 1981) and behavioral economists (e.g., Frey and Oberholzer-Gee, 1997; Fehr and Falk, 1999; Gneezy and Rustichini, 2000) have demonstrated important ways in which different types of motivations 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 *et al.*, 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 *et al.*, 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 examining 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 *et al.*, 1984; Heitshusen *et al.*, 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

²For recent non-experimental work see Butler *et al.* (2017).

(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/he will get (re-)elected, is expected to fight for every vote that can aid her/his (re-)election. By consequence then, the time and effort she/he will spend on constituency work will be geared towards those voters that can actually make an electoral difference, i.e. voters inside her/his district (in-canton voters). The strategic incentives to respond to voters outside her/his district (out-canton voters), who cannot affect her/his (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 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 subjects³ 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 cantons⁴ 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 selected candidates.⁵ Mostly these were French or German speaking⁶ university students who were informed about all the details of the experiment and consented to participate. In return they received 10 Swiss

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

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

⁵See Butler *et al.* (2012) for a similar setup.

⁶Switzerland 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.

Frans. The experiment was conducted between the 2 and 4 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/himself. 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 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 favor of tighter regulation regarding lobbying in the National Council?

Thank you very much in advance

[*Name of voter*]

In order to test our expectation that extrinsic motivation crowd out intrinsic ones, we explore heterogeneous 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 of 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

⁷One could argue 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 organization is weak.

⁸The “out-canton” condition included only neighboring cantons in order to render this scenario more credible.

⁹Dropp 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.

individual election results while the second captures individual list places. Electoral safety compares a candidate's election result, i.e. the number of votes received¹⁰, 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: $\text{safety} = 100 / \text{votes}_{\text{elec}} \times \text{votes}_{\text{cand}}$, where $\text{votes}_{\text{elec}}$ is the number of votes of the candidate elected with the least votes. $\text{votes}_{\text{cand}}$ is the number of votes the candidate of interest obtained. This index takes a value >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 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 favorable 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.

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 *et al.*, 2012). We share this concern and rely on real voters who use their own name and residence as well as send emails from their own mail accounts for our experiment rather than aliases. These voters participated on a voluntary basis and their participation was incentivized (they received 10 Swiss Francs). 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 specific topic that had featured widely in the news. Providing an answer should be fairly straightforward for a candidate. 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. Such a precaution is particularly relevant in the context of field experiments with public officials as it reduces potential costs for future researchers. 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 US. There are two parliamentary chambers at the federal level, the *Nationalrat* which is the equivalent

¹⁰Source Federal Statistical Office.

¹¹This candidate from the canton of Basel-Stadt received 168 votes. The candidate elected with the least votes received 7,233 votes. Hence, $\text{safety} = 100 / 7233 \times 168 = 2.3$.

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 percent¹³ 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. A total of 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 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 is 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 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 favorable towards maintaining close linkages to constituencies and influence the role perception of Swiss

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

¹³We 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.

¹⁴The Green party did not compete in the canton of Graubünden.

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

¹⁶To be clear, each candidate received one email.

¹⁷A 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 A2 and A3).

¹⁸We 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.

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

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.

politicians (e.g., Searing, 1985b). Women respond slightly more often to constituency requests as did German-speaking politicians. When it comes to political ideology, we see a tendency for left-ist 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 <32 words long, which is barely more than 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, ..., *I*) are nested in their electoral district (*j*, for *j* = 1, ..., 22). The basic model is specified as follows:

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

Where a candidate’s responsiveness is a function of the cantonal treatment variable. *canton_i* is 0 if the 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 intercepts²⁰ and the fixed global estimate β_0 .²¹

The full model is specified as follows:

$$\Pr(y_i = 1) = \text{logit}^{-1}(\beta_0 + \beta_1 \text{canton}_i + \beta_2 \text{safety}_i + \beta_3 \text{canton}_i \times \text{safety}_i + \gamma \mathbf{X}_i^T + \mu_{j[i]}) \tag{2}$$

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

²¹Since 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).

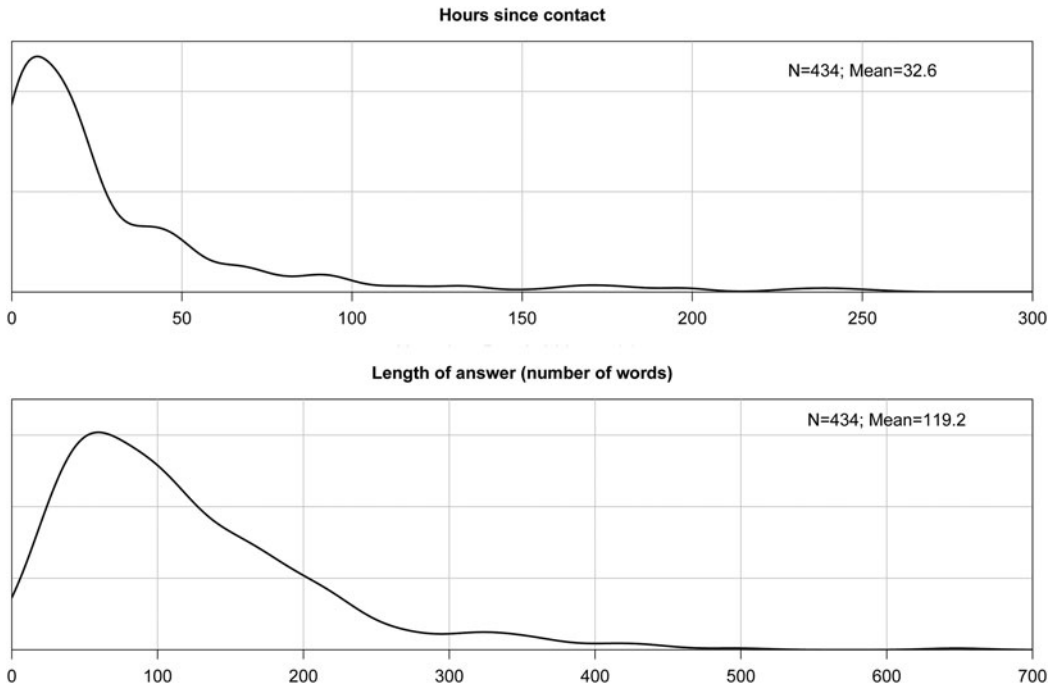


Figure 1. Kernel density distribution of answering time and length of answer.

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 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 to 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 *et al.*, 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 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 behavior. 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.

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

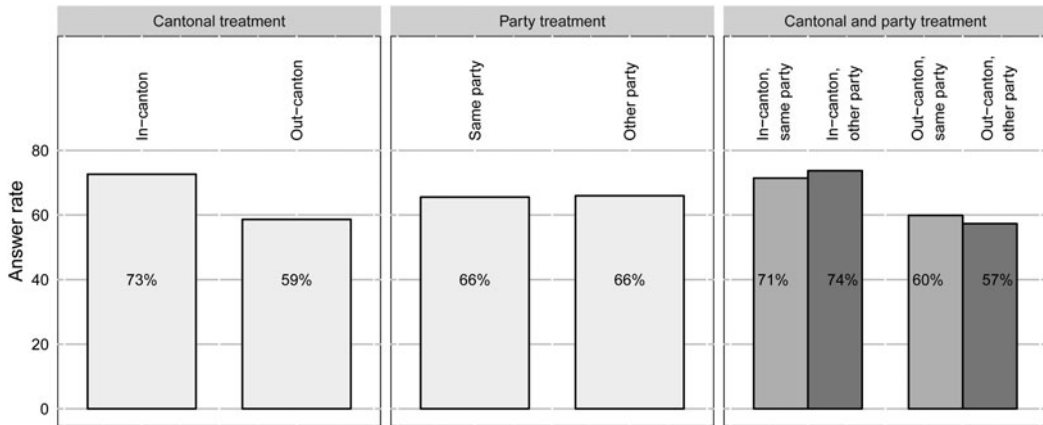


Figure 2. Treatments and response rates.

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 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 safe candidates are more likely to be responsive than electorally vulnerable candidates.

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 validity of an interaction hypothesis (Brambor *et al.*, 2006; Kam and Franzese, 2007). We thus turn to the visualization of the effects of the full model (M_4).

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

²³The 95-percent confidence interval ranges from 0.052 to 0.224. See visualization of the predicted probabilities in Appendix A6.

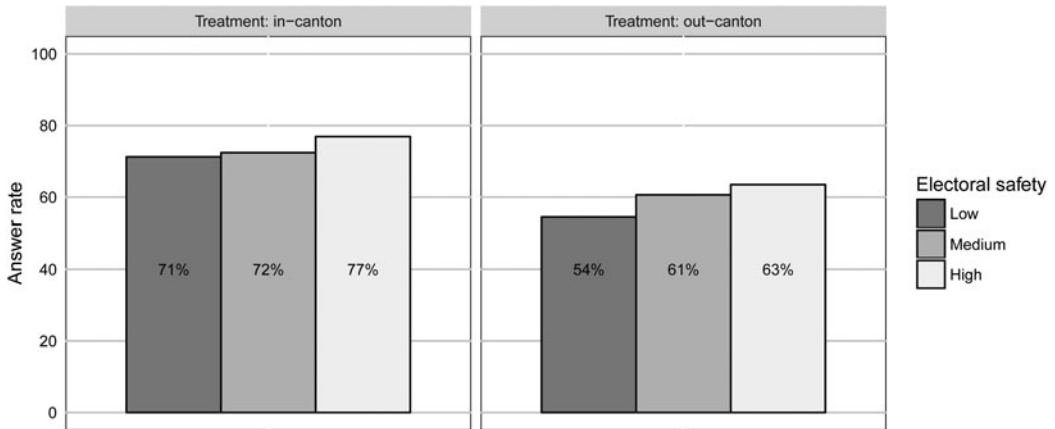


Figure 3. Cantonal treatment, electoral safety and response rates.

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. 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 A7 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). A second robustness test introduces the squared electoral safety to relax the assumption of a linear moderating

²⁴Based 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).

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

Table 2. RI logistic regression (outcome: answer)

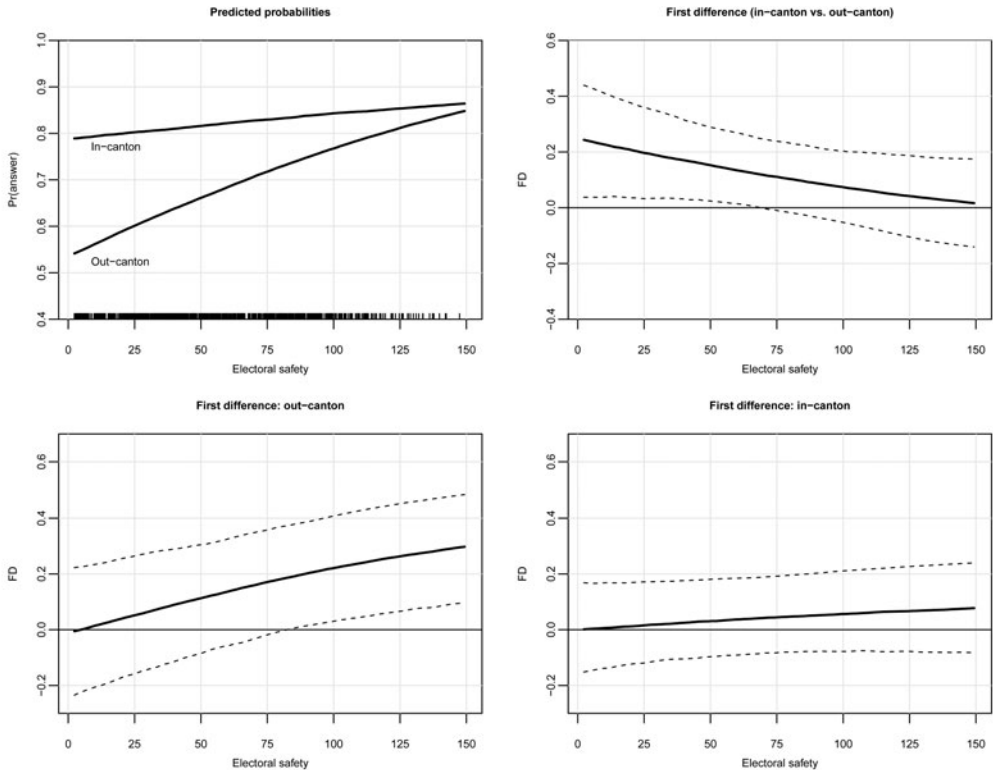
	M_1	M_2	M_3	M_4
Treatment: in-canton	0.626 (0.169)	0.957 (0.359)	0.956 (0.360)	1.125 (0.369)
Treatment: other party			0.016 (0.170)	0.029 (0.172)
Electoral safety		0.007 (0.004)	0.007 (0.004)	0.010 (0.004)
Electoral safety × in-canton		−0.005 (0.005)	−0.005 (0.005)	−0.007 (0.005)
Age				0.004 (0.008)
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 (0.138)	−0.055 (0.267)	−0.063 (0.286)	0.664 (0.544)
Variance: candidate	1.000	1.000	1.000	1.000
Variance: Canton	0.081	0.084	0.084	0.007
<i>N</i>	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).

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) to deal with the concern that well-known officeholders who might have a professional staff are more likely to respond. We do not find any such incumbency effects (Appendix A9). Fourth, we run a linear probability model to approximate the interaction effects electoral safety and the cantonal-treatment (Appendix A11). The results remain robust. Fifth, we tested if responsiveness depends on the sender of the message (Appendix A12), and find no such evidence. Finally, while we did not detect signs that emails were answered by staff members, we reran our analysis excluding candidates who reported to have paid staff members (Appendix A12). The results again 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



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 split by cantonal treatment and across electoral safety.

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 personalized 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 personalized 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 behavior. 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 and responsive to voters' needs (see e.g., Downs, 1957; Pitkin, 1967; Dahl, 1971; Manin *et al.*, 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 to increase electoral competition. Our evidence suggests that when it comes to constituency work electoral competition may constitute somewhat of a double-edged sword.

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Supplementary Material. The supplementary material for this article can be found at <https://doi.org/10.1017/psrm.2019.19>

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References

- Ashworth S and de Mesquita EB (2006) Delivering the goods: legislative particularism in different electoral and institutional settings. *Journal of Politics* 68, 168–179.
- Benabou R and Tirole J (2003) Intrinsic and extrinsic motivation. *The Review of Economic Studies* 70, 489–520.
- Beretti A, Figuières C and Grolleau G (2013) Using money to motivate both saints and sinners: a field experiment on motivational crowding-out. *Kyklos* 66, 63–77.
- Brambor T, Clark WR and Golder M (2006) Understanding interaction models: improving empirical analyses. *Political Analysis* 14, 63–82.
- Broockman DE (2013) Black politicians are more intrinsically motivated to advance blacks' interests: a field experiment manipulating political incentives. *American Journal of Political Science* 57, 521–536.
- Butler DM (2014) *Representing the Advantaged: How Politicians Reinforce Inequality*. Cambridge: Cambridge University Press.
- Butler DM and Broockman DE (2011) Do politicians racially discriminate against constituents? A field experiment on state legislators. *American Journal of Political Science* 55, 463–477.
- Butler DM, Karpowitz CF and Pope JC (2012) A field experiment on legislators' home styles: service versus policy. *The Journal of Politics* 74, 474–486.
- Butler D, Naurin E and Öhberg P (2017) Party representatives' adaptation to election results: Dyadic responsiveness revisited. *Comparative Political Studies* 50, 1973–1997.
- Cain B, Ferejohn J and Fiorina M (1987). *The personal vote: Constituency service and electoral independence*. Cambridge (Mass.): Harvard University Press.
- Cain BE, Ferejohn JA and Fiorina MP (1984) The constituency service basis of the personal vote for us representatives and British members of parliament. *American Political Science Review* 78, 110–125.
- Carey JM and Shugart MS (1995) Incentives to cultivate a personal vote: a rank ordering of electoral formulas. *Electoral Studies* 14, 417–439.
- Costa M (2017) How responsive are political elites? A meta-analysis of experiments on public officials. *Journal of Experimental Political Science* 4, 241–254.
- Dahl R (1971) *Polyarchy: Participation and Opposition*. New Haven: Yale University Press.

- Deci E** (1975) *Intrinsic Motivation*. New York: Plenum Press.
- Deci E and Ryan RM** (2000) *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum Press.
- Downs A** (1957) *An Economic Theory of Democracy*. New York: Harper and Row.
- Dropp K and Peskowitz Z** (2012) Electoral security and the provision of constituency service. *The Journal of Politics* **74**, 220–234.
- Fehr E and Falk A** (1999) Wage rigidity in a competitive incomplete contract market. *Journal of Political Economy* **107**, 106–134.
- Fiorina MP** (1977) *Congress : Keystone of the Washington Establishment*. New Haven, Conn.: Yale University Press.
- Frey B and Oberholzer-Gee F** (1997) The cost of price incentives: an empirical analysis of motivational crowding-out. *American Economic Review* **87**, 746–755.
- Gerber AS and Green DP** (2012) *Field Experiments: Design, Analysis, and Interpretation*. New York: WW Norton.
- Gneezy U and Rustichini A** (2000) A fine is a price. *Journal of Legal Studies* **29**, 1–17.
- Grimmer J** (2013) Appropriators not position takers: the distorting effects of electoral incentives on congressional representation. *American Journal of Political Science* **57**, 624–642.
- Grose CR** (2014) Field experimental work on political institutions. *Annual Review of Political Science* **17**, 355–370.
- Heitshusen V, Young G and Wood DM** (2005) Electoral context and mp constituency focus in Australia, Canada, Ireland, New Zealand, and the United Kingdom. *American Journal of Political Science* **49**, 32–45.
- Kam CD and Franzese RJ** (2007) *Modeling and Interpreting Interactive Hypotheses in Regression Analysis*. Ann Arbor: University of Michigan Press.
- King G, Tomz M and Wittenberg J** (2000) Making the most of statistical analyses: Improving interpretation and presentation. *American Journal of Political Science* **44**, 347–361.
- Leppner MR, Greene D and Nisbett RE** (1973) Undermining children's interest with extrinsic reward: a test of the over-justification effect. *Journal of Personality and Social Psychology* **28**, 129–137.
- Manin B, Przeworski A and Stokes S** (1999) Elections and representation. In Przeworski A, Stokes SC and Manin B (eds), *Democracy, Accountability, and Representation*. Cambridge: Cambridge University Press, pp. 29–48.
- Mayhew DR** (1974) *Congress : The Electoral Connection*. Yale Studies in Political Science. New Haven etc.: Yale University Press.
- Norris P** (1997) The puzzle of constituency service. *The Journal of Legislative Studies* **3**, 29–49.
- Pitkin HF** (1967) *The Concept or Representation*. Berkeley: University of California Press.
- Searing DD** (1985a) Comment on cain, ferejohn, and fiorina. *American Political Science Review* **79**, 1174–1175.
- Searing DD** (1985b) The role of the good constituency member and the practice of representation in Great Britain. *The Journal of Politics* **47**, 347–381.
- Selb P and Lutz G** (2015) Lone fighters: intraparty competition, interparty competition, and candidates' vote seeking efforts in open-ballot PR elections. *Electoral Studies* **39**, 329–337.
- Selects** (2016) Candidate survey 2015. Technical report, FORS Lausanne. <http://www.selects.ch>.
- White RW** (1959) Motivation reconsidered. *Psychological Review* **66**, 297–333.
- Wilson TD, Hull JG and Johnson J** (1981) Awareness and self-perception: verbal reports on internal states. *Journal of Personality and Social Psychology* **40**, 53–71.