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To cite this article: Julien M. Jaquet, Pascal Sciarini & Roy Gava (2022) Can't buy me votes? Campaign spending and the outcome of direct democratic votes, *West European Politics*, 45:2, 335-359, DOI: [10.1080/01402382.2020.1852374](https://doi.org/10.1080/01402382.2020.1852374)

To link to this article: <https://doi.org/10.1080/01402382.2020.1852374>



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Published online: 13 Jan 2021.



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Can't buy me votes? Campaign spending and the outcome of direct democratic votes

Julien M. Jaquet^a , Pascal Sciarini^a  and Roy Gava^b 

^aDepartment of Political Science and International Relations, University of Geneva, Geneva, Switzerland; ^bSchool of Economics and Political Science, University of St. Gallen, St. Gallen, Switzerland

ABSTRACT


Recent American studies that investigate the influence of money on the outcome of direct democratic votes find campaign spending effective for both supporters and challengers. Taking advantage of Switzerland's far-reaching experience with direct legislation, this article tests the role of money in a 'harder' context, where government plays an active role in direct democratic processes. It assesses the impact of campaign spending on 323 federal votes, and on a subset of 60 votes, offering finer-grained cantonal-level data. On the one hand, the results highlight the crucial role of the partisan coalition supporting the government for the outcome of votes; on the other hand, campaign spending is effective for both government and challenger camps, yet more so for the latter. Furthermore, the effects of government campaign spending vary depending on the expected vote outcome and the difference in spending between both camps.

KEYWORDS Campaign spending; direct democracy; Switzerland; government coalition; initiatives; referendums

Students of direct democracy frequently discuss the role money plays in vote outcomes. Critics of direct democracy suggest that citizens are neither sufficiently informed nor qualified to decide on important policy matters (e.g. Budge 1996: 59ff.). Under these circumstances, wealthy interests may find ways disproportionately to influence a vote's outcome through campaign spending. According to this reasoning, direct democracy may suffer from a 'populist paradox': the same instrument that aims to give ordinary citizens more power vis-à-vis powerful interests in fact has the opposite effect (Gerber 1999).

One traditional takeaway from the literature is that campaign spending has asymmetric effects on the outcome of direct democratic votes (Bowler

CONTACT Julien M. Jaquet  Julien.Jaquet@unige.ch

 Supplemental data for this article can be accessed online at: <https://doi.org/10.1080/01402382.2020.1852374>.

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et al. 1998; Garrett and Gerber 2001; Magleby 1984). As Lupia and Matsusaka (2004: 470) summarize in their review article, ‘heavy spending against a measure tended to lead to the measure’s defeat, whereas heavy spending in favour of a measure had a minimal impact’. However, more recent studies question this conventional view, pointing out an endogeneity problem (de Figueiredo *et al.* 2011; Stratmann 2006): spending levels depend on the expected outcome of the vote. If one camp is almost certain of its victory (or its defeat), it has few incentives to spend as much as when it expects a close race. Taking this into account, campaign spending is equally effective for both sides (de Figueiredo *et al.* 2011; Stratmann 2006).

Recent decades have witnessed a growing number of direct democratic votes (Hug 2002, 2005; Qvortrup 2014). Yet most of what we know about the effects of campaign spending comes from studies on citizen-sponsored initiatives in California, where governments play a marginal role. In contrast to many US states, direct democracy in European countries is primarily about referendums (Kriesi 2009a), where governments invest considerable resources to influence people’s vote choice. Consider for example Brexit, the Scottish independence referendum, the Irish referendum on abortion, constitutional reforms in Italy or the multiple referendums on European integration. How well do American findings about citizen initiatives travel to contexts where referendums matter more, and where the elite exerts a stronger influence on direct democratic processes?

We assess the role of campaign spending in Switzerland, the country with the largest experience of direct democratic votes (Altman 2011; Butler and Ranney 1994). We take advantage of the ‘laboratory’ character of the Swiss direct democracy (Kriesi 2005; Sciarini 2017, 2018) to test the effects of campaign spending on a ‘hard’ case. Unlike the case of initiatives in the US, the Swiss government is strongly involved in direct democratic processes. This is likely to reduce the influence of money on the outcome of direct democratic votes. First, regardless of the institution (referendum or initiative), the Swiss government takes sides on ballot measures and provides cues to voters. Second, as in other Western European countries, a well-defined governmental camp actively attempting to influence opinion formation is a systematic feature of Swiss direct democratic campaigns. Yet, while in most other European countries direct democratic votes are rare events, the extensive use of both referendums and initiatives makes Switzerland a unique setting to investigate how the outcome of popular votes is affected by campaign spending from government and its challengers.

Empirically we rely on two datasets, both including referendums and citizen-sponsored initiatives: a comprehensive dataset of the 323 direct

democratic votes held at the national level between 1981 and 2019, and a subset of 60 national direct democratic votes for the years 2013 to 2019, which is analysed at the cantonal level. Despite the crucial role of pro-government partisan coalitions in shaping voters' choices, the results show that both challenger and government camp spending is effective. The effect of campaign spending is small, but discernible. Moreover, it is similar for referendums and initiatives, which suggests that how the government engages in direct democratic processes matters more than the institutional type of the vote at stake. The results bear important implications for both theory and practice, which are discussed in the conclusion.

Campaign spending and (Swiss) direct democracy

Two questions are crucial to understand how direct democratic institutions vary across countries (Morel 2018): (i) which actors are entitled to trigger direct democratic votes? (ii) what is the role of the political elite in the process? Kriesi (2009a) identifies three variants of direct democracy, depending on the top-down versus bottom-up logic of direct democratic processes, and on the extent of government and parliamentary involvement in them: the 'unmediated' (or 'populist') variant, the 'mediated' variant and the 'plebiscitary' variant.

In the unmediated variant, direct democratic votes follow a bottom-up logic that results from citizen-sponsored initiatives; if the legal requirements are met, the initiative is submitted to a popular vote and the legislature cannot react to it. This 'direct' type of initiative (Hug 2001) is widespread in many American states, such as California (Lupia and Matsusaka 2004; Matsusaka 2005). In American states, citizen initiatives help interest groups and social movements to circumvent state parliaments (Maduz 2010). Moreover, legal restrictions in terms of involvement, support and spending imply that state governments do not actively engage in initiative campaigns. By contrast, in the plebiscitary variant, only the executive can put a policy proposal to a vote by means of a referendum. According to this top-down logic, the referendum represents a 'unilateral instrument in the hands of the governing elites' (Kriesi 2009a: 80), which also plays a leading role in the campaign. As a result, these votes tend to translate into a plebiscite for or against the executive, as is typically the case in France.

Swiss direct democracy belongs to the 'mediated' variant, an intermediary category between the other two 'ideal types'. When it comes to triggering direct democratic votes, the Swiss system combines bottom-up and top-down elements. *Popular initiatives* are bottom-up in nature. They enable groups of citizens (parties, interest groups, social movements) to

force a vote amending the constitution, provided they can collect 100,000 signatures in 18 months. By contrast, *compulsory referendums* result from constitutional amendments initiated by the federal government and parliament and thus have a top-down character. Finally, the *optional referendum* mixes top-down and bottom-up features. On the one hand, the optional referendum concerns legislative proposals (all federal laws and certain types of international treaties) emanating top-down from the executive and/or legislature. On the other hand, there is a bottom-up element because these proposals must be submitted to a popular vote if opponents are able to collect 50,000 signatures in 100 days.

With respect to elites' involvement in the process, direct democracy in Switzerland is more tightly controlled by the government than the unmediated version of citizen initiatives in the US. First, in Switzerland, initiatives are of the indirect type. Initiatives first go to the government and then to the legislature, which take sides on the initiative and may respond to it with a counterproposal. Second, unlike in US states, where the lack of government cues partly accounts for the volatility of the outcome of referendums and initiatives (Magleby 1984), the Swiss government actively campaigns for or against a ballot measure to influence voters' decisions: it formulates vote recommendations and promotes its viewpoint in public meetings and the media. Moreover, the government's position is privileged in the booklet sent to all voters containing the ballot paper. Finally, while the government does not have the right to spend public funds on a political campaign, the parties in government are free to do so – and indeed, they often do so side by side with interest groups or trade unions.

Despite its active involvement in referendum and initiative campaigns, the government obviously does not exert full control over direct democratic processes. The outcome of a popular vote is always – at least partly – uncertain (Papadopoulos 1997). As in other direct democratic contexts, the government camp competes with a challenger camp in its attempt to influence vote choice (Kriesi 2012). In addition to political parties, interest groups, (new) social movements and ad hoc committees also actively campaign. Not surprisingly, then, the influence of campaign spending on the outcome of direct democratic votes has long been debated in Switzerland. A first provocative but methodologically weak study claimed that, by outspending their adversaries, wealthy interests were able to 'buy' a direct democratic vote (Hertig 1982).¹

Taking over the analysis, Kriesi (2005, 2006) initially found limited spending effects. However, results did not account for the endogeneity problem. A subsequent study recognizing the problem finds a general – albeit weak – effect of campaign spending (Kriesi 2009b). While this later

study broke ground, the methodological approach was not optimal. First, the proxy for the expected closeness of the vote is questionable: it stems from a model regressing the actual outcome of the vote on several variables (type of coalition, institutional type, parliamentary vote, time trend). Reducing the observed variables to a single dimension is problematic, since in the 'real world' this dimension cannot be observed by the elite. Interestingly enough, if we replicate Kriesi's (2009b) analysis but replace the single 'latent' proxy he uses with the four variables on which the proxy is based, the effect of government camp spending disappears. Second, in addition to the proxy for the expected closeness of the vote, two dummy variables are also included: a dummy capturing whether the expected support for the government is very high, and a dummy identifying cases where the government 'largely' outspent the challenger. Our replication tests again show that the effect of government camp spending is highly sensitive to the threshold used for these two dummies. Third, Kriesi's (2009b) analysis does not consider possible differences in campaign effects between referendums and initiatives. Therefore, we still do not know much about whether and under what conditions campaign spending influences the outcome of direct democratic votes in Switzerland.

Hypotheses

Investigating the role that money plays in votes is one of the main questions addressed in the direct democracy literature. In their review article, Lupia and Matsusaka (2004) conclude that money matters – but in a nuanced way. They first note that money 'does not give narrow special interests any greater advantage than they already enjoy in the legislature' (Lupia and Matsusaka 2004: 470). Second, summarizing the – by then – conventional view, they state that spending against a measure is more effective than spending in its favour (Donovan *et al.* 1998; Garrett and Gerber 2001; Gerber 1999; Magleby 1984). However, more recent studies that address the endogeneity problem find more symmetric effects, i.e. spending in favour of a measure has as strong effects as spending against it (de Figueiredo *et al.* 2011), if not stronger (Stratmann 2006).

This updated view informs our first hypothesis that *campaign spending for and against a ballot measure are both equally effective (H1a)*.

A caveat applies, however. Hypothesis 1a derives from the specific case of direct initiatives in American states; it does not necessarily accord with the conditions at work in other contexts or for referendums. We know from the literature on election campaigns that challenger spending has greater effects than incumbent spending (Jacobson 2006): because

incumbents are well known, they enjoy better starting conditions than challengers. For the same reason, however, incumbents do not benefit as much as challengers from campaign spending. Spending more helps challengers to increase their visibility, and thereby helps them to win additional votes. Spending more does not have the same effects for incumbents, who are already well known. Transposing the argument to direct democratic processes and taking into consideration the starting conditions under which these processes operate leads to the expectation that spending effects are not symmetric, but smaller for the camp expected to win the vote.

The Swiss government camp is always in a more favourable situation than the challenger camp at the outset of a direct democratic campaign. Legislative acts subject to compulsory or optional referendums are necessarily backed by a majority of parliament (Gava *et al.* 2020). Similarly, as ballot measures emanating from popular initiatives are usually rejected by parliament, the government camp starts the campaign with better prospects than the challenger camp. Therefore, our alternative Hypothesis 1 posits that *challenger spending is more effective than government camp spending (H1b)*.

The next two hypotheses elaborate further on the circumstances under which government camp spending is likely to be especially ineffective. The first bets on the conditional role played by the closeness (or not) of the race for the effects of government camp spending. The literature on spending in election campaigns draws our attention to the diminishing marginal returns of incumbent spending, especially if an incumbent benefits from a very safe seat (e.g. Moon 2006). In this situation, it is far more costly for the incumbent than for the challenger (or for an incumbent with a less safe seat) to gain additional votes. As Kriesi (2009b) notes, this argument adds to Jacobson's (2006) general argument that challenger spending has greater effects than incumbent spending. Applying this argument to our direct democratic context and to the role of the expected outcome of the race results in the hypothesis that *the greater the expected popular support for the government camp, the smaller the effect of its campaign spending (H2)*.

A similar expectation holds in situations of strong imbalance between government and challenger camp spending. As with letting sleeping dogs lie, there is a risk that additional spending by the camp that outspends its adversary will not be worth it. As becomes clear below, in most cases the government camp spends more than the challenger camp. Therefore, according to our last hypothesis, *the greater the imbalance of campaign spending in favour of the government camp, the smaller the effect of its campaign spending (H3)*.

Methodology

Earlier studies mistakenly treat campaign spending as exogenous, and therefore miscalculate the effect of money on the outcome of direct democratic votes. Endogeneity of spending arises because campaigning may be driven by the expected outcome of the vote, which influences both spending and the actual outcome of the vote. For example, a campaign sure of its victory has relatively few incentives to engage in campaign spending. In contrast, when the fight is vote by vote, the same campaign may spend massively. The lack of spending effects can then be an artefact linked to the omission of the expected popular support from the models (de Figueiredo *et al.* 2011).

Recent studies that consider the endogenous nature of campaign spending in direct democratic votes rely on different approaches to overcome the endogeneity bias. First, in analogy with a strategy used in electoral research (e.g. Jacobson 1978), studies resort to instrumental variable (IV) estimation (e.g. de Figueiredo *et al.* 2011). Yet the IV approach is not an easy endeavour; it crucially depends on the validity of instruments (Stratmann 2005: 139). In many situations, instruments may simply not be empirically available (Erikson and Palfrey 1998). While one can rely on weak instruments under specific circumstances (e.g. Hahn and Hausman 2003), this comes with a cost, and some even warn that ‘the cure can be worse than the disease’ (Baser 2009: 1207).

A second possibility is to rely on a fixed-effects approach (see e.g. Stratmann 2006). Including ballot-fixed effects and county-fixed effects helps to control for contextual factors that influence the amount of spending. A variant consists in estimating a multilevel model, including random intercepts for both the territorial sub-unit (county or canton) and the ballot measure.

The last two strategies are again derived from electoral research. One consists in running the analysis only on a subset of votes for which the endogeneity bias should be minimal or non-existent, i.e. votes that are expected to be close (Erikson and Palfrey 2000: 595). The other consists in controlling for the expected result of the vote in the model (see e.g. Abramowitz 1991).

Each approach can help to cope with the endogeneity problem, but each has limitations too. Therefore, we will estimate different models based on these approaches, then compare the results. In the Swiss mediated variant of direct democracy, controlling for the expected outcome of the vote is a promising strategy, and a valuable alternative to the IV strategy (Kriesi 2009b). All political parties issue voting recommendations prior to direct democratic votes. The line-up of the partisan coalition that

forms based on those voting recommendations can be used by policy-makers to anticipate the outcome of the vote.

On the one hand, initiatives emanate from political actors who would not find a majority of support for their policy proposal in parliament – or that are perhaps not even represented in parliament. On the other hand, legislative acts subject to referendum are introduced by the Swiss government and/or by the Swiss parliament. Therefore, as a rule of thumb, the ‘government camp’, i.e. the Swiss government and its allies in parliament and in the party system, advocates a Yes vote on constitutional and legislative changes, and a No vote on popular initiatives. The ‘challenger camp’, for its part, supports a Yes vote on popular initiatives and a No vote on constitutional and legislative changes.

While the four political parties represented in the Swiss government together hold more than 80% of parliamentary seats, the size of the partisan coalition supporting the government is often (far) smaller. This is because the government often suffers defection from one of its constituent parties, which can oppose the government camp on ballot measures. A ‘united government’, where the government position is shared by all four governing parties, holds in less than a quarter of direct democratic votes in our dataset. In a majority of votes (about 60%), one governing party (typically the Social Democratic Party or the Swiss People’s Party) joins the challenger camp. In some rare cases (about one vote out of ten), the government camp even faces the opposition of two governing parties. In line with this, we use information from the line-up of the partisan coalition as a measure of the expected vote outcome. Specifically, we calculate the size of the government coalition by adding the electoral strength of all parties whose vote recommendation is the same as that of the government. The results of the most recent federal election are used.²

The dependent variable in our analysis is the share of votes in support to the government position at the polls, that is, the rate of Yes votes for referendums and of No votes for popular initiatives. Given that the dependent variable is bounded between 0 and 1 (i.e. between 0 and 100%), we estimate beta regressions (e.g. Ferrari and Cribari-Neto 2004) in R with the packages *gamlss* (Stasinopoulos et al. 2017) and *brms* (Bürkner 2017, 2018). A beta regression estimates a mean model (reported in Tables 1–3, with a logit link function) and a precision model (with a log link function) related to the variance of the observations.

Data

Empirically, we analyse two sets of direct democratic votes. The first set covers a broad timespan, as it includes 323 direct democratic votes held

on the national level between June 1981 and May 2019.³ The second is a subset of the 60 national votes held between 2013 and 2019, which are analysed at the cantonal level (26 cantons). Thus, the unit of analysis is the canton vote (1560 observations).

While the first dataset allows for a comprehensive analysis of spending effects over three decades of direct democratic votes, the second offers a finer-grained and more accurate view of the cantonal context in which voters make their choice. First, in Switzerland's decentralized party system, cantonal parties express vote recommendations in addition to those of national parties. It is not unusual that cantonal parties support a different position than that of the national party. Moreover, party systems differ from one canton to the next, and so does the electoral strength of parties. Second, both the media landscape and the proceedings of political campaigns are influenced by the federal structure of the country. As a result, voters may be exposed to varying levels of campaign efforts, if not to different messages, across cantons. Last but not least, the rate of government support at the polls may also vary substantially across cantons, ranging from a median value of 59% to 72% for initiatives votes, and from 53% to 74% for referendum votes.

Although direct democracy is strongly developed in Switzerland, there are no legal provisions regarding the financing of referendum and initiative campaigns (Milic *et al.* 2014). Moreover, there are neither upper limits nor transparency requirements on the amount and origin of campaign funds. Therefore, information on campaign spending in Swiss direct democratic votes is scarce and difficult to collect. Suggestive evidence from a comprehensive inventory of newspapers and street posters countrywide for a selection of ballots shows that campaign spending varies considerably across votes (Hermann and Nowak 2012), but may reach high levels in comparative perspective (see e.g. Hobolt 2010; Smith 2010).⁴

In line with earlier work on Swiss direct democratic votes (e.g. Goldberg *et al.* 2019; Kriesi 2005; Marquis and Sciarini 1999; Sciarini and Tresch 2011), our measure of campaign spending is based on newspapers ads. The measure in the first dataset relies on ads published in six daily newspapers⁵ during the four weeks prior to voting day. For a smaller sample of votes (2013 to 2019), we have information about political ads published in more than 60 newspapers. This is the measure in the second dataset, where we can assign political ads to specific cantons.

Swiss law prohibits political ads on radio and TV,⁶ which increases the importance of newspaper ads for political actors. Moreover, according to VOX surveys conducted after each ballot, more than 80% of voters declare that they use newspapers to learn about the proposals submitted to vote (Sciarini and Tresch 2014). According to the same surveys, about

50% of voters use newspaper ads as a source of information.⁷ While in other countries media outlets are required to give media space for political campaigns according to specific rules (e.g. equal treatment, proportionality, etc.), this is not the case in Switzerland.

For each direct democratic vote, we use the number of ads published by each political camp as a measure of the level of campaign spending. In support for this indicator, it has been argued that the number of media ads more accurately measures voters' exposure to ballot measures than does campaign spending (Stratmann 2006): total spending also includes administrative expenses that are irrelevant in terms of influence on voters; in addition, the same amount of spending may result in a different number of ads (in different regions or journals, for example). To improve the precision of our indicator, we weighted the ads by the number of readers of each outlet, at the federal level for the first dataset and at the cantonal level for the second one.⁸

The online appendix presents tests showing that the number of newspaper ads in the six daily newspapers is a good proxy of the overall level of campaign spending (see Tables A1 and A2). First, the six major newspapers are representative of the broader media landscape: there is a strong correlation between the number of newspaper ads in the six dailies and in a broader set of outlets (60 newspapers). Second, and more importantly, our indicator also strongly correlates with the total amount of money spent on newspaper ads and street posters countrywide.⁹

In order to account for the non-linear effect of campaign spending, we take the log-transformation of this variable. Non-linear transformations of expenditure usually provide a better fit to the data (de Figueiredo *et al.* 2011). Substantively, it is indeed likely that spending 10,000 CHF more will not have the same impact if the spending level starts at 200,000 CHF or at 2 million CHF. Therefore, campaign spending gives decreasing marginal returns. In conformity with the coding of the dependent variable, government camp spending supports the ballot measure in the case of referendums and opposes the ballot measure in the case of popular initiatives. The reverse holds for challenger spending.

Table 1 presents some descriptive statistics regarding outcomes (passage rate and government support rate), size of supporting partisan coalition and campaign spending in Swiss direct democratic votes. It highlights some important differences between initiatives and referendums. First, in line with the 'status-quo-challenging' character of popular initiatives, the government is more successful in initiative votes than in referendum votes. Bearing in mind that in most cases the government opposes popular initiatives,¹⁰ the data shows that it is successful in about nine of ten popular votes. The passage rate and the mean government support rate are lower with respect to

Table 1. Descriptive statistics of Swiss direct democratic votes.

Institutional type	Total votes	Challenger win (yes for initiatives and no for referendums)	Government win (no for initiatives and yes for referendums)	Mean support rate for government	Mean government camp's electoral strength	Mean government camp spending*	Mean challenger camp spending*
Initiatives	139	13	126	64.8%	66.5%	1,180,808 CHF	565,764 CHF
Referendums	184	46	138	59.1%	69.2%	716,748 CHF	407,085 CHF
Total or mean	323	59	262	61.6%	68.0%	982,900 CHF	498,092 CHF

*Estimate based on 68 votes (MediaFocus data).

referendums. Yet the government is still supported by the people in three votes out of four, on average, and the average success rate amounts to almost 60%.

Second, popular initiatives usually lead to higher campaign spending than referendums. Moreover, the distinctive characteristic of initiative campaigns is the strong imbalance between the two camps: government camp spending (against ballot measures) often greatly exceeds the campaign spending of the challenger (in favour). This holds especially when initiatives emanate from left-wing political parties or social movements (Kriesi 2005). In such cases, the right-wing government coalition opposing the initiatives is usually large and resourceful, as it often includes the peak association of business interest groups (*economiesuisse*).¹¹ Campaign spending is more balanced between both camps for bills submitted to referendum.

A more detailed analysis, not reported here, shows some differences between bills subject to mandatory and optional referendum. Constitutional amendments are often uncontroversial and hence enjoy broader support among the party elite than bills attacked by referendum.¹² Compulsory referendums also display a slightly higher passage rate and support rate in direct democratic votes than bills subject to an optional referendum. Finally, campaign spending is generally lower for bills subject to compulsory referendum than for bills subject to optional referendum. However, treating compulsory and optional referendums separately would result in a (too) small number of observations in the regression analysis. We will nevertheless come back to the differences between the two types of referendum in the robustness test section.

Empirical results

Table 2 shows the results of various model specifications for both the country-level and canton-level analysis. Starting with the national level, Model 1 replicates the analysis of earlier studies that do not attempt to

Table 2. Effect of campaign spending on the outcome of direct democratic votes.

	Federal level			Cantonal level		
	I. No endogeneity reduction strategy	II. Controls	III. Only close race	IV. Fixed effect	V. Multilevel	VI. Bayesian multilevel
Government camp spending (log)	-0.022 (0.025)	-0.043 (0.024)	0.085 (0.055)	0.057*** (0.015)	0.051*** (0.007)	0.051 [0.022; 0.079]
Challenger camp spending (log)	-0.170*** (0.027)	-0.099*** (0.027)	-0.355*** (0.068)	-0.063*** (0.015)	-0.067*** (0.008)	-0.067 [-0.096; -0.039]
Expected government support		1.565*** (0.216)	0.732 (1.234)	0.909*** (0.056)	0.865*** (0.037)	0.868 [0.752; 0.982]
Initiative		0.269*** (0.056)	1.026* (0.182)		0.150*** (0.015)	0.147 [-0.116; 0.408]
Legislature	Included	Included	Included			
Topic	Included	Included	Included			
Number of objects	Included	Included	Included			
Intercept	0.572*** (0.173)	-0.669** (0.275)	-0.696 (0.695)	-0.372*** (0.074)	-0.112*** (0.027)	-0.094 [-0.306; 0.133]
Canton				Fixed effect	Varying intercept	Varying intercept
Ballot				Fixed effect	Varying intercept	Varying intercept
Observations	323	323	27	1560	1560	1560
N Cantons				26	26	26
N Ballots				60	60	60
Generalized (Pseudo) R ² (Cox-Snell)	0.236	0.379	0.884	0.792	0.792	

Models I to V: estimates from beta regressions, estimated with the *gamlss* package for R. Standard errors in parentheses. Only the mean model μ is reported (the precision model σ includes only a constant). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Model VI: estimates from a multilevel Bayesian beta regression, estimated with the *brms* package for R. Coefficients represent the median value of the posterior distribution. 95% Highest Density Intervals in brackets.

correct for the endogeneity of campaign spending. We also control for the legislature, since campaigns may have evolved over time, and for the topic of the ballot measure, since some issue areas may be more controversial than others.

The results of Model I are in line with the old conventional wisdom: challenger spending has a significant and negative influence on the rate of government support, whereas government camp spending has no influence. Yet we cannot trust the results of Model I, which ignores the endogeneity problem. As an attempt to address the problem, **Model II controls for the size of the partisan coalition supporting the government stance, which is our indicator for the expected vote outcome.** It additionally includes a dummy for the institutional type of the vote at stake. Both variables are significant correlates of government support. The bigger the partisan coalition supporting a ballot measure, the higher the government support. Initiatives lead to higher government support than referendums. More importantly, though, the inclusion of these two variables slightly reduces the impact of challenger spending, but the coefficient for government camp spending still remains non-significant – and negative.

However, the question arises whether Model II accurately copes with the endogeneity problem. To get a clearer view, we follow Erikson and Palfrey's (2000) recommendation and run a model focusing on close races (Model III), i.e. on direct democratic votes in which the size of the partisan coalition supporting the government stance was small (lower than 50%). Interestingly enough, the coefficient for government camp spending becomes positive and nearly reaches statistical significance, despite the very small number of votes under consideration. Yet even in a model focusing on close races, government camp spending has a smaller effect than challenger spending. At this point, we can thus provisionally conclude that our results lean more towards H1b (spending of the challenger camp is more effective than that of the government camp) than towards H1a (spending is effective for both camps, but not equally effective).

In order to obtain a more detailed view of spending effects, Models IV to VI break down the analysis to the cantonal level. As explained in the methodology section, the time span is shorter, but the cantonal-level analysis is arguably more appropriate to grasp the context in which public opinion forms. The measure of newspaper ads is based on a larger number of outlets and offers a more detailed view of campaign spending across cantons. Moreover, shifting to the cantonal level allows for the capture of variations in terms of expected vote outcome.

Models IV to VI slightly differ from each other in terms of specification, but the results show a very similar picture, and even almost identical coefficients between Models V and VI. In each model, the effect of both

challenger and government camp spending is significant (or credible, respectively) and has the expected sign. Yet in each model the effect of challenger is slightly greater than that of government camp spending. Calculating the marginal effect of spending from the coefficients of Model VI, we find that a 1000 CHF¹³ increase in spending results in a 0.05% (95% HDI: 0.02; 0.08) increase in vote support for the government (with a mean spending of 41,000 CHF at the canton level). For the challenger camp, spending 1000 CHF decreases government support more, by 0.09% [-0.13; -0.05] (with a mean spending of 16,100 CHF at the canton level).

Results from Table 2 indicate that models at the cantonal level more accurately address the endogeneity issue (as, for example, shown by the significant or credible coefficients for both camps' spending). In addition, subsequent models will include interaction terms and hence become more complex. Therefore, in the remainder of the analysis we focus on cantonal data and estimate multilevel Bayesian regressions. The Bayesian framework is more powerful and flexible than the frequentist framework when it comes to complex multilevel models (Browne and Draper 2006; Bürkner 2018; Gelman *et al.* 2014). We chose large (or *diffuse*) prior distributions to avoid constraining the parameters' space (see the online appendix for more details about the estimation approach). It is very unlikely that such large priors influence the posterior distributions. This is confirmed by the almost identical coefficients appearing in Models V and VI of Table 2.

Table 3 replicates Model VI of Table 2, but with additional interaction terms between the campaign spending variables and moderating variables. More specifically, it investigates whether the institutional type of ballot, the expected government support and the (im)balance in spending moderate the effects of government camp spending.¹⁴

Model I shows no difference in the marginal effect of spending between initiatives and referendums. This is an important result, which suggests that the pattern of spending effect is not sensitive to the institutional type of the ballot measure in question. That is, what matters for spending effect is not the bottom-up or top-down nature of the direct democratic institution, but how and to which extent the government engages in direct democratic processes and campaigning. In the Swiss 'mediated' variant of direct democracy, the same causes (i.e. the government's involvement is similar on initiatives and referendums) produce the same effects (i.e. the influence of campaign spending on government support at the polls is similar for initiatives and referendums).

Model II of Table 3 helps to test Hypothesis 2 about the diminishing marginal returns of government camp spending as a function of the expected popular support to the government camp. The interaction term

Table 3. Moderating effects of institutional type, expected government support and other camp's spending.

	Institutional type I	Expected government support II	Other camp's spending III
<i>Population-level effects</i>			
Government camp spending (log)	0.046 [0.007; 0.086]	-0.008 [-0.060; 0.042]	0.060 [0.028; 0.095]
Challenger camp spending (log)	-0.055 [-0.095; -0.014]	-0.065 [-0.095; -0.037]	-0.050 [-0.095; -0.007]
Expected government support	0.865 [0.747; 0.976]	0.724 [0.564; 0.872]	0.867 [0.753; 0.980]
Initiative	0.157 [-0.131; 0.428]	0.138 [-0.130; 0.420]	0.148 [-0.127; 0.400]
Government camp spending (log) * Initiative	0.009 [-0.042; 0.058]		
Challenger camp spending (log) * Initiative	-0.023 [-0.076; 0.033]		
Government camp spending (log) *		0.094 [0.027; 0.162]	
Expected government support			-0.008 [-0.023; 0.007]
Government camp spending (log) *			
Challenger camp spending			-0.108 [-0.328; 0.106]
Intercept	-0.097 [-0.332; 0.129]	-0.004 [-0.242; 0.217]	
<i>Group-level effects (sd)</i>			
Canton	0.125 [0.088; 0.170]	0.123 [0.085; 0.167]	0.125 [0.087; 0.170]
Ballot	0.518 [0.427; 0.620]	0.520 [0.430; 0.627]	0.517 [0.427; 0.622]
Observations	1560	1560	1560
N Cantons	26	26	26
N Ballots	60	60	60

Estimates from multilevel Bayesian beta regressions, estimated with the *brms* package for R. Coefficients represent the median value of the posterior distribution. 95% Highest Density Intervals in brackets.

between that variable and the expected outcome of the vote is credible, but the effect runs in the opposite direction: the more the expected outcome is favourable to the government camp, the higher the impact of its campaign spending. Figure 1 shows how the marginal effects of a 1000 CHF increase of government camp spending varies as a function of the expected outcome of the vote. The results run against Hypothesis 2. They show that the marginal returns of government camp spending do not decrease, but rather increase as the likelihood of government support at the polls increases. However, this result must be taken with a grain of salt. As will become clear in the robustness tests section, the increasing marginal returns of government camp spending hold mainly in a specific – and empirically rare – situation, i.e. when the challenger camp outspends the government camp.

Model III of Table 3 tests Hypothesis 3 regarding the effects of government camp spending in case of strong imbalance with challenger spending. As shown in Figure 2, if the government camp outspends its

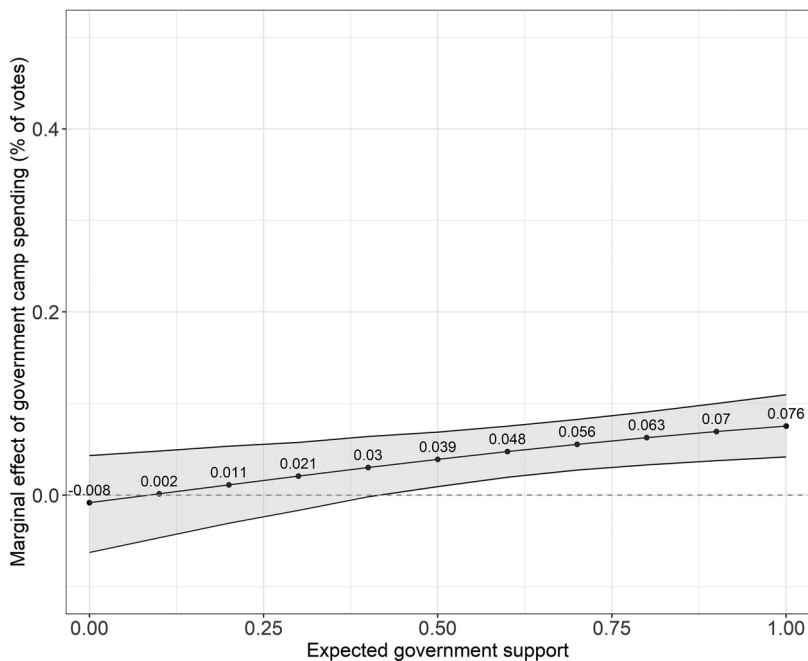


Figure 1. Moderating effect of the expected government support.
Note: The marginal effect indicates roughly how the percentage of the vote for the government varies for an additional 1000 CHF spent. Government and challenger camp spending set at their median value. Other variables at their median or mode.

adversary by up to 20,000 CHF, the marginal return of government camp spending decreases rapidly. This means that the more the government camp spends, the less effective its spending. Hypothesis 3 is thus confirmed. Note, however, that even if the government camp largely outspends the challenger, the effect of its spending remains positive and different from 0.

Robustness tests

We submit our results to three robustness tests (see online appendix). First, we run a comprehensive model including the full set of interactions between the two spending variables (government and challenger spending) and the expected outcome of the vote (Table A4). The results show some more nuances but remain fairly similar to those of Models II and III of Table 3. There is, however, one notable exception to the rule: modelling the interaction between challenger and government camp spending qualifies the result regarding the marginal returns of government camp spending. While according to Figure 1 – and against Hypothesis 2 – the

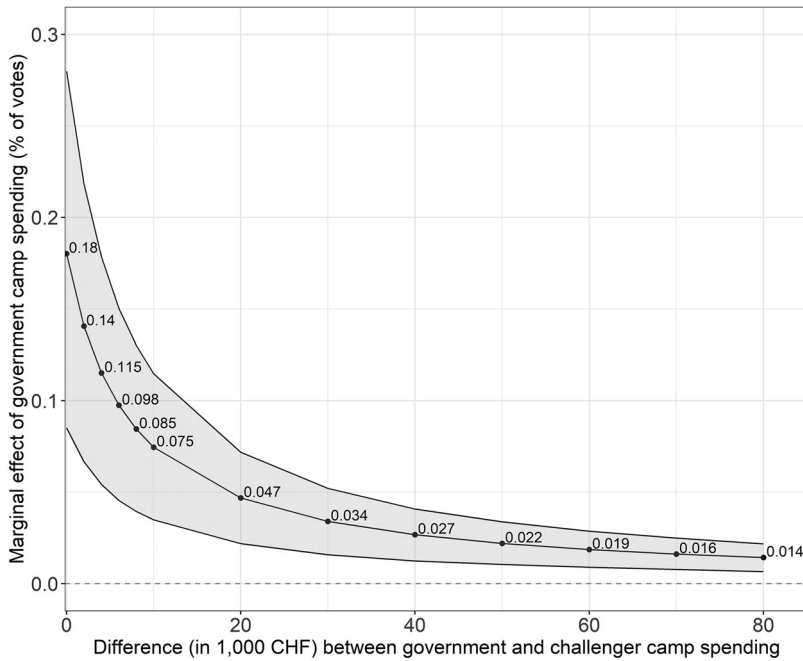


Figure 2. Moderating effect of the imbalance of spending.

Note: The marginal effect indicates roughly how the percentage of the vote for the government varies for an additional 1000 CHF spent. Other variables set at their median or mode.

marginal returns of government camp spending increases with the likelihood of government support, [Figure A1](#) tells a different story.¹⁵

[Figure A1](#) in the online appendix shows the marginal effect of government camp spending in four different situations: low spending for both challenger and government camp, low for challenger and high for government camp, high for challenger and low for government camp, high for both camps. As we can see, in three out of four situations, the marginal returns of government camp spending do not vary as a function of the expected government support. It is only when the government camp spends little and the challenger camp spends a lot that the marginal returns of government camp spending (as a function of the expected government support) becomes positive. In such a specific – and empirically rare – situation,¹⁶ the government camp finds itself in an unfavourable situation in terms of spending balance.

Such a positive marginal effect of campaign spending has already been observed in the context of elections: in *Pattie et al.*'s (2019) study of British general elections on the local level, the marginal effect of challenger spending increases as a function of the last election result; the more votes the local challenger received at the last election, the greater the effect of their spending at the current election. An increasing marginal

return thus seems a plausible effect in a context where a political actor finds itself in an unfavourable situation, i.e. in a position of challenger in an election, or when the government camp is outspent by its adversary in a direct democratic vote.

Finally, a closer look at the data shows that the observed increasing marginal effects seem to be due to within-ballot effects. That is, on a given ballot where the challenger outspends the government camp, an increase in government camp spending pays off more for the government in a canton where the expected support for the government camp is high than in a canton where the expected support for the government is low. Between-ballot effects, by contrast, are more in line with Hypothesis 2 about the diminishing marginal return of government camp spending as a function of the expected outcome, yet the effect is not credible (see Table A5 in the online appendix).

In light of this, it is reasonable to conclude that we find only mixed support for Hypothesis 2 about the marginal effects of government camp spending as a function of the expected popular support to the government camp. The effects differ between the within-ballot and cross-ballot perspective and vary depending on the specific configuration of (im)balance between government camp and challenger camp spending.

Second, Table A6 helps to test whether spending effects differ between optional and compulsory referendums: they do not, which reinforces the conclusion that the pattern of spending effects does not depend on the institutional type of direct democracy at stake. Third, our models so far are based on a continuous dependent variable (the percentage of votes supporting the government position). We consider an alternative indicator measuring passage: a binary variable taking the value of 1 when the outcome of the popular vote was in line with the government voting recommendation ($> 50\%$) and 0 otherwise. As Table A7 shows, the results are very similar to those from Model VI of [Table 2](#).

Conclusion

Whether campaign spending can influence the outcome of direct democratic votes has substantial theoretical and practical implications. Unsurprisingly, previous research has devoted considerable theoretical and methodological efforts to assessing the extent to which voters can be influenced through campaign spending. Most of this literature was both inspired by and concerned with the particular form of direct democracy widespread in American states. In the US unmediated version of direct democracy, where bottom-up direct initiatives are privileged, political elites occupy the backseat. By contrast, the top-down referendum variant

common in the European context is characterized by the active involvement and indeed leading role of government and political parties both prior to and during campaigns.

Focusing on Switzerland allows us to account for a large number of votes, various types of direct democratic institution (initiatives and referendums), as well as the key involvement of governments during campaigns. In short, the consideration of the Swiss mediated variant of direct democracy, and the simultaneous analysis at the federal and cantonal levels, allow us to extend previous research in both theoretical and empirical terms. Our methodological strategy includes the consideration of alternative models to address the endogeneity of campaigning. Such a strategy reinforces our confidence in the empirical results, which offer insights for both scholars and those seeking to influence the fate of direct democratic votes.

First, our empirical tests highlight the overriding influence of the size of the partisan coalition supporting the government stance. In comparison, the effects of campaign spending are small. By forming broad coalitions in support of the government stance, governing parties and their allies are able to substantially influence the outcome of direct democratic votes (Kriesi 2005, 2006). This suggests that, in contexts where the partisan elite takes centre stage, campaign spending is no silver bullet.

Second, while the effects of campaign spending are modest, they are still significant. In line with recent studies on citizen initiatives in the US, we find that spending is effective for both camps. However, in general the effect of challenger camp spending is greater than that of government camp spending. In terms of return on investment, challengers seem thus to gain relatively more from campaign spending. This is arguably because the expected outcome of the vote usually leans towards the government camp at the outset of campaigns.

Third, our results provide mixed support for the hypothesis that the marginal returns of government camp spending diminish when the expected outcome gets more favourable to the government. While the across-ballots effects tend to support the hypothesis, the within-ballot (i.e. across cantons for a given ballot) effects go in the opposite direction. Moreover, the results are highly contingent on the specific configuration at stake in terms of government camp and challenger camp spending. In a specific situation where the challenger camp outspends the government camp, the marginal returns of government camp spending can be positive. More work is thus needed to clarify whether and how the expected outcome of the vote moderates the effects of government camp spending.

Fourth, the results are more straightforward with respect to the pay-off of campaign spending when there is a strong imbalance in favour of the

government camp. In the cases revisited here, in line with findings from election contests, if the government camp invests far more money in the campaign than the challenger camp, the payoff of additional spending is very low.

Fifth, our results hold similarly for the two main types of direct democratic vote: initiatives and referendums. The marginal effect of spending is virtually the same whether it is an initiative vote or a referendum vote. This is an important result, which suggests that spending effects are not sensitive to the institutional type of direct democracy and their specific characteristics (e.g. the fact that initiative proposals are often less familiar to the public than referendum measures, see Milic *et al.* 2014). Given that the bulk of previous work on this topic has focused on initiatives in the US context, we hope that these insights encourage further attention on the role of campaign spending for referendums in Europe.

Altogether, then, the positive effect of campaign spending on direct democratic votes is confirmed in the 'hard' Swiss context. Yet money matters to a much lesser extent than partisan coalitions. Governments and governing parties are protagonists of referendum campaigns all over Europe, and their involvement is likely to be as decisive for the outcome of direct democratic votes as they are in Switzerland. However, our study also suggests that the degree to which government cues are decisive crucially depends on the degree of unity of the government (coalition). In short, campaign spending matters for direct democratic votes beyond the US, but it is only a (minor) part of the story when the partisan elite occupies centre stage. Even in the US, partisan elite cues may become more influential if political parties decide to use the initiative process more intensively and to provide explicit and clear cues to voters (Hasen 2000; Lewkowicz 2006; Tolbert and Smith 2006).

Notes

1. The study was based on simple correlations between the outcome (yes or no) and a weak measure of campaign spending (number of newspaper ads in two regional dailies and one free paper during the last week prior to the polls), and this for only 40 direct democratic votes from 1977 to 1981.
2. The final vote in the National Council, the lower Chamber of the Swiss parliament, could serve as an alternative measure of government support among the elite (Sciarini and Treschel 1996; Trechsel and Sciarini 1998). That measure is strongly correlated with the size of the partisan coalition supporting the government according to vote recommendation, especially for referendums (Pearson's $R = 0.69$, $N = 180$), yet the latter is a more valid measure of the vote outcome according to previous research (Kriesi 2009b).
3. The initial dataset included 328 direct democratic votes, but we must exclude five votes because no newspaper analysis was undertaken. The data on direct democratic votes stems from Swissvotes (2020).

4. For example, during the referendum campaign on the extension and renewal of the agreement on the free movement of persons with the EU in 2009, total spending on newspaper ads and street posters amounted to 11 m CHF, which means 2.20 CHF per registered voter; this is less than the 2008 campaign on the introduction of same-sex marriage in California (84.4 m CHF and 4.88 CHF per registered voter), but far more than the 2016 Brexit campaign (40.3 m CHF, but 'only' 0.87 CHF per registered voter), and also more than the 2000 campaign on the euro in Denmark (4.7 m CHF, 1.76 CHF per registered voter).
5. Two tabloid newspapers (*Blick* for the German-speaking region and *Le Matin* for the French-speaking region) and two quality newspapers in each linguistic region (*Tages Anzeiger*, *Neue Zürcher Zeitung*, *La Tribune de Genève*, *Le Temps* – formerly *Le Journal de Genève*). We thank Hanspeter Kriesi, Thomas Milic, Céline Colombo, Alessandro Nai and the *Année politique suisse* for making the data available to us.
6. Art. 10 of the Federal Act on Radio and Television.
7. These surveys also show that the booklet presenting the ballot measure and the voting recommendation of the Swiss government and parliament, which is sent to all voters, is also used by an overwhelming majority of them (70%) as a source of information (Sciarini and Tresch 2014). This underlines the importance of the role played by the Swiss government's cues for opinion formation.
8. Thanks to the organization Research and Studies of Advertising Media (WEMF) for data.
9. We thank Lucas Leemann and Oliver Strijbis for sharing this data with us. The recent trend towards using online tools (online ads, social media) as additional campaign means should not affect the validity of newspaper ads as an indicator of campaign spending, since these tools are still weakly developed in Switzerland.
10. There are only two exceptions in our data, i.e. two initiatives for which the government recommended a Yes vote. We coded them accordingly.
11. Note that the influence of interest groups on Swiss direct democratic votes is difficult to measure, because they typically align with the political parties of their respective camps (Kriesi 2006). In many cases, interest groups' spending in support of (or against) a given proposal remains unnoticed, since they take place indirectly, with interest groups subsidizing the spending of their allied parties.
12. The very fact that an optional referendum is used demonstrates that consensus-building efforts made during the pre-parliamentary and parliamentary phases were not completely successful.
13. Estimation based on the correlation between the number of ads and the estimation of the campaign money (MediaFocus data).
14. As Table A3 in the online appendix shows, the results are almost the same if we estimate the models in a frequentist framework.
15. Figure A2 (based on Table A4) also provides a more detailed view of the effect of spending imbalance.
16. To give an idea of the rather exceptional character of such a configuration, in our data the situation where the challenger camp spends more than 25,000 CHF (*mean + one standard deviation*) and outspends the government camp by more than 10,000 CHF corresponds to only 8% of empirical cases.

Acknowledgements

Earlier versions of this article were presented at the Annual Conferences of the Swiss Political Science Association in St Gallen in January 2017 and in Zürich in February 2019. Many thanks to the participants, as well as to Simon Hug, Adrien Petitpas and Eva Fernandez Guzman Grassi.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Swiss National Science Foundation (grant 100018_159370).

Notes on contributors

Julien M. Jaquet is a doctoral candidate in the Department of Political Science and International Relations, University of Geneva. His main research interests include political decision-making processes, legislative studies, political participation and data science. His work has appeared in *European Journal of Political Research* and *Electoral Studies*. [julien.jaquet@unige.ch].

Pascal Sciarini is Professor of Swiss and Comparative Politics at the University of Geneva. His main research topics are decision-making processes, direct democracy, Europeanization and political behaviour (participation and vote choice in elections and direct democratic votes). His work has appeared in *Comparative Political Studies*, *Electoral Studies*, *European Journal of Political Research*, *European Union Politics*, *Journal of European Public Policy*, *Journal of Politics* and *West European Politics*, among others. [pascal.sciarini@unige.ch].

Roy Gava is Assistant Professor in Business and Politics at the School of Economics and Political Science, University of St Gallen. His research interests include policy-making, interest groups, financial regulation and data science. His work has appeared in *Political Science Research and Methods*, *Interest Groups & Advocacy*, *International Review of Administrative Sciences*, and *Journal of Legislative Studies*, among others. [roy.gava@unisg.ch].

ORCID

Julien M. Jaquet  <http://orcid.org/0000-0002-8759-2525>

Pascal Sciarini  <http://orcid.org/0000-0003-0782-7652>

Roy Gava  <http://orcid.org/0000-0002-0354-5191>

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