



Fiscal performance and the re-election of finance ministers—evidence from the Swiss cantons

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Abstract

Using data from 225 cantonal government elections over the 1980–2019 period in Switzerland, we estimate the effect of fiscal performance on the vote share of finance ministers seeking re-election. Our estimations show that finance ministers benefit statistically and electorally from balancing fiscal accounts and presenting budget surpluses. Improving the fiscal balance by 1000 Swiss francs per inhabitant in the pre-election year raises the electoral result of a finance minister by 1.4–5.4 percentage points from the vote share of her previous election. We present evidence for politician-specific monitoring: the finance minister—in contrast to the spending ministers—seems to be the sole member of government who benefits, electorally, from debt reduction. Correcting for possible selection phenomena, our results suggest that the electoral effect of fiscal performance may not be caused by a selection bias but rather by the office of the finance ministry itself.

Keywords Fiscal performance · Electoral accountability · Finance minister · Multi-seat majority elections

JEL Classification D72 · H72 · E62

1 Introduction

Making use of the unique institutional context of the Swiss cantons in terms of fiscal autonomy, democratic institutions, and electoral rules, this paper asks whether voters hold cantonal finance ministers accountable for a canton's fiscal performance on re-election day. Since 1970, significant research on the accountability relationship in elections has been conducted, both on theoretical as well as empirical grounds. Nevertheless, it has remained difficult to demonstrate empirically consistent effects across countries, time periods, and levels of government. Because different factors can influence a voter's perception,

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evaluation, attribution of performance and, hence, his vote choice (Anderson, 2007), the identification strategy is crucial for empirical analyses of electoral accountability. According to Besley (2004, p. 210), models of electoral accountability are most promising when applied in contexts characterized by directly and individually elected executives with significant discretionary power. Swiss citizens can, on the cantonal (state) level, elect all members of the government's executive branch directly in multi-seat majoritarian elections, in contrast to other countries where the different members of the executive branch are appointed by the prime minister or president.

Switzerland thus provides several advantages for our analysis. First, the members of the executive branch are elected by the citizens by majority vote and a candidate's (re-)election result can be compared to her own previous election campaign. Second, the fact that the cantonal finance minister mainly is responsible for balancing fiscal accounts differs from existing studies, which have dealt mostly with the re-election of a president, mayor, or governmental parties. Indeed, presidential or mayoral re-elections might be attributable to performances in fulfilling their various policy mandates. But concrete fiscal indicators may provide a direct and more objective performance measure when analyzing outcomes from the finance ministry, and, thus, the minister in question. Third, cantonal executive governments comprise five or seven members, so several incumbents usually are running for re-election, constituting a control group of spending ministers. That feature can yield some additional insights regarding the attribution of responsibility. By focusing on the sub-federal level of governance in Switzerland, the present study engages in a subtler and more precise analysis of performance-oriented voting.

The paper is structured as follows: Sect. 2 summarizes the relevant literature on electoral accountability as well as fiscal performance; it then describes the theoretical intuitions guiding our empirical analysis. Section 3 discusses the institutional context of the Swiss cantons and Sect. 4 is devoted to the dataset as well as the econometric model. We then present and discuss the results in Sect. 5; Sect. 6 concludes.

2 Electoral accountability and fiscal performance

In a representative political system, wherein citizens delegate authority to policymakers, principal-agent problems, like moral hazard and adverse selection, can occur. Voters cannot observe a politician's effort and competence directly; they will instead evaluate an incumbent based on observed policy outcomes in order to cast their votes (Ashworth, 2012; Besley, 2006). In line with the theory of economic voting, empirical findings from Kramer (1971), Hibbs (1987) or Nannestad and Paldam (1994) suggest that objective as well as a subjective perceptions of economic growth and low unemployment rates have a statistically significant positive effect on an incumbent's approval rating and re-election chances.

As research turned to the influence of government spending, budget deficits and debt on electoral support, Brender and Drazen (2008) suggested reasons for the electoral benefits of expansionary fiscal policies other than economic stimulation. First, expenditures targeted to specific groups may increase the number of votes an incumbent receives from those groups. Second, voters may simply like low taxes and high spending and so vote for politicians who deliver them. Conversely, large reductions in deficits and austerity measures are assumed to have negative effects on the re-election prospects of the executive governments who implement them. Aidt, Veiga and Veiga (2011), Drazen and Eslava (2010)

as well as Klomp and de Haan (2013) present evidence for election-motivated expansionary fiscal policies and the resulting positive effects on election outcomes.

In contrast, Alesina et al., (1998, 2012) find that fiscal austerity measures in OECD countries have either null or positive electoral consequences rather than the expected negative ones. The findings of several studies conducted at the local level (Brender, 2003; Peltzman, 1992) or across countries (Brender & Drazen, 2008) similarly show that a worsening of the fiscal balance in the election year as well as in the years preceding it reduces the probability of an incumbent being re-elected. Hence, the empirical evidence on the electoral effects of fiscal policies is much less clear-cut than former assumptions and theories would suggest (Alesina et al., 2019), making further exploration worthwhile. Lowry et al. (1998) present evidence that voters react differently to fiscal performance depending on which party controls political office, thus arguing that voters do not vote against fiscal excess in general but only when it deviates from expected performance. We postulate that studying multi-seat majority elections can not only identify possible partisan effects but also identify a possible differentiated impact on vote depending on which ministry the incumbent has been in charge.

Budgets may display common pool characteristics (Buchanan & Tullock, 1962), meaning that they are at risk of being over-exploited by competing spending requests of various interest groups benefiting from certain policies, while the costs are imposed on taxpayers in general (Feld & Schaltegger, 2010, p. 507). Spending ministers are more likely to be sensitive to special interests because they can improve their reputations by authorizing new and extensive expenditure programs, whereas finance ministers without portfolios and responsible for balancing the overall governmental accounts are believed to internalize the full costs of fiscal policies and, thus, internalize the common pool externality (von Hagen & Harden, 1995; Jochimsen & Thomasius, 2014). The finance minister does not like to increase taxes and will therefore allocate tax monies more efficiently and be cautious towards new expenditures because she derives prestige from sound public finances. The conventional view is that strong and competent finance ministers might resolve the common-pool problem by disciplining their ministerial colleagues and thus controlling public budget deficits (Jochimsen & Thomasius, 2014). Additionally, a finance minister can choose the level of effort she devotes to managing and implementing the budgeting process, or the level of effort devoted to rent appropriation. The budgeting process is time- and effort intensive; it requires examination of all activities and projects from the other ministries, inspection of the various sources of budgetary receipts and expenditure as well as undertaking numerous discussions with many different spending ministries and the parliament. Asymmetric information creates incentives for spending ministers to misrepresent budgetary targets and programmatic requirements to gain more funds (von Hagen & Harden 1995, p. 778). The finance minister may in turn adopt pessimistic fiscal projections strategically in order to discourage excessive spending bids both by the government's other executive branch members and the parliament (Chatagny & Soguel, 2012; von Hagen, 2010). Hence, rent-appropriation in terms of money, staff time, and effort in the pursuit of her own or special interests may come at the expense of successfully balancing the budget. Because of their special roles in the budgeting process, citizens may hold finance and spending ministers accountable for a government's fiscal performance in different ways. Better fiscal performance may strengthen voter beliefs that a finance minister is highly competent, thus leading to larger incumbent vote totals.

From an economic point of view, deficits and debt are neither bad nor good per se. Indeed, according to the tax-smoothing theory (Barro, 1979), budget deficits and surpluses can be used as buffers to minimize the distortionary effects of taxation, given a certain

spending path, or to deal with tax revenue fluctuations over the business cycle (Alesina & Perotti, 1995, p. 6). Running deficits to finance wars, important infrastructure projects, innovations, or to tackle a recession commonly is seen as justifiable and beneficial. However, voters may interpret deficits as a signal of the finance minister's incompetence and fiscal mismanagement, especially if voters doubt that the deficits were incurred for useful and justifiable purposes or believe that the finance minister could not control the spending ministers. The previously mentioned empirical findings suggesting that voters do not like loose fiscal policy or large deficits are supported by financial referendum votes in Switzerland (Feld & Matsusaka, 2003) as well as by the introduction of a federal debt brake (approval 84.7%). Based on a survey, Swiss citizens prefer to avoid budget deficits by means of spending cuts rather than tax increases or incurring additional indebtedness; they want budget surpluses to be allocated to reducing the public debt (Salvi & Schnell, 2016). Therefore, the median Swiss voter reasonably can be assumed to favor balanced fiscal accounts and budget surpluses as well as to re-elect finance ministers who deliver those outcomes. Thus, our hypothesis:

Balanced budgets and budget surpluses have positive effects on a finance minister's vote share.

We also investigate whether the effect of fiscal performance is uniform. Advocates of a linear effect may argue that fiscal consolidation, i.e., reducing the stock of public debt, simply could be seen as positive and, moreover, that budget surpluses are informative signals of a finance minister's competency and fiscal preferences. Conversely, large surpluses likewise could be perceived as signs of inadequate public service provision, overly high taxes, or fiscal mismanagement (Lowry et al., 1998). If so, one could expect diminishing marginal returns to large budget surpluses.

3 Institutional context

3.1 Financial management on the cantonal level

The 26 Swiss cantons have considerable autonomy in terms of fiscal policy and financial management. Each canton is free to decide whether to levy taxes and other fees—and at what rates. A similar autonomy is found for expenditure policies. The cantons are responsible for more than 40% of total public spending and revenue when taking into account Switzerland's three levels of government. The largest shares of the cantonal budgets are allocated to education, social security, and public health. Capital expenditures comprise about 10% of cantonal budgets. Cantons finance their activities mainly through taxes and transfers, yet their respective revenue shares vary considerably across space and over time. The legal framework for financial management is provided by the cantonal constitution and parliament's Financial Management Act (FMAP); it varies between cantons. However, all cantons but one have adopted some kind of fiscal rule with the general idea that the public budget should be balanced and that capital expenditures should by and large be self-financed; the aim is to prevent and tackle debt. Indeed, because the majority of the cantons in the 1990s experienced deficits, earmarking growing budget shares for servicing governmental debt, spending discipline and sound public finances became an issue that has shaped political debate ever since.

The cantonal finance ministry creates the annual budget based on spending requests and revenue forecasts, which is then discussed and negotiated with the spending ministers. Total expenditures usually exceed the framework's guidelines and expected revenues. After the bargaining phase, the budget proposal is submitted to the cantonal parliament for a vote. The parliamentary debate and amendment possibilities differ between cantons (Burret & Feld, 2018, p. 169). Ministries often propose projects that, depending on the expenditure level, require contingent appropriations by the government's executive branch, parliament, or even the citizens before they can be considered for inclusion in the budget. Indeed, a majority of the cantons may hold optional or mandatory financial referendums if a one-time or recurring expenditure exceeds a predetermined threshold. By releasing budgets and financial statements, objective information on fiscal performance is made available to voters (e.g., press conferences, media reports, public conferences and debates, panel discussions). Furthermore, the possibility of financial referendums, the obligation to vote on tax law changes in some cantons, and the initiative instrument strengthen political awareness of cantonal fiscal policy issues.

3.2 Cantonal executive governments and multi-seat majoritarian elections

The executive branch at the cantonal level consists of five or seven members elected by the citizens every four to five years. Yet, the electoral cycles differ between cantons, meaning that all cantonal government elections do not take place in the same year nor even during the same month of the year. Voters have as many votes as there are seats, but they do not need to cast all to them ("restricted approval voting"). Depending on the number of candidates, which usually exceeds the number of available seats by about a factor of two, the number of possible vote combinations is quite large. Parties usually propose fewer candidates than available seats in order to increase the probability of their candidates being elected because people do not vote only in line with party-ideological preferences. According to Eichenberger et al. (2018), a multi-seat executive government elected by majority vote supplies politicians with even stronger incentives to shift toward the political center than one-seat majority elections. Because the candidates can and generally do take on more moderate positions than their parties, the ideological differences between them shrink, making individual characteristics such as perceived competence more important for the vote decision. To be (re)-elected in the first ballot, a politician has to be ranked in the top five (or seven) candidates and gain an absolute vote majority. If not enough candidates achieve an absolute majority to fill all government seats in the first ballot, a second ballot decided by plurality voting takes place a few weeks later.

Across cantons and election cycles, the executive branch of the government is composed of members from up to five different parties. Each member of the executive branch supervises a specific ministry, i.e., education, health, environment, security, justice, economy, or finance. The political weights of the different ministries vary from canton to canton; however, the finance ministry always is a key department in every canton. When the newly constituted executive government meets for the first time, the members immediately deliberate about how to divide up the different ministries. Each canton has its own procedure, but neither binding rules nor criteria apply. Generally, executive branch members can choose their ministerial posts based on seniority or based on the vote shares of those entering office at the same time. However, most often ministry appointments are determined by joint discussions between government members that consider professional backgrounds, experiences, and the personal interests of the politicians. Executive branch members also are permitted

to change their ministries after elections or by-elections. The cantonal candidates are not elected to a specific ministry and, indeed, nothing guarantees that finance ministers remain finance ministers after their re-election (Chatagny, 2015). However, since 1980, only four finance ministers out of around 130 switched portfolios and took over a spending ministry in their next term. So, traditionally, a re-elected finance minister stays in charge of the finance ministry. Conversely, in several cases, spending ministers have become finance ministers later in their cantonal government careers. Local and regional media coverage often portrays executive government members with respect to the specific ministry and political issues for which they are responsible. Such coverage mainly is because each minister holds separate press conferences regarding his or her own political business and is the (only) one in the government to be personally involved in the debate when charged with an issue being voted on in direct democratic ballots. Archives and records (some online) of regional newspapers frequently include headlines quoting figures about a canton's fiscal performance, followed by the name of the finance minister in the first sentences.

Because ministerial posts are not term-limited, executive branch officials are free to decide when to retire from government. It often is a decision that the minister makes based on his personal circumstances; the influence of his or her party is rather small. Cantonal ministers likewise may aspire to higher political offices; that has been true of various finance ministers in our sample: four went on to become members of the Federal Council (the national government's executive branch), 20 of the Council of States (parliament's upper chamber) and 13 of the National Council (parliament).

4 Empirical strategy

4.1 Dependent variable: change in vote share from the previous election

The dataset we collected consists of all 225 cantonal government elections that occurred between 1980 and 2019, in all 26 Swiss cantons but one.¹ The observations correspond to 552 incumbents, including 99 finance ministers, who sought re-election at least once. Overall, the sample comprises 1027 cases of incumbents running for re-election; 179 of them involve finance ministers. However, because we consider only competitive election settings and do not take into account incumbents initially elected in by-elections, the sample was restricted to 722 suitable observations (126 concerning finance ministers). The re-election rate of finance ministers is—conditional on running for re-election—quite high: only five incumbents failed to be re-elected since 1980 (2.8%). In contrast, 52 spending ministers (6.1%) seeking re-election since 1980 did not succeed. Because our interest lies in whether fiscal performance induces more or fewer people to vote for a finance minister, we rely on the share of votes obtained by a candidate in relation to the total votes cast in order to operationalize the election result. More precisely, we exploit the change in the obtained vote share from the previous election as is customary in the literature (Powell & Whitten 1993, p. 394).

¹ No results are available for the canton of Appenzell Innerrhoden because elections there occur in a *Landesgemeinde* (show of hands voting, operating by majority rule). *Landesgemeinden* were abolished in 1996 in Nidwalden, in 1997 in Appenzell Ausserrhoden and in 1998 in Obwalden. Therefore, ballots are considered only for the subsequent years in those cantons. Also, in the canton of Appenzell Ausserrhoden, most election settings were not competitive during the sample period and therefore were excluded from the analysis.

Table 1 Vote shares of incumbents running for re-election

Vote % or Δ in Vote % ^a	Obs all incumb.	Mean all	Mean FM	Mean SM	Min all	Max all
Initial election ^b	300	44.9	46.0	44.7	16.1	85.4
All re-elections opportunities ^c	917	53.5	56.3	52.9	10.1	92.9
Δ to prior election result	722	1.4	1.4	1.5	-59.9	39.2
Δ to incumbent from same party in same election	479	-1.4	1.3	-2.1	-42.5	28.7
1st re-election opportunity	425	52.3	52.9	52.2	10.1	90.1
Δ to prior election result	300	6.4	6.7	6.3	-39.7	36.1
2nd re-election opportunity	305	53.1	56.6	52.4	20.4	92.9
Δ to prior election result	275	-2.2	-0.3	-2.6	-59.9	37.9
3rd re-election opportunity	141	56.9	60.0	55.8	27.6	89.3
Δ to prior election result	114	-2.0	-2.4	-1.8	-31.2	39.2
4th re-election opportunity	31	56.0	59.8	54.7	29.3	79.9
Δ to prior election result	26	-0.7	-1.6	-0.2	-19.6	11.8
5th re-election opportunity	10	55.4		55.4	22.1	86.6
Δ to prior election result	6	-7.1		-7.1	-34.6	9.3
6th re-election opportunity	2	57.1		57.1	48.4	65.7
Δ to prior election result	1	-4.1		-4.1	-4.1	-4.1

^aVote shares resp. change in vote shares obtained in the first ballot (possible second ballots are not taken into account)

^bWithout incumbents initially elected in a by-election or in non-competitive elections. Moreover, the category does not include initial regular elections of politicians before 1976

^cOnly competitive election and re-election settings are included and reported in the table

Table 1 shows the distribution of the dependent variable for the sample of incumbents between 1980 and 2019. Considering all cases of incumbents running for re-election, the average vote share amounts to 53.5% and increases by 1.4 percentage points between two successive elections. Looking only at the first re-election opportunity reveals an average increase of 6.4 percentage points for an incumbent initially elected in a regularly scheduled election. The largest vote loss in the sample was 59.9 percentage points (in a third re-election), whereas the largest gain equals 39.2 percentage points (fourth re-election). Columns 4 and 5 present the average results separately for incumbent finance ministers (FM) and incumbent spending ministers (SM). Overall, FMs tend to obtain larger vote shares when seeking re-election (56.3%) than do SMs (52.9%). FMs already have slightly larger average results in their initial elections and their votes tend to exceed those of spending ministers in the first re-election opportunity or to decline less in the second re-election opportunity. From the third re-election opportunity on, SMs lose less than FMs.

Additionally, the context of cantonal government elections in Switzerland means that it is possible to compare election results between members of the same party in the same election and, thus, to hold cantonal, partisan, and election-specific characteristics constant, therefore focusing solely on individual differences. The fourth row of Table 1 indicates the difference between incumbent candidates from the same party running in the same election.

On average, FMs have a 1.3 percentage point lead over their fellow incumbent party member, whereas SMs lag 2.1 percentage points behind their incumbent party colleague.²

4.2 Explanatory variable: fiscal balance in the pre-election year

The ability to balance fiscal accounts and to keep indebtedness under control usually are the main indicators adopted to assess a finance minister's effectiveness and the soundness of his fiscal steering (Hallerberg & von Hagen, 1997). So, our explanatory variable reflects those fiscal performance measures based on cantonal fiscal balances in the pre-election year, stated in real terms and per inhabitant in units of CHF 1000. The fiscal balance measure is nothing other than the difference between all revenues (cash in) and all expenditures (cash out), including capital transfers and expenditures. It thus corresponds to the reduction or increase in the canton's net debt level.³

Appendix 1 contains descriptive statistics for the dependent, explanatory, and control variables. The election-specific data were collected from the official cantonal registers (online or Swiss national library), the financial data for the explanatory variable come from the federal finance administration; the economic and political control variables are from the federal statistical office. Finally, we collected incumbent characteristics using questionnaires sent directly to former and current ministers or based on politicians' websites and the *Historical Encyclopedia of Switzerland*.

Figure 1 presents the changes in vote shares from the previous election for finance ministers (vertical axis) plotted against the cantonal fiscal balance per capita in the pre-election year in units of 1000 Swiss francs (horizontal axis), categorized by the number of re-election opportunities. The grey triangles indicate the observations; the black line approximates the trend. With the exception of the fourth re-election opportunity, the trend shows an ever-stronger relationship between fiscal balances and election-over-election vote shares.

4.3 Econometric specification

Our dataset has a rather unusual structure. Over the period examined (1980–2019), at least one cantonal election took place every year. The largest number of cantonal elections held in a single year was six. The number of incumbents running for re-election varied from one to seven depending on the election. Furthermore, the number of times an incumbent ran for re-election also varied between one and six. The data nevertheless enable us to compare

² If more than two incumbent party members ran for re-election, the variable is measured the following way: the value of the highest ranked party member equals the difference between his vote share and that of the second highest ranked party member; the value of the second highest ranked party member equals the difference between his vote share and the vote share of the highest ranked party member; the value of the third highest ranked party member equals the difference between his vote share and the vote share of the highest ranked party member, and so on.

³ Relying on the debt level or its growth rate as an explanatory variable instead implicitly would relate the performance of a finance minister to his predecessors within a canton. Indeed, the same achieved budget deficit or surplus in absolute terms would assign smaller numbers in more indebted cantons (Jochimsen & Thomasius 2014, p. 395). Hence, voters might not react to the absolute level of the debt or its growth rate but rather to the balance of fiscal accounts because debt levels are inherited and not controlled fully by the sitting finance minister.

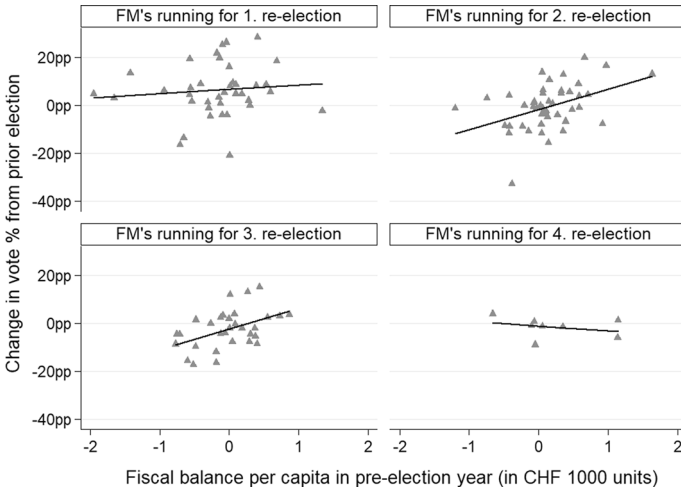


Fig. 1 Increase or decrease of vote share achieved by finance ministers (FM) versus the fiscal balance reported in the pre-election year (first through fourth re-election opportunity)

the effect of the fiscal balance on incumbent vote share for two types of ministers (spending versus finance minister) in two types of fiscal performances (budget surplus versus deficit).

$$\Delta \text{incumbent vote share}_{ipct} = \alpha + \beta fm_{ipct} + \lambda \text{fiscal balance}_{ct} + \mu (fm * \text{fiscal balance})_{ipct} + \delta \text{vote share}_{ipct-1} + \varphi X_{ipct} + \gamma W_{ct} + \theta_c + \tau_p + \varepsilon_{ipct}.$$

The dependent variable measures the change in the vote share of incumbent minister i , member of party p , in canton c , running in re-election (year) t , from his previous election. Parameter β refers to the estimated coefficient on a dummy variable that takes the value 1 if the incumbent running for re-election was a cantonal finance minister and 0 if she was a spending minister. The estimated parameter λ indicates whether the fiscal balance in the pre-election year matters for spending ministers. A negative coefficient is expected if citizens evaluate budget surpluses as a sign of spending minister weakness (relative to finance ministers) or zero if citizens, when casting their votes for spending ministers, do not take the overall fiscal balance into account, caring only about specific spending categories. Conversely, if citizens, in consideration of the principles of consensus and collegiality that characterize the Swiss governmental systems, attribute the fiscal balance to the entire executive body and not to the FM alone, the coefficient may be positive. The interaction coefficient μ represents the additional effect of the fiscal balance on a finance minister’s vote share; according to our hypothesis, we expect a positive sign. Alternatives to the just-specified functional form are investigated in a second step.

The individual control variables are represented in the matrix X_{ipct} and φ is the associated vector of parameters. Relevant time-varying election control variables are indicated by W_{ct} and γ is the associated vector of parameters. Furthermore, θ_c are unobserved time-invariant cantonal fixed effects and τ_p are party fixed effects. Indeed, government elections may differ considerably between cantons and it is quite likely that political cultures and preferences affect citizen voting behavior and their tendencies to vote for incumbents significantly. Also, some party-specific effects besides party strength may be at work that plausibly affect the electoral fortunes of incumbents of the same parties within and across

elections and cantons. A new canton and party identifier is created for every 10 years to allow for changes in the political culture, preferences, and normal partisanship over time (Fowler & Hall, 2018). As such, the canton and party fixed effects actually are canton-period, party-period fixed effects, wherein two to three election cycles are nested into 10-year periods. Doing so takes into account that political power alternates.⁴

The error term ε_{ipct} may, owing to the dataset's structure, display group-wise heteroscedasticity at the cantonal-, party-, election- and politician-level. While clusters related to politicians and cantons are nested, that is not the case for politicians and elections nor parties and cantons. Therefore, we apply a methodology for multi-way non-nested clustering. However, with only 24 unbalanced clusters at the cantonal level, test statistics could over-reject null hypotheses and the confidence intervals could become too narrow (Cameron & Miller 2015, p. 3). The standard errors instead are clustered at both the election and the individual level because the observations of different politicians within the same election and of the same politician over different elections may not be independent. Singleton groups are common in regressions with multiple levels of fixed effects. Yet maintaining them when fixed effects are nested within clusters can overstate statistical significance and lead to incorrect inferences (Correia, 2015). Thus, singletons are dropped iteratively in the estimation, potentially resulting in fewer observations than presented initially.

Entering the previous vote share δ as a control variable is justified theoretically since it seems easier or more difficult to gain votes depending on the earlier vote share. However, it poses some methodological difficulties because the previous vote share probably is correlated with a politician's individual characteristics as well as with cantonal fixed effects. That correlation may render the estimators inconsistent (Angrist & Pischke, 2009). In response, we vary the specification of our regression model to examine the robustness of our estimates.

5 Results

5.1 Main results

Table 2 presents the results from our regression estimates. Its top rows focus on how the fiscal balance in the pre-election year affects differences from the previous election in the vote shares of finance and spending ministers. In the first column (Model 1), the interaction effect is positive and statistically significant at the 1% level. A one-unit increase in the fiscal balance (i.e., CHF 1000 per citizen) correlates with a 3.4 percentage point gain for the FM from her last vote share (95% confidence interval: 1.4–5.4 percentage points).⁵ The base effect of being a finance minister, measuring the difference between finance and spending minister when the fiscal balance equals 0, likewise is statistically significant at

⁴ The share of seats in the cantonal executive branch held by the Christian Democratic People's Party (CVP), for instance, declined markedly over the past few decades in some cantons, while the Swiss People's Party (SVP) and the Green Party (GPS) gained popularity (Burret & Feld, 2018).

⁵ Here, a massive outlier is excluded: the 2008 election in the canton of Basel City. Indeed, a huge budget deficit occurred in 2007 because of the recapitalization of its employees' pension fund. The rescue plan was presented as an extraordinary expense. It did not harm the electoral fortunes of the finance minister, who had presented surpluses for all her other years in office. While not excluding that observation, the interaction effect would be significant only at the 5% level and amount to 2.4 percentage points.

Table 2 Main results

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Change in vote % from prior election	Change in vote % from prior election	Vote %	Vote % margin to fellow incumbent	Change in vote % from prior election	Change in vote % from prior election	Change in vote % from prior election
All re-election opportunities							
Finance minister	0.025*** (0.007)	0.024*** (0.006)	0.027 (0.021)	-0.022 (0.028)	0.034** (0.016)	0.041*** (0.015)	0.035*** (0.012)
Fiscal balance	0.001 (0.005)		0.004 (0.004)	-0.023** (0.011)	0.001 (0.010)	0.001 (0.010)	
FM * fiscal balance	0.034*** (0.010)	0.040*** (0.011)	0.024*** (0.010)	0.072*** (0.025)	0.033** (0.017)	0.036** (0.015)	0.044*** (0.013)
Vote share in prior election	-0.711*** (0.098)	-0.644*** (0.054)			-0.525*** (0.123)	-0.535*** (0.123)	-0.597*** (0.146)
Number of re-elections	-0.013*** (0.005)	-0.015*** (0.004)	-0.017*** (0.006)	-0.011** (0.005)			
Law degree	0.000 (0.007)	0.001 (0.007)			0.002 (0.019)	0.003 (0.019)	-0.009 (0.018)
Economics degree	-0.015 (0.010)	-0.010 (0.009)			-0.034 (0.020)	-0.036 (0.021)	-0.024 (0.019)
Female	-0.010 (0.009)	-0.009 (0.008)			-0.020 (0.016)	-0.020 (0.016)	-0.032** (0.013)
National experience	0.014 (0.011)	0.012 (0.008)			0.007 (0.020)	0.006 (0.020)	0.035 (0.024)
Party strength	0.228*** (0.060)	0.200*** (0.048)	0.190 (0.135)	-0.072 (0.125)	0.146 (0.095)	0.140 (0.096)	0.103 (0.127)
Δ Candidates	-0.005*** (0.001)		-0.005*** (0.002)	0.002 (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	

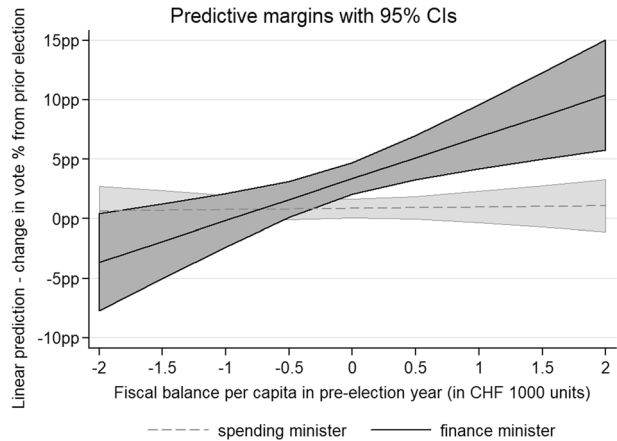
Table 2 (continued)

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Change in vote % from prior election	Change in vote % from prior election	Vote %	Vote % margin to fellow incumbent	Change in vote % from prior election	Change in vote % from prior election	Change in vote % from prior election
Δ Participation	-0.251** (0.096)		-0.267** (0.104)	-0.112* (0.068)	-0.192 (0.173)	-0.175 (0.176)	
Δ Free seats	0.002 (0.003)		0.004 (0.004)	0.004 (0.004)	0.002 (0.004)	0.002 (0.005)	
Constant	0.340*** (0.039)	0.317*** (0.027)	0.663*** (0.053)	0.072 (0.061)	0.264*** (0.060)	0.270*** (0.060)	0.308*** (0.076)
Canton fixed effects	✓				✓	✓	
Party fixed effects	✓	✓			✓	✓	✓
Election fixed effects		✓					✓
Politician fixed effects			✓	✓			
Inverse probability weighting							
Observations	689	684	629	329	264	264	215
R ²	0.624	0.773	0.833	0.755	0.667	0.662	0.807

Robust standard errors clustered at election- & politician-level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable varies depending on the estimated model. Fiscal balance is measured per inhabitant in the pre-election year in CHF 1000 units. In Model 3 & 4 the control variables regarding number of candidates, participation rate, and free seats are not measured as a variation from prior election but as an absolute value of the corresponding re-election opportunity

Fig. 2 Predicted change in vote shares of finance and spending ministers



the 1% level. Being in charge of the finance ministry increases the vote-share change by 2.5 percentage points relative to spending ministers. As expected theoretically, the base effect of fiscal performance is not statistically significant, meaning that spending ministers do not seem to be affected electorally by changes in cantonal fiscal balances. Indeed, the predicted change in vote shares, displayed in Fig. 2, reveals a steep slope for finance ministers and a flat one for spending ministers.

Besides fiscal performance, voters probably are looking out for additional signals to confirm an incumbent's competence. Personal characteristics such as sex, education, time in office, and political experience might supply clues to voters about whether a politician indulges similar policy preferences and is sufficiently skilled (Fearon 1999, pp. 59 & 68). Furthermore, the competitiveness of the election, both quantitatively and qualitatively, likewise might affect re-election results. Looking at the control variables in Table 2, a larger vote share in the previous election, more re-elections, larger numbers of candidates competing than in the last election, and a higher voter participation rate tend to make it statistically significantly more difficult to gain votes from one election to the next. Conversely, a larger same-party vote share correlates positively with the variation in candidates' support at the polls.

5.2 Robustness checks

It may happen that an incumbent increases his vote share from the previous election but nevertheless is not re-elected. An increase in vote share could hardly be seen as a success in that case. Alternatively, an incumbent could lose vote share but still be ranked first on the ballot. Finally, the difference in vote shares between two elections also might be caused by unusual circumstances in prior elections (Fowler & Hall, 2018).⁶ Hence, in order to tackle those concerns, we estimated three additional model specifications: Models (2), (3) and (4), shown in Table 2.

⁶ Unlikely to be a systematic problem in our analysis because our sample consists of a large number of elections happening across different years and cantons.

Model (2) is similar to the main model (1). However, it introduces election fixed effects, meaning that the differences between incumbents running in the same election are exploited, thereby holding the current and prior electoral context constant. Model (3) enters the absolute value of the vote share obtained in re-election opportunity t as the dependent variable. The vote share in the previous election is not subtracted nor included as a control, but politician fixed effects are entered instead to exploit within-politician variation. Model (4) enters the vote share margin between an incumbent and his fellow incumbent party member running in the same election as the dependent variable.⁷ Further robustness checks, with alternative operationalizations of the fiscal balance (e.g., cumulative fiscal balance over the whole term, excluding extraordinary expenditures or revenues, fiscal balance relative to revenue) and additional economic, financial, or political control variables, were performed. We also estimated the effect of the fiscal balance in alternative samples: for example without including the first re-election opportunity, by winsorizing the sample from extreme values or by dropping individual cantons and years to ensure that the effect was not influenced by a specific canton or election year. All robustness checks confirm our main results reported above.⁸

Nonetheless, our analysis could be related to design-based uncertainty (Abadie et al., 2020). It is not possible to observe the counterfactual vote share an incumbent would have obtained if in charge of a spending ministry rather than the finance ministry or vice versa. To test confidence in the estimated interaction, we conducted additional placebo tests by assigning incumbents at random to the spending or finance ministries and repeating this procedure 10,000 times. Compared to the initial regression, the test-statistic result was larger in magnitude in only 55 cases out of 10,000 resampled assignments (randomized inference-based p -value of 0.006). It thus seems very unlikely that our results arise from pure chance.

5.3 Selection bias

Even if the allocation of ministries on the cantonal level offers a quasi-experimental setting (Chatagny, 2015), selection bias may still be present. Certain personal characteristics might influence a politician's preference for the finance ministry and affect her fiscal policy choices while in office (Hayo & Neumeier, 2014; Jochimsen & Thomasius, 2014). Those characteristics likewise might impact her vote share directly. Politicians with particularly strong views and preferences regarding fiscal policy could, for instance, be more likely to serve in the finance ministry, especially in cantons having experienced fiscal distress in the past (Freier & Thomasius, 2016, p. 886). Also, citizens' fiscal preferences may correlate with ideologies as well as with preferences for a given politician's type. Therefore, our results would be biased if certain characteristics differ systematically between FM and SM.

To check for that possible bias, we estimated the propensity score of being in charge of the finance ministry in the first term using several criteria: university degree in economics or law, being a member of a rather centrist party like the Christian Democratic Party or the

⁷ The number of observations drops dramatically because vote margins can be calculated only for politicians for whom incumbents from the same party actually are running in the same election. Moreover, singleton observations, i.e., incumbents who sought re-election just once, are dropped owing to the inclusion of politician fixed effects.

⁸ More information as well as the detailed results of all robustness checks are available on request from the corresponding author.

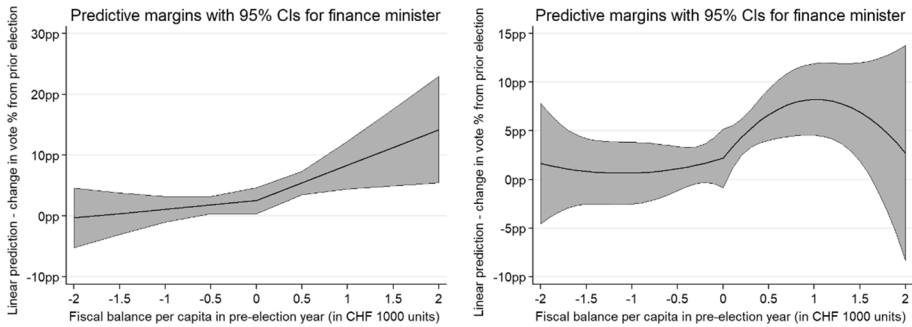


Fig. 3 Functional form

Liberals, party strength and political experience. We examined only the first term because the choice of ministry in subsequent terms is influenced heavily by the initial choice when entering office. Based on the chosen criteria, the propensity scores tend to be slightly higher for finance than for spending ministers, although they remain rather low for both groups. That observation may be because ministry allocation often is influenced by contextual factors and who else comprises the governmental body. Based on the estimated propensity score, we applied inverse probability weighting to the data, which lead to a similar distribution of the individual and political covariates for finance and spending ministers.

We then re-estimated the regression for first re-election opportunities only⁹ (Model 5, Table 2) and by weighting the observations with the inverse probability of taking over the finance ministry (Models 6 and 7). The results show that the electoral effect of the fiscal balance for finance ministers remains statistically significant even when only first re-election opportunities are considered as well as when inverse probability weighting is applied. Those results suggest that the FM's electoral advantage and the fiscal balance effect are not caused by a selection bias but rather by the office itself.

5.4 Functional form

The effect of the fiscal balance on an FM's vote share could work differently for budget deficits than for budget surpluses; it also could depend on the actual size of the deficits and surpluses. Indeed, some empirical findings suggest that public reactions to performance in office are not symmetric (Soroka, 2006). We estimated a piecewise regression to allow for changes in slope between budget deficits and budget surpluses: the model is continuous with a structural break when the budget is in balance. In a second piecewise regression we entered the square of the fiscal balance variable separately. Figure 3 shows the predicted change in vote shares for the two estimations. The left graph corresponding to the piecewise regression shows

⁹ Note that we consider first re-election opportunities of all incumbents only to be sure that the results are not driven by individual effects of some incumbents running several times for office. Indeed, if an incumbent is running for re-election for the second time or more, the prior election result already might be affected by performance in the previous terms, thereby influencing the change in vote shares in subsequent re-election opportunities. The decision to run for re-election a second or additional time likewise might depend on performance, the earlier win margin, or outside options, and thus also is subject to a selection effect.

that the slope is steeper for budget surpluses than for budget deficits. Additionally, introducing quadratic effects, the right graph shows a concave curve for budget deficits and a convex curve for budget surpluses. Taking into account both specifications, budget deficits do not statistically negatively influence the electoral result of finance ministers, whereas budget surpluses do increase an FM's vote share relative to the previous election result, but seemingly with diminishing marginal returns.

6 Conclusion

Analyzing the data from 225 government elections at the Swiss cantonal level for the 1980–2019 period with about 700 suitable cases of incumbents running for re-election confirms that finance ministers (FMs) statistically and electorally benefit from balanced fiscal accounts and debt reduction. In numerical terms, an improvement of the fiscal balance of 1000 Swiss francs per inhabitant in the pre-election year raises the FM's vote share by 1.4–5.4 percentage points from her previous election. Considering that in half of the cantonal government elections since 1980, the margin between the worst elected and best non-elected on the first ballot was less or equal to three percentage points, the effect is non-negligible. Oppositely, spending ministers' electoral results are not affected significantly by the public fiscal balance. Correcting for possible selection phenomena, our estimations suggest that the electoral effect of the fiscal balance is not caused by a selection bias, but rather by the office of the finance ministry itself. In general, the electoral effect seems stronger for debt reductions than for debt increases, suggesting that reporting budget surpluses attracts votes from beyond the party's base, whereas budget deficits might not necessarily have a significant negative influence on core voters' evaluations of ministerial performance. However, a non-linear specification suggests diminishing marginal utility of budget surpluses for electoral purposes.

Our analysis is not meant to be a normative evaluation of the finance ministers' performances. We make no statement on whether the fiscal policies implemented were socially or economically beneficial. But from a political-strategic point of view and based on our findings, an FM interested in signaling competence, with ambitions for higher political office and hoping to increase his popularity, would be well advised to bank on reducing the debt level by reporting budget surpluses. Indeed, our findings call into question the common view that deficit-reduction policies are harmful electorally to governments that implement them (Alesina et al., 2019). In terms of future research, it would be worth investigating how the electoral effect of the fiscal balance varies with institutional, contextual, and political factors affecting fiscal preferences, fiscal transparency in connection with government accountability, or the clarity of responsibility.

Although one should not over-generalize from the particular Swiss case, our results point toward multi-seat majority elections as an option for increasing electoral accountability and politician-specific monitoring in multi-party executive governments, even in secondary-level elections. Thus, the findings also alleviate concerns that voters do not pay attention to more than a few high-profile races.

Appendix 1: Data–descriptive statistics

Variables	Description	Obs	Mean	Std. Dev	Min	Max
Change in vote %	Difference between vote share in re-election and in prior election	912	0.014	0.120	-0.598	0.523
Vote %	Votes obtained in relation to total votes cast	1027	0.557	0.151	0.101	0.959
Vote % margin to fellow incumbent party member	Difference in vote shares between incumbent and other fellow incumbent party members running in same election	553	-0.012	0.081	-0.425	0.287
Finance minister	Dummy variable taking the value 1 if incumbent is in charge of the finance ministry	1027	0.174	0.379	0	1
Fiscal balance	Government fiscal balance per inhabitant in CHF 1000 in the pre-election year in real terms. Positive numbers indicating a surplus and negative numbers a deficit	995	-0.080	0.643	-4.663	1.635
Vote share _{t-1}	Votes obtained in relation to total votes cast in the prior election	912	0.542	0.158	0.161	0.960
Number of re-elections	Number of times a candidate has participated in a cantonal executive government re-election	1023	1.837	0.947	1	6
Law degree	Dummy variable taking the value 1 for incumbents with university degree in law	995	0.341	0.474	0	1
Economics degree	Dummy variable taking the value 1 for incumbents with university degree in economics	995	0.122	0.327	0	1
Female	Dummy variable taking the value 1 for female incumbents	1027	0.137	0.344	0	1
National experience	Dummy variable taking the value 1 if the finance minister already has prior experience in the national parliament	1027	0.134	0.341	0	1
Party strength	Vote share of incumbent's party in parliament at time of election	1013	0.248	0.115	0	0.641
Δ Candidates	Difference in number of candidates in re-election and prior election standardized by government executive seats	918	0.407	3.708	-18	17
Δ Participation	Difference between participation rate in re-election and prior election	909	-0.010	0.074	-0.321	0.292
Δ Free seats	Difference in number of free seats in re-election and prior election	933	-0.180	1.562	-5	4

The descriptive statistics cover the full sample of incumbents running for re-election in the 1980–2019 period. However, our empirical analysis only considers cases which occurred both in a competitive regular prior election and competitive re-election setting.

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References

- Abadie, A., Athey, S., Imbens, G. W., & Wooldridge, J. M. (2020). Sampling-based versus design-based uncertainty in regression analysis. *Econometrica*, *88*(1), 265–296.
- Aidt, T. S., Veiga, F. J., & Veiga, L. G. (2011). Election results and opportunistic policies: A new test of the rational political business cycle model. *Public Choice*, *148*, 21–44.
- Alesina, A., & Perotti, R. (1995). Fiscal expansions and adjustments in OECD countries. *Economic Policy*, *21*, 205–248.
- Alesina, A., Perotti, R., Tavares, J., Obstfeld, M., & Eichengreen, B. (1998). The political economy of fiscal adjustments. *Brookings Papers on Economic Activity*, *1*, 197–266.
- Alesina, A., Carloni, D., & Lecce, G. (2012). The electoral consequences of large fiscal adjustments. In A. Alesina & F. Giavazzi (Eds.), *Fiscal policy after the financial crisis* (pp. 531–570). The University of Chicago Press (for NBER).
- Alesina, A., Favero, C., & Giavazzi, F. (2019). *Austerity: When it works and when it doesn't*. Princeton University Press.
- Anderson, C. J. (2007). The end of economic voting? Contingency dilemmas and the limits of democratic accountability. *Annual Review of Political Science*, *10*, 271–296.
- Angrist, J., & Pischke, J. (2009). *Mostly harmless econometrics. An empirist's companion*. Princeton University Press.
- Ashworth, S. (2012). Electoral accountability: Recent theoretical and empirical work. *Annual Review of Political Science*, *15*, 183–201.
- Barro, R. J. (1979). On the determination of public debt. *Journal of Political Economy*, *87*(5), 940–971.
- Besley, T. (2004). Paying politicians: Theory and evidence. *Journal of the European Economic Association*, *2*(2–3), 193–2015.
- Besley, T. (2006). *Principled agents?: The political economy of good government*. Oxford University Press.
- Brender, A. (2003). The effect of fiscal performance on local government election results in Israel: 1989–1998. *Journal of Public Economics*, *87*, 2187–2205.
- Brender, A., & Drazen, A. (2008). How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries. *American Economic Review*, *98*(5), 2203–2220.
- Buchanan, J. M., & Tullock, G. (1962). *The calculus of consent: Logical foundations of constitutional democracy*. Liberty Fund Inc.
- Burret, H. T., & Feld, L. P. (2018). (Un-)intended effects of fiscal rules. *European Journal of Political Economy*, *52*(2018), 166–191.
- Cameron, C. A., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, *50*, 317–372.
- Chatagny, F. (2015). Incentive effects of fiscal rules on the finance minister's behavior: Evidence from revenue projections in Swiss cantons. *European Journal of Political Economy*, *39*, 184–200.

- Chatagny, F., & Soguel, N. (2012). The effect of tax revenue budgeting errors on fiscal balance: Evidence from Swiss cantons. *International Tax & Public Finance*, 19(3), 319–337.
- Correia, S. (2015). Singletons, cluster-robust standard errors and fixed effects: A bad mix. *Technical Note*, Duke University, 7.
- Drazen, A., & Eslava, M. (2010). Electoral manipulation via voter-friendly spending: Theory and evidence. *Journal of Development Economics*, 92, 39–52.
- Eichenberger, R., Portman, M., & Stadelmann, D. (2018). Gute politische Institutionen: Eine Neuinterpretation für die Schweiz. *Crema Working Paper No. 2018–01*.
- Fearon, J. D. (1999). Electoral accountability and the control of politicians: Selecting good types versus sanctioning poor performance. In A. Przeworski, S. C. Stokes & B. Manin (eds.), *Democracy, accountability and representation*, 55–97. Cambridge University Press.
- Feld, L. P., & Matsusaka, J. G. (2003). Budget referendums and government spending: Evidence from Swiss cantons. *Journal of Public Economics*, 87, 2703–2724.
- Feld, L. P., & Schaltegger, C. A. (2010). Political stability and fiscal policy: Time series evidence for the Swiss federal level since 1849. *Public Choice*, 144(3–4), 505–534.
- Fowler, A., & Hall, A. B. (2018). Do shark attacks influence presidential elections? Reassessing a prominent finding on voter competence. *Journal of Politics*, 80(4), 1423–1437.
- Freier, R., & Thomasius, S. (2016). Voters prefer more qualified mayors, but does it matter for public finances? Evidence from Germany. *International Tax Public Finance*, 23, 875–910.
- Hallerberg, M., & Von Hagen, J. (1997). Electoral institutions, cabinet negotiations, and budget deficits in the European Union. Technical report, National Bureau of Economic Research.
- Hayo, B., & Neumeier, F. (2014). Political leaders' socioeconomic background and fiscal performance in Germany. *European Journal of Political Economy*, 34, 184–205.
- Hibbs, D. A. (1987). *The American political economy: Macroeconomics and electoral politics*. Harvard University Press.
- Jochimsen, B., & Thomasius, S. (2014). The perfect finance minister: Whom to appoint as finance minister to balance the budget. *European Journal of Political Economy*, 34, 390–408.
- Klomp, J., & de Haan, J. (2013). Political budget cycles and election outcome. *Public Choice*, 157, 245–267.
- Kramer, G. H. (1971). Short run fluctuations in U.S. voting behavior, 1896–1964. *American Political Science Review*, 65, 131–143.
- Lowry, R. C., Alt, J. E., & Ferree, K. E. (1998). Fiscal policy outcomes and electoral accountability in American states. *The American Political Science Review*, 92(4), 759–774.
- Nannestad, P., & Paldam, M. (1994). The VP-function: A survey of the literature on vote and popularity functions after 25 years. *Public Choice*, 79(3–4), 213–245.
- Peltzman, S. (1992). Voters as fiscal conservatives. *Quarterly Journal of Economics*, 107(2), 327–361.
- Powell G. B., & Whitten G. D. (1993). A cross-national analysis of economic voting: Taking account of the political context. *American Journal of Political Science*, 37(2), 391–414.
- Salvi, M., & Schnell, F. (2016). *Finanzpolitik im Härtesten – Teil 1: Die Schuldenbremse erweitern statt ausbremsen*. Zürich: Avenir Suisse.
- Soroka, S. N. (2006). Good news and bad news: Asymmetric responses to economic information. *The Journal of Politics*, 68(2), 372–385.
- Von Hagen, J. (2010). Sticking to fiscal plans: The role of institutions. *Public Choice*, 144, 487–503.
- Von Hagen, J., & Harden, J. I. (1995). Budget processes and commitment to fiscal discipline. *European Economic Review*, 39, 771–779.

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