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**Article**

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# Partisan Campaigning and Initiative Petition Signing in Direct Democracies

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## SUMMARY

This paper investigates whether popular initiatives signed by a larger share of the population have higher acceptance rates at the subsequent vote. The main analysis is based on all Swiss federal initiatives voted between 1978 and 2000 with a panel of aggregate voting data at cantonal level. The results suggest that petition signing is positively and significantly related to acceptance rates at ballot. I address potential omitted variable bias from underlying preferences which might be driving both signatures and acceptance rates in three ways. First, the panel structure of the data allows to control for time-constant preferences via fixed effects. Second, results are robust to various proxies for voter preferences. Third, using the doubling of the signature requirement in 1978 as an instrumental variable confirms the above result. The findings imply that petition signing can serve as an effective partisan campaigning tool.

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## 1. Introduction

The main purpose of direct democracy is to provide citizens with political powers beyond the mere election of political representatives. The availability of initiatives and referendums serves as a mean to correct undesirable policy outcomes, or as a pending threat to politicians already in the early legislative process (FELD and MATSUSAKA, 2003). A second, less obvious purpose of direct democracy is to educate voters to become active citizens (TOLBERT and SMITH, 2005). The possibility of shaping and influencing policies as well as deciding about single issues awakes the interest of voters. Active participation then leads to better informed and interested voters who ideally become regular voters and responsible citizens.<sup>1</sup> E.g., turnout is higher among citizens exposed to direct democracy than in states lacking this institution (SMITH and TOLBERT, 2004). Literature consents that the availability of direct democratic ballot measures on election days increases the probability of turnout in midterm elections (SCHLOZMAN and YOHAI, 2008; SMITH, 2001; TOLBERT and SMITH, 2005) and also has some effect in presidential elections (TOLBERT, GRUMMEL, and SMITH, 2001). Besides the long-term educative effect, direct democracy potentially triggers short-term motivational effects through partisan mobilization (DYCK and SEABROOK, 2010; TOLBERT, BOWEN, and DONOVAN, 2009).

The voter initiative is a frequently used direct democracy instrument. It allows citizens or political minorities to put issues on the political agenda. To qualify an initiative for ballot, the initiating group needs to collect a legally specified number of signatures to prove sufficient support in the population. The qualifying stage of initiatives is at the core of my research.

I investigate whether initiatives signed by a larger fraction of the population have higher acceptance rates at the subsequent vote. During signature campaigns, potential signers receive favorable information about the initiative measure. Being exposed to partisan campaigning, they might be persuaded to sign the initiative petition and decide or feel obliged to vote for the initiative. Potentially, they share their views with their personal environment.

This hypothesis is tested with a panel of aggregate data encompassing Swiss popular initiatives at the federal level qualified and voted between 1978 and 2000. All data on collected signatures and voting results are at a cantonal level.

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1 TOLBERT and SMITH (2005) provide an extensive overview of the development of direct democracy and its functions in U.S. history.

Results support the view that petition signing and backing the initiative in a canton are significantly positively related. Increasing the share of signing citizens by 1 percentage point relates to an increase in cantonal acceptance rates of about the same size.

The main empirical challenge to campaigning research is the question of causality and omitted variable bias (GERBER and GREEN, 2000a): if voter preferences drove both the number of signatures and acceptance rates in a canton, a significantly positive regression coefficient would be expected, but would not reflect a causal relation. To account for the possible omitted variable bias, I exploit the panel structure of the data by running fixed effect models, which allows to take care of time-invariant preferences. In a further attempt to tackle omitted variable bias, I develop three proxies for ex ante voter preferences. I firstly account for voting recommendations by political parties. Voters identify with their preferred parties and look to them for voting cues (KRIESI, 1995, 2006). I control for the fraction of the population that has elected parties issuing a positive voting recommendation. Next, I identify cantons which were particularly affected by the initiative, and thus have a reason for either positive or negative preferences regarding the initiative. Last, I use voting results from thematically closely related past referendums. Moreover, I use an indicator for the doubling of the signature requirement from 50,000 in 1978 to instrument potentially endogenous signatures. The effectively collected number of signatures around 1978 almost doubled while the electorate remained unchanged. I argue that the institutional change constitutes a mere consequence of federal female suffrage in 1971 and is thus exogenous to preferences. Furthermore, the increase in signatures collected was different across cantons.

All results prove robust to fixed effect estimations and the inclusion of preference proxies. Results are validated by the instrumental variable approach. They suggest that signature campaigns indeed have the potential to motivate voters to accept the initiative. Consequently, petition signing might be interpreted as a partisan campaign instrument.

Despite taking care of the potential omitted variable bias in various ways, some uncertainty over the causality remains. In particular, it is not possible to disentangle which part of the total effect is driven purely by preferences and which one by campaigning.

This paper relates to the long tradition of research concerning the link between campaigning and voting, as well as direct democracy and voting. It extends the literature concerning the link between petition signing and voting. It is most closely related to the work by BOEHMKE and ALVAREZ (2014) as well as PARRY, SMITH, and HENRY (2012) who analyze the relationship between petition signing



and voter turnout. One concern regarding this literature is the small sample size. I contribute to the literature by using a larger and non-selective dataset of Swiss federal initiatives.

Previous analyses concerning initiative signatures are mainly based on U.S. data. The main advantage of the Swiss setting over data from other countries is the availability of the exact number of signatures for all initiatives over a long time period, which allows generalizable results. Collected signatures are always fully counted. Also, by looking exclusively at federal initiatives, it is guaranteed that all cantons are exposed to the same institutional framework, have the same regulation regarding the initiative process, and are thus comparable. In the U.S. such comparisons between states are virtually impossible since regulation varies from state to state (such as different signature requirements). By using Swiss data I also overcome the registration problem apparent in the U.S.: while in many states voters face registration costs and possibly even registration time restrictions before they can vote, Swiss voters are automatically registered. Despite these differences, the initiative process in Switzerland resembles processes in other direct democracies, making my findings comparable to other settings.

The remainder of this paper is structured as follows. Section 2 provides an overview of the institutional setting. I derive the hypothesis from the literature in section 3. The data and empirical strategy are laid out in section 4. I also discuss the issue of causation. Results are reported in section 5. Section 6 concludes.

## **2. Institutional Background: Direct Democracy and the Initiative Process in Switzerland**

Switzerland has particularly strong direct democratic institutions at both the federal and the subnational level. At the federal level, its three instruments are the mandatory constitutional referendum, the optional referendum, and the constitutional initiative. The first two votes occur after legislation decided by the parliament whereas the latter refers to constitutional changes proposed outside the parliamentary process. For a more detailed account of Swiss direct democracy I refer the reader to KRIESI and TRECHSEL (2008).

In this paper, I concentrate exclusively on the federal initiative. The popular initiative was first established in 1891 and is concerned solely with constitutional changes (LINDER, 2007). It can be proposed by any individual or group endowed with Swiss political rights. At the qualifying stage, the initiating petitioners need to collect at least the legally determined signature threshold. 50,000

signatures without collection time restriction were required until 1978, compared to 100,000 signatures within 18 months ever since. All adult Swiss citizens with voting rights are eligible to sign petitions.

Signatures are traditionally collected at public places. Historically, polling places were a typical location to collect signatures such that voters could be asked to sign once they left the voting booth. With the rise of postal voting – and the accompanying diminishing importance of polling places – signature campaigns moved to main street (DEGEN, 2015). Powered by technological progress, nowadays signature forms can even be downloaded from the petitioner's websites, printed, and sent to the committee. Collection campaigns are mostly executed by volunteers. Validation of all signatures is processed by the residential municipalities of the signers. Illegible, fraudulent and unlawful signatures (e.g., due to lack of political rights) are invalidated.

Upon successful completion of the signature collection, government and the two chambers of parliament decide whether to issue a compromise – a so-called counter proposal. More precisely, politicians can issue a direct counter proposal at constitutional level. Another option is the indirect counter proposal which is not at the constitutional level, e.g., a law. In most cases no ballot takes place after indirect counter proposals, which is why none of them are in the sample of this paper. In what follows, the term counter proposal is used synonymously with the direct counter proposal at constitutional level which has to be voted by citizens. In case of a counter proposal, it is voted simultaneously with the initiative. Until 1987 voters could accept either one of the alternatives, or reject both. In 1987 the regulation was changed and a tie-breaking question was introduced asking voters to choose which of the two they like best. The tie-breaking question is decisive should both of the proposals receive more than 50 percent of the votes.

If petitioners withdraw the initiative after a counter proposal, only the counter proposal is voted upon. In case the initiative or the counter proposal are voted upon individually against the status quo, the absolute majority of votes and cantons determines whether it comes into force.

### 3. Theory and Hypothesis

Research contends that campaigning effectively affects voting behavior. A stream of the literature focusses on the connection between campaign efforts and voter turnout, the so-called non-partisan campaigning. Investigations based on field experiments attribute a mobilizing effect to face-to-face contact (GERBER and GREEN, 2000a; GREEN, GERBER, and NICKERSON, 2003; NICKERSON, 2008;

NIVEN, 2004), direct mail (GERBER and GREEN, 2000a), telephone calls from dedicated callers<sup>2</sup> (Nickerson, 2006), and even non-personal text messages such as leaflets (DALE and STRAUSS, 2009; GERBER and GREEN, 2000b). Negative TV campaigns are found to have an adverse effect on participation (ANSOLABEHERE et al., 1994).

Partisan campaigning refers to mobilization in favor of a particular candidate. One example for the effectiveness of partisan campaigns is shown by KENDALL, NANNICINI, and TREBBI (2015) who find that partisan direct mailing and phone calls increase support for the candidate. However, GERBER, GREEN, and GREEN (2003) find that partisan campaigning has no effect on voter turnout.

The process of signature collection to qualify an initiative for public vote can be seen as one – albeit unusual – form of face-to-face campaigning (PARRY, SMITH, and HENRY, 2012). During street campaigns citizens are contacted and convinced to support the petitioners' concern. It is partisan in its intention as the campaign is directed towards signers voting in favor of the initiative.

An emerging literature has the motivational effect of initiative petition signing on turnout at its core, and is thus closest to this paper.<sup>3</sup> PARRY, SMITH, and HENRY (2012) analyze individual register data matched with signature records from three initiative ballots in Florida and Arkansas. In a similar vein, BOEHMKE and ALVAREZ (2014) conduct their analysis with aggregate county-level data from eight Californian initiatives for which signatures have been counted.<sup>4</sup> The results are mixed. While both papers find a significantly positive relation between petition signing and turnout, the effect is significant for only one of the three initiatives in the former paper. In addition, BOEHMKE and ALVAREZ (2014) find a

2 GERBER and GREEN (2000a, 2001) find no mobilizing effect of phone calls on turnout. According to NICKERSON (2008) the lack of effect might stem from professional campaigners executing the calls. He finds a mobilizing effect when conducted by voluntary callers.

3 Early advances in the analysis of initiative petition signing are scarce, mostly due to difficult data collection work. By drawing two random samples, one from registered voters and one from registered voters who signed a particular initiative, NEIMAN and GOTTDIENER (1982) observe that signers show more political interest and knowledge about the initiative than non-signers. However, it is beyond the reach of their study to show a causal relationship between signing an initiative and gaining more political knowledge through this channel. By also working with two samples of signers and the general population, PIERCE and LOVRICH (1982) surprisingly find that signers significantly underreport signing a petition when questioned about it several months after the ballot. They conclude that micro data about petition signing from surveys might be severely biased.

4 Typically only a sample of signatures is checked for validity in California. Full counts occur infrequently.

positive relationship between signature and voter registration, and a negative one between signatures and roll-off rates.

Related research from Switzerland finds that cantons with higher signature requirements (or lower openness) for cantonal initiatives display higher voter turnout (BARANKAY, SCIARINI, and TRECHSEL, 2003). The authors argue that higher qualification requirements generate awareness and information such that citizens are more likely to vote.

The existent literature is based on relatively small and potentially non-random samples. This paper provides more generalizable results from a larger and non-selective set of initiatives. I extend previous research by addressing the relation between signatures and initiative acceptance rates.

It is the general understanding that awareness, information or factual knowledge positively impact the voting decision of citizens (DOWNS, 1957). Information can be interpreted as increasing the voter's benefit from participating or decreasing the costs of voting (MATSUSAKA, 1995; SMITH, 2001): voters understand the issue better and can evaluate the consequences of a vote more precisely than before. DEGAN and MERLO (2011) include information in a unified model of turnout and vote choice with multiple elections, and show for the U.S. presidential and congress election in the year 2000 that it decreases abstention and increases split-ticket voting.

Based on the understanding from literature, the hypothesis to be tested is the following: Initiatives signed by larger shares of the population have higher acceptance rates at the ballot.

Citizens sign initiative petitions for various reasons depending on the signer's predisposition regarding the initiative. Well-informed partisans sign or decline to do so based on their supportive or opposing preferences regarding the initiative. However, uninformed or non-partisan citizens are susceptible to campaigns and may be convinced to sign based on information received through the signature campaign.

The lack of individual data leaves the exact mechanism open: potentially, petition signing affects signers exclusively individually. They are either convinced by the initiative such that signing directly affects their preferences. This mechanism corresponds to a direct campaign effect. Alternatively, they feel obliged to conform to the action of signing – which is an approving act – by voting in favor of the initiative. Such a behavior is consistent with predictions from the theory of cognitive dissonance suggesting that individuals avoid clashing actions like signing (supporting) and voting against (rejecting) the initiative (FESTINGER, 1957; MILLS, 1958; MULLAINATHAN and WASHINGTON, 2009). The mechanism might also work through spill-over effects. Signers spread the word about the

initiative at home and work such that they motivate family and friends to accept the initiative. E.g., NICKERSON (2008) finds evidence that spouses of individuals exposed to campaigning were also more likely to vote. In theory, the different mechanisms are not mutually exclusive but could be at work simultaneously.

## 4. Data and Empirics

### 4.1 Data

In total, 224 Swiss federal initiatives have been qualified and voted between 1891 and 2015. 184 initiatives did not receive a direct counter proposal. In another 24 cases the petitioning committee withdrew the initiative after the parliament decided to formulate a direct counter proposal such that only the counter proposal was voted. Moreover, 16 initiatives were followed by a direct counter proposal but were not withdrawn. I concentrate on votes between the status quo and either the initiative or the counter proposal. Simultaneous votes of initiatives and counter proposals occur rarely, and are likely to stir additional attention. They are prone to strategic voting such that inconsistent voting profiles may occur (BOCHSLER, 2010). Also, petition signing might influence the acceptance rates of both the initiative and the counter proposal. This leaves a total of 208 initiatives and counter proposals in my sample.

I limit part of the analysis to the 65 initiatives voted between 1978 and 2000 for reasons related to data restrictions. Comparable socioeconomic controls at cantonal level are unavailable outside the time span 1970 to 2000. Most control variables are taken from Swiss censuses which are conducted every ten years. Due to a methodological change, the 2010 census is not comparable to the previous ones. The period is also marked by relatively few institutional changes compared to earlier decades and a balanced panel due to a constant number of cantons.

All data are at cantonal level. With 26 cantons<sup>5</sup> this yields 5,333 observations in the full sample, and 1,690 in the restricted one.

The Swiss Federal Chancellery<sup>6</sup> documents whenever an initiative has collected a sufficient number of signatures and qualified for ballot. It reports the aggregate numbers of valid and invalid signatures per canton for each initiative.

5 In 1978 part of the canton Bern separated from the old canton to create the canton Jura. As a consequence, the number of cantons increased from 25 to 26. I drop 7 observations from Jura with initiatives that were started before 1978 but voted afterwards.

6 The website containing all information is <https://www.bk.admin.ch/themen/pore/vi/>



All signature-related data is hand-collected from the Swiss Federal Chancellery's website and digitalized. Detailed chronologies including all dates and steps in the initiative process have been retrieved from the same webpage. This data was merged with the cantonal vote database of the Swiss Statistical Office which the author received directly. It provides information on the cantonal numbers of eligible citizens, voters, yes and no votes for every federal initiative. A detailed description of the data, its sources, and how it can be accessed is available in the Appendix.

#### 4.2 Econometric Specification

The estimation equation is derived by relating observable voter characteristics to the probability of accepting the initiative. The econometric model is based on the standard random utility model as introduced by McFADDEN (1973, 1980). Voters make a binary choice between the initiative and the status quo. Let  $Y=1$  if the initiative is selected, and  $Y=0$  else. When facing both alternatives, voters select the initiative if it grants higher utility than selecting the status quo.

Utility depends on an indicator of petition signing  $S$  and a vector of observables  $X$ .  $\alpha$  is an intercept,  $\beta$  the signature coefficient, and  $\gamma$  a vector of coefficients related to observables  $X$ . Assuming a logistic probability function, I can write the individual probability of voter  $i$  in vote  $j$  of accepting the initiative in the following way:

$$Prob_{ij}(Y=1) = F(\alpha + \beta S_{ij} + \gamma X_{ij}) = \frac{e^{\alpha + \beta S_{ij} + \gamma X_{ij}}}{1 + e^{\alpha + \beta S_{ij} + \gamma X_{ij}}} \quad (1)$$

Rearranging and taking the natural logarithm, I arrive at the individual-level equation

$$\log \left( \frac{Prob_{ij}(Y=1)}{1 - Prob_{ij}(Y=1)} \right) = \alpha + \beta S_{ij} + \gamma X_{ij} \quad (2)$$

The data are at aggregate level such that (2) needs adjusting for the grouped structure of the data. I assume that individuals react identically to petition signing and observables  $X$ , i.e., there are no heterogeneous effects. This allows substituting individual probabilities with sample shares of voters accepting the initiative,  $Acceptance_j = yes_j / voters_j$ .



The main independent variable *Signatures* is defined as the number of valid signatures in a canton divided by the cantonal eligible population, similarly to the variable signatures per capita used by BOEHMKE and ALVAREZ (2014). By definition, this variable is constrained to values between 0 and 1: it takes on value 0 if no one signed the initiative, and the value 1 if the complete eligible population of a canton was to sign it.

The aggregate estimation equation with error term  $\varepsilon_j$  reads as follows. The hypothesis predicts a positive coefficient  $\tilde{\beta}$ .

$$\log\left(\frac{Acceptance_j}{1 - Acceptance_j}\right) = \tilde{\alpha} + \tilde{\beta}Signatures_j + \tilde{\gamma}X_j + \varepsilon_j \quad (3)$$

To tackle the issue of heteroskedasticity, estimation equation (3) has to be weighted by the standard deviation of the error term. Coefficients with homoskedastic error terms can thus be estimated using a weighted least squares (WLS) regression.<sup>7</sup>

Due to the panel structure of my data, I use canton and initiative fixed effects in the regressions. Including fixed effects in non-linear estimations is frequently problematic. I therefore begin by showing that the WLS and OLS regression result in very similar elasticities. I proceed by using OLS which has a direct interpretation of the coefficients and allows including fixed effects.

### 4.3 The Issue of Causation

The main concern is that the analysis potentially suffers from omitted variable bias. If underlying ex ante preferences for a particular initiative are favorable, a high number of signatures and a high acceptance rate can be expected. A positive coefficient then only reflects the underlying preferences, but not a campaigning effect. Since preferences are positively correlated with signatures and acceptance rates respectively, coefficients are likely to overestimate the true effect.

I propose three approaches to tackle omitted variable bias: fixed effects, preference proxies and socioeconomic controls, and an instrumental variable.

7 The glogit command in STATA used here is computationally equivalent to WLS with analytical weights.

#### 4.3.1 *Fixed Effects*

The first approach is through the panel structure of the data. If cantonal preferences were time constant, running canton fixed effects regressions should account for unobservables. Prominent examples for canton fixed effects potentially affecting preferences are political institutions like strong direct democratic elements, or cultural differences between the mainly German-, French-, or Italian-speaking cantons (e.g., FUNK, 2010; LÜCHINGER, ROSINGER, and STUTZER, 2007). Canton fixed effects also take care of geographical differences between cantons like size, location and urbanity.

Moreover, I include initiative fixed effects which account for unobserved differences between initiatives. Among such initiative fixed effects are campaign efforts at federal level, the existence of a counter proposal, or the country-wide salience of an initiative issue. Salience typically strongly influences voter turnout in the direct democratic context (e.g., DYCK and SEABROOK, 2010; LACEY, 2005, and for Switzerland LÜCHINGER, ROSINGER, and STUTZER, 2007). Initiative-specific variables like the time between initiative qualification and the respective ballot or the overall number of signatures are also controlled for by initiative fixed effects. The fixed effects also pick up whether the initiative or the counter proposal was voted.

#### 4.3.2 *Preference Proxies*

The second approach is to find an adequate proxy for the omitted preference variable. It should be correlated with the omitted variable but be redundant if the omitted variable could be controlled for. Ordinary least square regression yields an unbiased estimate if the unobservable is uncorrelated to all regressors once controlling for the proxy in the regression (WOOLDRIDGE, 2013). In expectation, the estimated coefficient should decrease, but still be significant.

I propose three preferences proxies. First, I control for voting recommendations issued by political parties which can be interpreted as elite mobilization (KRIESI, 1995, 2006). Partisan voters look to their preferred party for voting cues because they identify themselves with its political agenda. In Switzerland, parties and some main interest groups issue voting recommendations to their electorate, which are publicly communicated. I create the variable *Recommendation* by adding up cantonal vote shares of all parties issuing a positive voting recommendation. Vote shares are taken from the national elections to the Lower House (National Council) taking place every four years, and are linearly interpolated for the years between elections. E.g., suppose two parties with cantonal votes shares of 10% and 15% respectively issue a positive recommendation. Then the

preference variable takes on the value 0.25 in this canton. Whenever a cantonal party's recommendation differs from the national party's one, I use the cantonal recommendation. It is more likely to accurately reflect cantonal preferences.<sup>8</sup>

Voting recommendations are taken from the *Année Politique Suisse*, and party support in national elections is from the Swiss Statistical Office.

Second, I create an indicator for cantons explicitly affected by the initiative and therefore more likely to accept or reject it as mentioned in the official government documents ("Botschaft des Bundesrates"). I define two dummy variables, *Positively affected* and *Negatively affected*. If a canton was supposedly more likely to accept (reject) the initiative, the first (second) dummy variable is coded with the value 1 and zero otherwise. I consulted the communications of the government available through the Federal Chancellery for each initiative in my sample individually. These communications are prepared by the government prior to the parliamentary debate about the initiative. They contain extensive information on the initiative, its goals, political, economic, and fiscal consequences. I screened the government communications for mention of cantons which might be particularly concerned with the initiative. The cantons were either mentioned explicitly or could be inferred from the communications.<sup>9</sup> In total, I identify 60 positively and 51 negatively affected cantons for all initiatives. The remaining observations from not affected cantons are coded as zeros.

In my third attempt to account for voter preferences, I take an approach similar to FUNK and GATHMANN (2011), and proxy preferences with old voting results on related issues. I again consult the government communications containing the information about the article or paragraph of the Swiss constitution that is about to be altered by the initiative in question. Usually government communications provide information about the initiative's history and similar ballots concerning the same constitutional article. The best preference controls are voting results of

8 For robustness I rerun regressions using the federal recommendation. Qualitatively, results do not change because cantonal and federal recommendations are aligned in more than 80% of the cases.

9 An example of a positively affected canton is the initiative demanding counter proposals not only for initiatives but also for referendums voted on 24 September 2000. Two cantons, namely Bern and Nidwalden, already introduced similar cantonal provisions by popular vote. Therefore, they should be more likely to favor such a provision. An example for a negatively affected canton is an initiative asking for the prohibition of animal trials voted on 7 March 1993. Several cantons like Basel Landschaft, Basel Stadt, Vaud and Zurich have a strong pharmaceutical industry relying on animal trials such that they should be less likely to accept the initiative. There are other initiatives like one about the protection of tenants voted on 7 December 1986 for which no especially affected cantons can be found and all cantons are coded with a zero.

mandatory referendums. Other similar initiatives or optional referendums have a signature collection phase preceding the ballot. Therefore, I would expect the voting results of the two latter forms of ballots to be partly driven by their signature collection process. Mandatory referendums do not require a qualification stage and can consequently serve as preference measure.

I identify mandatory referendums concerning the same constitutional article or a very similar topic for 37 initiatives in the sample. The reasons that no referendum can be matched are the following: first, the initiative might concern a topic which is regulated by a law and not directly by the constitution. Such issues are typically voted upon in optional referendums which have a signature collection themselves. Next, a mandatory referendum with a similar topic might exist. However, sometimes it has been voted too long ago in the past to assume that preferences are time constant. On average, the time difference between voting dates of the initiative and the related referendum amounts to roughly 12 years.<sup>10</sup> Last, some initiatives address issues which have never been on the political agenda before, like the introduction of a national holiday. Consequently, no similar mandatory referendum is available. The mandatory referendums are coded such that they point into the same direction as the corresponding initiative (e.g., more environmental protection, or a more generous pension system). The variable *Related vote* is defined analogously to the dependent variable acceptance as yes votes divided by the number of voters.

I control for socio-economic characteristics as further explanatory variables of cantonal acceptance rates. Income, education, occupation and age play an important role in an individual's ability to understand and process information (MATSUSAKA, 1995). Importantly, socio-economic controls should partly control for differences in preferences between the cantons, especially for economically framed initiatives about pension age, unemployment benefits, or pensions, income and unemployment. I also control for population density since urbanity might affect the signature collection process.

For *Income*, I use the average taxable income in CHF 10,000 at cantonal level. *Education* is measured by the share of the population older than 15 with tertiary education. *Unemployed* is measured by the share of unemployed in the population older than 15 years. I also include the share of *Old* in the population measured by the percentage of people 65 years old or older. *Density* is measured as the population per square kilometer.

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10 Preferences change over time – sometimes quite dramatically. E.g., while federal female suffrage was rejected in 1959, it was accepted 12 years later. For identification, however, the overall level of acceptance is less relevant. I only require the cantonal variation to be preserved, which is a less binding assumption.

### 4.3.3 *Instrumental Variable*

In a final attempt to tackle omitted variable bias, I use an instrumental variable approach. A valid instrument is required to be correlated with the signature variable but not with the error term. At the same time it has to be unrelated to preferences and affect the acceptance rate only through signatures. I argue below that an institutional change doubling the signature requirement to qualify initiatives in 1978 allows me to construct such an instrument. I concentrate on the 35 initiatives close to the institutional change (1971–1984) for estimation.

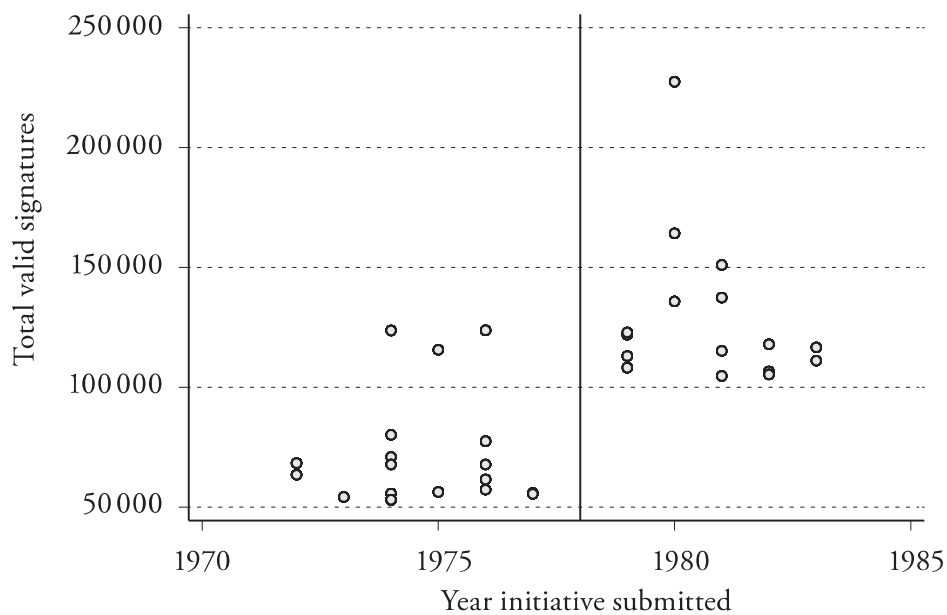
In Switzerland federal female suffrage was introduced by a (male) popular vote in 1971. It gave women not only the right to vote but endowed them with the same political rights as men. Consequently, starting in 1971 women were allowed to sign initiative petitions. Since the signature hurdle initially remained at 50,000, gathering signatures was facilitated basically over night. For this reason among others, the number of initiatives increased dramatically – quite comparably to the Californian “initiative flood” (cf. CENTER FOR GOVERNMENTAL STUDIES, 2008, for a detailed account of the Californian initiative history.). Politicians searched for a remedy by proposing to raise the signature quorum to 100,000 (RIELLE, 2010). It was accepted in a referendum in 1977, and implemented the following year. While female suffrage was brought about endogenously, the higher signature requirement constitutes a logical consequence thereof. It seems reasonable to argue that it was an institutional change relatively exogenous to voter preferences.

As a consequence of the new signature requirement, the aggregate number of collected signatures rose exogenously after 1978. Figure 1 shows a plot of the Switzerland-wide number of signatures collected for all 35 initiatives submitted between 1971 and 1984. The vertical line marks the increase of the signature requirement. Before 1978 all but three of the 19 initiatives collected less than 100,000 signatures with a country-wide average of slightly more than 70,000. The average rose to almost 130,000 thereafter. The comparison makes clear that the new signature requirement had a real effect on the number of signatures collected because pre-reform signatures were mostly below the new requirement. The reform increased the number of signers and thus the potential for mobilization exogenously while leaving preferences unaffected. Having more citizens sign initiatives should lead to stronger mobilization and higher acceptance rates if the hypothesis postulated above holds.

The institutional change was a single event affecting all cantons and initiatives at the same time. But arguably, it had differentiated effects for the cantons. Figure 2 compares the mean cantonal number of signatures per capita before and after the institutional change. Each point corresponds to one canton. The straight

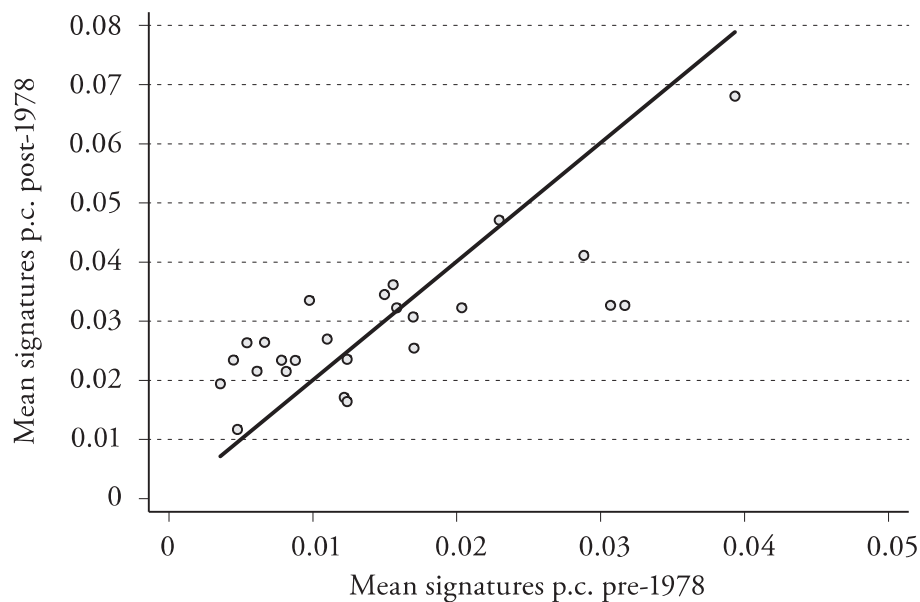


Figure 1: Total Valid Signatures



*Note:* Total number of valid signatures collected per initiative by the year it was submitted.

Figure 2: Mean Cantonal Signatures Per Capita



*Notes:* Mean cantonal number of signatures around the doubling of the signature requirement to 100,000 in 1978. Pre-reform means (1971–1978) are on the x-axis. Post-reform means (1978–1984) are on the y-axis. The straight line shows the theoretical number of signatures if pre-reform means had just doubled after the reform. The canton of Jura is dropped because it did not yet exist in the pre-reform period.



Table 1: Descriptives

	OLS		Preference Proxies				IV	
	All	All	1978 –2000	1978 –2000	1978 –2000	1978 –2000	1971 1984	1971 1984
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Acceptance	0.376	0.188	0.373	0.172	0.373	0.157	0.381	0.189
Signatures	0.039	0.056	0.028	0.026	0.027	0.024	0.022	0.025
Recommendation			0.274	0.261	0.249	0.228		
Positively affected			0.036	0.185	0.046	0.210		
Negatively affected			0.030	0.171	0.032	0.175		
Related vote					0.592	0.184		
Income			4.945	1.074	4.976	1.079		
Unemployed			0.015	0.007	0.015	0.007		
Education			0.118	0.037	0.119	0.037		
Old			0.148	0.020	0.148	0.020		
Density			457.8	1014.5	463.2	1020.5		
Observations	5,333	5,333	1,690	1,690	949	949	891	891

*Notes:* Summary statistics based on cantonal data for Swiss federal initiatives. *Acceptance*: yes/voters; *Signatures*: valid signatures/eligible citizens; *Recommendation*: vote share of parties with approving voting recommendation; *Positively / negatively affected*: cantons potentially affected; *Related vote*: related past referendum vote; *Income*: average taxable income in CHF 10,000; *Unemployed*: share of unemployed; *Education*: share with tertiary education; *Old*: share of population older than 65 years; *Density*: citizens per square kilometer.

line marks the hypothetical signature share if pre-reform shares had just doubled as a consequence of the twofold increase of the signature requirement. All cantons above the line collected disproportionately more signatures than before, whereas observations below the line collected disproportionately fewer ones. The graph illustrates a strong cantonal variation: while some cantons more than tripled signature collection, it remained almost constant in other places.

As an instrument I thus use an indicator variable  $Requirement_{cj}$  taking on value 0 in canton  $c$  for initiative  $j$  before the reform (1971–1978) and 1 after the reform (1979–1984). I run a 2SLS regression with the following first stage.

$$Signatures_{cj} = \gamma + \delta Requirement_{cj} + u_{cj} \quad (4)$$

As mentioned earlier, the institutional change was most likely exogenous to voter preferences. However, it was facing opposition because it aimed at restricting direct democratic rights by impeding new initiatives (RIELLE, 2010). Accepting the higher signature threshold could be related to preferences against direct democracy and thus generally lower acceptance rates for direct democratic initiatives. Such a relation does not pose a threat to identification because it would downward bias the signature coefficient.

Descriptives of the main variables and controls are reported in Table 1. They are separated by the respective samples used in the regressions: the full sample, the subsample for preferences proxies and the subsample used in the instrumental variable regression. Acceptance rates are 37.6% on average in the full sample, and extremely similar in the different subsamples. Signatures per capita are highest in the full sample (3.9%) and lower in the subsamples (2.2%–2.8%).

## 5. Results

In this section I first report the baseline results. I continue with controlling for voter preferences, and finally report the results from the instrumental variable regressions.

### 5.1 *Acceptance*

The hypothesis is that the number of valid signatures per eligible citizen has a positive effect on acceptance rates. Table 2 shows the results. Specification (1) reports the WLS estimation. The remaining ones are based on OLS. They differ with respect to canton and initiative fixed effects. Similar to other research using Swiss cantonal data, I rerun all regressions including a canton-specific linear time trend (e.g., HODLER, LÜCHINGER, and STUTZER, 2015). All regressions estimated with OLS have canton clustered standard errors. Since clustering with few clusters might be problematic (CAMERON, GELBACH, and MILLER, 2008), I repeat the main regressions using standard errors calculated with a wild cluster bootstrap procedure based on MALDE (2012). Results are robust to this adjustment and reported in the Appendix in Table 6.

Regression results in Table 2 support the hypothesis. As expected, the coefficient is always positive and highly significant independent of the exact specification. Comparing elasticities of signatures evaluated at the mean yields 0.093 from WLS (column (1)) and 0.091 from OLS (column (2)). A one percent increase in the share of signing citizens corresponds to a 0.09 percent increase in acceptance

Table 2: Effect of Initiative Signing on Acceptance

Variables	(1) WLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
Signatures	4.487*** (0.285)	1.008*** (0.084)	0.969*** (0.075)	1.099*** (0.102)	1.223*** (0.087)	1.012*** (0.080)
Constant	-0.649*** (0.014)	0.337*** (0.008)	0.355*** (0.004)	0.425*** (0.044)	0.256*** (0.011)	0.450*** (0.047)
Observations	5,239	5,333	5,333	5,333	5,333	5,333
Adj. R <sup>2</sup>	0.045	0.091	0.114	0.777	0.105	0.803
Canton FE	NO	NO	YES	NO	NO	YES
Initiative FE	NO	NO	NO	YES	NO	YES
Time trend	NO	NO	NO	NO	YES	YES

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of valid votes. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. Weighted least squares regression are in column (1). Ordinary least squares regression are in columns (2)–(6). Clustered standard errors at cantonal level in parentheses.

rates. Though not identical, both elasticities are fairly similar such that I continue with the easier to interpret OLS regressions.

Throughout all specifications, the size of the marginal effect varies between 0.969 and 1.223. It means that a 1 percentage point increase in the share of citizens signing an initiative relates to about the same increase in the acceptance rate. Recall that the average acceptance rate amounts to 37.2% and 3.9% of eligible citizens typically sign an initiative.

The main effect decreases only slightly when canton fixed effects, mitigating part of the omitted variable bias, are included (Table 2, column (3)). If cantonal preferences are relatively time-invariant, results are encouraging that the omitted variable bias is not severe. Initiative fixed effects explain a lot of observed variation in acceptance rates as can be seen by the sharp rise in the adjusted R<sup>2</sup> (column (4)). Salience and importance of initiatives explain the variation in acceptance rates between initiatives. The significant signature coefficient suggests that signatures also explain variation within initiatives. The results are robust to the inclusions of linear time trends (column (5)) and controlling for all fixed effects and time trends at the same time (column (6)).

## 5.2 *Preference Proxies*

This section is based on 65 initiatives submitted and voted between 1978 and 2000 as described above. Canton and initiative fixed effects are always controlled for.

I first concentrate on voting recommendations by parties. Results are reported in Table 3. The baseline regression is repeated in column (1) to show that the main effect persists in the restricted sample. The coefficient in this subsample (1.743) exceeds the one in the full sample (1.012). This is most likely an artifact of a smaller number of signatures per capita in this subsample as reported in the descriptive statistics.

Once party recommendations are controlled for, the signature effect decreases but remains both positive and highly significant. The recommendation coefficient is positive and significant as well. Qualitatively the results are the same regardless of whether cantonal (column (2)) or federal (column (3)) voting recommendations are controlled for. I continue using cantonal preferences since they more likely pick up variation in cantonal preferences.

The concept of using party recommendations to proxy for voter preferences might be even more convincing in the subsample of initiatives proposed by parties. Petitioning committees are from the *Année Politique Suisse* and coded according to who proposed the initiative. Almost a third of initiatives has been issued by one or more parties. I split the sample differentiating whether political parties were among the proponents. Again, the results are qualitatively the same in both subsamples (columns (4) and (5)). Both the size of the signature effect and the coefficient of the recommendation control are larger in the subsample of initiatives issued by parties. The result might be interpreted as party recommendations capturing preferences particularly well if the initiative topic is important to parties. However, also for initiatives proposed by associations or ad-hoc committees party recommendations seem to play an important role.

Whether party recommendations are a good preference proxy might also depend on the support the proposing party enjoys in the cantonal population: if the party has few supporters in a canton, the signature effect is more likely to reflect campaigning compared to initiatives proposed by very popular parties. I calculate support for the issuing party by using the vote shares in national elections again.<sup>11</sup> In the subset of initiatives proposed by parties, electoral support for

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11 Note the difference to the definition of the party recommendation variable: the preference proxy is based on the recommendation of parties to accept the initiative, regardless of being the proponent. Here I focus on the subset of parties belonging to the initiative committee.

Table 3: Preferences Proxies: Party Recommendations

Variables	(1) Baseline	(2) Cantonal	(3) Federal	(4) Not Party	(5) Party	(6) Pro Petitioners	(7) Contra Petitioners	(8) Year submitted
Signatures	1.743*** (0.160)	1.441*** (0.132)	1.611*** (0.168)	1.421*** (0.109)	1.596*** (0.392)	1.129** (0.460)	1.667** (0.777)	1.461*** (0.148)
Recommendation		0.148*** (0.034)	0.095*** (0.026)	0.140*** (0.037)	0.173*** (0.038)	0.207* (0.107)	0.144** (0.055)	0.144*** (0.031)
Constant	0.207*** (0.014)	0.170*** (0.019)	0.183*** (0.016)	0.383*** (0.017)	0.148*** (0.028)	0.137*** (0.031)	0.183*** (0.046)	0.167*** (0.018)
Observations	1,690	1,686	1,690	1,140	546	274	272	1,686
Adj. R <sup>2</sup>	0.828	0.843	0.832	0.863	0.820	0.821	0.845	0.842
Canton FE	YES	YES	YES	YES	YES	YES	YES	YES
Initiative FE	YES	YES	YES	YES	YES	YES	YES	YES

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Ordinary least squares regression. Clustered standard errors at cantonal level in parentheses. Controls, canton and initiative fixed effects are included in all specifications. The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of valid votes. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. *Recommendation* is the sum of electoral support for parties with positive voting recommendation. (1) repeats the baseline regression. In (2) and (3) cantonal and federal party recommendations are controlled for. In (4) and (5) initiatives are split by petitioners from parties and others. In (6) support for petitioning party is above-average, and below-average in (7). In (8) electoral support to calculate *Recommendation* at the time of signature collection is used instead of the voting time.

petitioning varies between 0 and 85% with a mean of 14.2%. I split the sample into observations with below- and above-average support for the proposing party (columns (6) and (7)).<sup>12</sup>

Results are as expected: for initiatives proposed by popular parties, the signature coefficient decreases to 1.129 (column (6)). If support for the committee was small, in contrast, the signature effect is large (column (7)). The results are reassuring that party recommendations indeed capture cantonal preferences.

In the last specification (8) I take into account that party support potentially changes over time. Support might change between the time when signatures were collected until the time the initiative comes to a popular vote since the process might take several years. I rerun the regression controlling for party shares at the time when signatures were collected instead of the voting date. The recommendation variable has a correlation coefficient of 0.96 reflecting only slight changes in election shares between signature collection and the vote. Unsurprisingly, the signature coefficient 1.461 in column (8) is very similar to the previous estimates.

Next, I control for cantons likely affected by the initiative. Results are reported in columns (1) to (3) in Table 4. The signature coefficient is almost unaffected by these controls. I find no effect for positively affected cantons (columns (1) and (3)). Negatively affected cantons have lower acceptance rates in line with the intuition (columns (2) and (3)).

Columns (4) to (7) refer to the smaller sample of initiatives for which related mandatory referendums exist. The baseline regression is repeated in column (4) which demonstrates a similar signature effect as previously estimated. In column (5) related past referendums are controlled for. Unsurprisingly, the signature effect decreases once the preference proxy is included. Cantons that have favored similar issues in the past are likely to also favor the initiative as suggested by the highly significant coefficient of the preference proxy.

Controlling for all preference proxies simultaneously yields similar results as before (columns (6) and (7)). The signature coefficient is about a third smaller than without preference controls. In the last specification in column (7) socio-economic variables are controlled for. While the main results change little, none of the controls Income, Education, Unemployed, Old, and Density has a significant coefficient.

If the preference proxies are well selected, this suggests that the link between petition signing and acceptance rates reflect more than preferences. Indeed, most preference proxies have the expected sign and are significant. Controlling for

12 For robustness, I also split the sample by the 25<sup>th</sup> and 75<sup>th</sup> percentile as well. The signature coefficient is significantly positive in all subsamples. Results are in Table 7 in the Appendix.



Table 4: Preferences Proxies: Affected Cantons and Related Votes

Variables	(1) Affected	(2) Affected	(3) Affected	(4) Baseline	(5) Related	(6) All	(7) All
Signatures	1.757*** (0.160)	1.734*** (0.162)	1.749*** (0.162)	1.608*** (0.254)	1.261*** (0.222)	1.079*** (0.213)	1.053*** (0.222)
Related vote					0.326*** (0.037)	0.297*** (0.036)	0.305*** (0.034)
Positively affected	-0.011 (0.011)		-0.012 (0.011)			-0.018 (0.012)	-0.015 (0.013)
Negatively affected		-0.077*** (0.014)	-0.077*** (0.014)			-0.128*** (0.018)	-0.125*** (0.019)
Recommendation						0.137*** (0.032)	0.143*** (0.029)
Constant	0.207*** (0.014)	0.211*** (0.014)	0.211*** (0.014)	0.429*** (0.020)	0.177*** (0.041)	0.201*** (0.035)	0.003 (0.171)
Observations	1,690	1,690	1,690	949	949	946	946
Adj. R <sup>2</sup>	0.828	0.833	0.833	0.772	0.806	0.839	0.841
Canton FE	YES	YES	YES	YES	YES	YES	YES
Initiative FE	YES	YES	YES	YES	YES	YES	YES
Controls	NO	NO	NO	NO	NO	NO	YES

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Ordinary least squares regression. Clustered standard errors at cantonal level in parentheses. Controls, canton and initiative fixed effects are included in all specifications. The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of valid votes. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. *Recommendation* is the sum of electoral support for parties with positive voting recommendation. *Positively affected* and *Negatively affected* are dummies for cantons affected by the initiative. *Related vote* is the acceptance rate in a related referendum vote. Controls: *Income*: average taxable income in CHF 10,000; *Unemployed*: share of unemployed; *Education*: share with tertiary education; *Old*: share of population older than 65 years; *Density*: citizens per square kilometer.

them reduces the estimated effect of signatures on acceptance rates. It is in line with the intuition that without controlling for preferences the signature effect is overestimated. In sum, the results provide evidence in favor of a campaigning effect through petition signing.

### 5.3 *Instrumental Variable*

The empirical analysis so far relies on the selection-on-observables assumption. Though I control for preferences in various ways, the presence of a latent variable cannot be ruled out with certainty. I try to address the issue by using an instrumental variable approach based on the increased signature collection around 1978.

The lower part of Table 5 reports the first stage results. The instrument, an indicator for the institutional change, has a positive and highly significant coefficient. This shows that the new signature requirement indeed increased the number of signatures collected as suggested by the graphical analyses in section 4.3. The instrument does not suffer from weak instrument problems as can be seen from the F-statistics which are all higher than 83.<sup>13</sup>

Second-stage results are in the upper part of Table 5. Specification (1) repeats the baseline OLS regression for the restricted sample.<sup>14</sup> As before, the coefficient is positive and highly significant. Notably, it is larger in this subsample than in the complete sample and amounts to 2.527. The second-stage results from the instrumental variable regressions are reported in columns (2) to (5). In column (2) the estimated coefficient, 2.497, is extremely similar to the OLS effect but slightly smaller.

The idea behind the sample choice criterion was to have initiatives voted closely around the increased signature requirement. At the cost of losing observations, in column (3) I drop observations from initiatives proposed before 1973 and after 1983 (two initiatives respectively). In column (4) I also control for canton fixed effects. In both cases, the coefficient goes down slightly but retains its significance.

HOFFER, MARTI, and BÜTLER (forthcoming) find that initiatives after 1978 were more successful in changing the status quo than initiatives before 1978 through accepted counter proposals. To take care of potentially differing initiatives around the change, I drop six initiatives receiving counter proposals in column (5). The

13 For completeness, I also regress the acceptance rate on the requirement variable without controlling for signatures. All results are significant and reported in Table 8 in the Appendix.

14 Note that I cannot use initiative fixed effects in the IV estimation because they are highly correlated with the instrument.

coefficient decreases to 0.672, and significance decreases to the 10% level. The drop in both size and significance comes from the fact that initiatives receiving a counter proposal have significantly higher acceptance rates of 66.9% compared to 32.1% for initiatives without counter proposals. Dropping them corresponds to discarding initiatives with high acceptance rates and reduces variation in the dependent variable.

In sum, second-stage estimations support the findings from the main analysis. The instrumental variable regression results are another indicator pointing towards more signatures leading to higher acceptance rates at cantonal level.

Table 5: IV Estimation

Variables	(1) OLS	(2) IV	(3) IV	(4) IV	(5) IV
<b>2<sup>nd</sup> stage</b>					
Signatures	2.527*** (0.250)	2.497*** (0.429)	2.151*** (0.444)	2.374*** (0.427)	0.672* (0.373)
Constant	0.326*** (0.011)	0.327*** (0.014)	0.341*** (0.015)	0.345*** (0.013)	0.307*** (0.014)
Adj. R <sup>2</sup>	0.113	0.113	0.104	0.125	0.092
<b>1<sup>st</sup> stage</b>					
Requirement		0.015*** (0.001)	0.016*** (0.001)	0.014*** (0.001)	0.015*** (0.002)
Constant		0.015*** (0.002)	0.016*** (0.002)	0.025*** (0.001)	0.015*** (0.002)
Adj. R <sup>2</sup>		0.084	0.088	0.21	0.085
F-statistics		115.8	125.0	109.1	83.6
Observations	891	891	789	891	738

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Based on initiatives submitted between 1971 and 1984. The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of voters. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. Ordinary least squares regression in (1). IV regressions with 2SLS in (2)–(5). The instrument *Requirement* is an indicator variable for the doubling of the signature requirement in 1978. In (3) initiatives before 1973 and after 1982 are dropped. In (4) canton fixed effects are controlled for. In (5) initiatives with counter proposals are dropped. Clustered standard errors at cantonal level in parentheses.

## 6. Concluding Remarks

This paper analyzes the qualifying stage of popular initiatives. It extends previous work by exploring the relation between the signatures collected for an initiative and approval rates. I find a positive and significant relation between the share of citizens signing an initiative petition and the cantonal acceptance rate at the subsequent initiative vote. By using several proxies for cantonal preferences as well as an instrumental variable approach, I show that the relation is likely more than a correlation. The fact that the main result survives all attempts to tackle omitted variable bias is reassuring. Also, the estimated effects are smaller when preferences are controlled for, as would be theoretically expected from the direction of the omitted variable bias. But ultimately, none of the measures employed constitutes an ideal preference control with certainty.

For a more detailed analysis and also for a better understanding of mechanisms explaining the estimated effects, individual-level data would be required. Then a direct link between signing and acceptance could be established and potential spillover effects to non-signers could be explored.

In terms of approving votes, it turns out to be worthwhile running a larger collection campaign and gather additional signatures. Hence, my results contribute to understanding why initiatives usually collect more signatures than legally required to qualify initiatives for ballot – other than to insure against invalid signatures. Though larger collection campaigns go hand in hand with higher collection costs, they reap benefits in terms of additional support from the eligible population at ballot.

## Appendix

### *Data Sources*

Data on signatures for initiatives qualified between 1891 and 1998 are hand-collected from the homepage of the Swiss Federal Archive. Since 1999, the signature data are available on the homepage of the Swiss Federal Chancellery.

Voting data come from the vote statistics (Abstimmungsstatistik) of the Swiss Federal Statistical Office. The official name of the statistics is Cantonal Results of Federal Popular Votes 1866 to 2011 (Kantonsergebnisse eidgenössischer Volksabstimmungen 1866 bis 2011 ).

The average taxable income is from the Federal Tax Administration. The dates of initiative qualification and ballot were taken from the homepage of the Swiss Federal Chancellery. All other controls (population 65 years or older, tertiary education, unemployment, population density) were provided by the Swiss Statistical Office and can be found in the Swiss census. Data on average taxable income are biannual, and census data are compiled every ten years. The relevant censuses are 1970, 1980, 1990, and 2000. To receive yearly data, I linearly interpolate the data for the missing years.

### *Data Used from Swiss Census (1970, 1980, 1990, 2000)*

Provided by the Swiss Statistical Office, [www.bfs.admin.ch](http://www.bfs.admin.ch)

- Total cantonal population
- Population 65 years old or older per canton
- Unemployed population per canton
- Population with tertiary education per canton
- Population density per canton

### *Other Data*

- Variable mean taxable income is from the Eidgenössische Steuerverwaltung (Federal Tax Administration) in Bern.
- Dates of initiative qualification and ballot to calculate time between initiative qualification and ballot are from the homepage of the Swiss Federal Chancellery.
- Party recommendations and petitioners have been received by email from Année Politique Suisse and come from the following publication: Année Politique Suisse, Institut für Politikwissenschaft der Universität Bern, 2016: Parolendatenbank zu Eidgenössischen Volksabstimmungen.

## Tables

Table 6: Effect of Initiative Signing on Acceptance – Wild Cluster Bootstrap

Variables	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Signatures	1.008*** (11.987)	0.969*** (12.843)	1.099*** (10.799)	1.223*** (14.117)	1.012*** (12.631)
Observations	5,333	5,333	5,333	5,333	5,333
Adj. R <sup>2</sup>	0.091	0.114	0.777	0.105	0.803
Canton FE	NO	YES	NO	NO	YES
Initiative FE	NO	NO	YES	NO	YES
Time trend	NO	NO	NO	YES	YES

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of valid votes. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. Wild cluster bootstrapped standard errors at cantonal level. T-statistics in parentheses.

Table 7: Preferences Proxies: Party Recommendations – Robustness

Variables	(1) Pro Petitioners p25	(2) Contra Petitioners p25	(3) Pro Petitioners p75	(4) Contra Petitioners p75
Signatures	1.129*** (0.366)	2.971** (1.208)	0.946** (0.371)	1.641** (0.595)
Recommendation	0.276*** (0.071)	0.149** (0.071)	-0.051 (0.095)	0.225*** (0.048)
Constant	0.119*** (0.026)	0.112** (0.047)	0.291*** (0.061)	0.130*** (0.034)
Observations	381	165	136	410
Adj. R <sup>2</sup>	0.846	0.825	0.854	0.826
Canton FE	YES	YES	YES	YES
Initiative FE	YES	YES	YES	YES

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Ordinary least squares regression. Clustered standard errors at cantonal level in parentheses. Canton and initiative fixed effects are included in all specifications. The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of valid votes. *Signatures* are measured by the number of valid signatures per eligible citizens in a canton. *Recommendation* is the sum of electoral support for parties with positive voting recommendation. In (1) support for petitioning party is above the 25th percentile, and below the 25th percentile in (2). In (3) support for petitioning party is above the 75th percentile, and below the 75th percentile in (4).



Table 8: IV Estimation – Robustness

Variables	(1) IV	(2) IV	(3) IV	(4) IV
Requirement	0.037*** (0.007)	0.034*** (0.008)	0.034*** (0.007)	0.010* (0.006)
Constant	0.365*** (0.012)	0.374*** (0.013)	0.406*** (0.003)	0.317*** (0.011)
Observations	891	789	891	738
Adj. R <sup>2</sup>	0.008	0.006	0.057	0.000

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Based on initiatives submitted between 1971 and 1984. The dependent variable *Acceptance* is defined as the number of yes votes divided by the number of voters. *Requirement* is an indicator variable the doubling of the signature requirement in 1978. Ordinary least squares regressions. In (2) initiatives before 1973 and after 1982 are dropped. In (3) canton fixed effects are controlled for. In (4) initiatives with counter proposals are dropped. Clustered standard errors at cantonal level in parentheses.

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