

Does Compulsory Voting Increase Support for Leftist Policy?

Michael M. Bechtel – University of St.Gallen
Dominik Hangartner – LSE and University of Zurich
Lukas Schmid – University of St.Gallen

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ABSTRACT

Citizens unequally participate in referendums and this may systematically bias policy in favor of those who vote. Some view compulsory voting as an important tool to alleviate this problem while others worry about its detrimental effects on the legitimacy and quality of democratic decision-making. So far, however, we lack systematic knowledge about the causal effect of compulsory voting on public policy. We argue that sanctioned compulsory voting mobilizes citizens at the bottom of the income distribution and that this translates into an increase in support for leftist policies. We empirically explore the effects of a sanctioned compulsory voting law on direct-democratic decision-making in Switzerland. We find that compulsory voting significantly increases electoral support for leftist policy positions in referendums by up to 20 percentage points. We discuss the implications of these results for our understanding of the policy consequences of electoral institutions.

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Michael M. Bechtel, University of St.Gallen, Department of Political Science, Rosenbergstrasse 51, CH-9000 St. Gallen, Switzerland. E-mail: mbechtel.mail@gmail.com.

Dominik Hangartner, London School of Economics and Political Science, Department of Methodology, Houghton Street, London WC2A 2AE, United Kingdom and University of Zurich, Department of Political Science, Affolternstrasse 56, CH-8050, Zürich, Switzerland. E-mail: d.hangartner@lse.ac.uk.

Lukas Schmid, University of St.Gallen, Department of Economics, Bodanstrasse 8, CH-9000 St. Gallen, Switzerland. E-mail: lukas.schmid@unisg.ch.

I. INTRODUCTION

One of the fundamental objectives of democracy is to ensure that public policy responds to citizens' needs. A large literature has demonstrated, however, that there exist significant differences in civic engagement across politically relevant, socio-demographic divides: Low income earners, the less educated, less urban, young, and those belonging to ethnic minorities have a significantly lower propensity to vote (Verba, Schlozman, and Brady 1995; Mueller and Stratmann 2003; Neviite, Blais, Gidengril, and Nadeau 2009; Armingeon and Schädel 2014; Kasara and Suryanarayan 2014).¹ From this perspective, low turnout may reduce or even destroy the positive welfare effects of government responsiveness through electoral accountability (Strömberg 2004; Björkman and Svensson 2009), a phenomenon that Lijphart (1997) has called the “democratic dilemma”. To the extent that public policy systematically benefits voters over non-voters, those who abstain may “become locked into a self-fulfilling cycle of quiescence, alienation and government neglect” (Hill 2006, p. 216).

To preserve the welfare-enhancing effect of electoral accountability, Lijphart (1997) and others (Dahl 1989; Hill 2006) have pointed out that compulsory voting may reduce representational inequality by mobilizing those citizens who would otherwise remain politically inactive. This incentivizes policymakers to enact policies that better serve the needs of those who had previously been underrepresented. Others, however, worry that compulsory voting reduces the quality of electoral choice and creates inefficiencies because socio-demographic turnout differences may simply reflect differences in affectedness or information (Feddersen and Pesendorfer 1999; Börgers 2004; Saunders 2011). For example, compulsory voting could increase the share of less informed voters which may reduce the quality of electoral choice. Moreover, to the extent that compulsory voting remains inconsequential for electoral outcomes, low turnout would actually be preferable from an efficiency perspective.

So far, there exists overwhelming evidence that turnout in elections tends to be higher in countries that practice compulsory voting (Jackman 2001; Mueller and Stratmann 2003) and that turnout

¹The positive empirical relationship between income and the propensity to vote in industrialized countries has been well documented (Nevitte et al. 2009; Mueller and Stratmann 2003; Verba, Schlozman, and Brady 1995; Filer, Kenny, and Morton 1993; Sigelman, Roeder, Jewell, and Baer 1985; DeNardo 1980), although recent work finds that the positive correlation between income and vote choice is weaker in richer states (Bartels 2006; Gelman, Shor, Bafumi, and Park 2007; Gelman, Kenworthy, and Su 2010; Brooks and Brady 1999). This finding is consistent with Kasara and Suryanarayan (2014) who show that high earners are more likely to vote when their own preferences differ strongly from those of low-income individuals. Anderson and Beramendi's (2012) study on the negative relationship between inequality and turnout further underscores the importance of income for our understanding of variation in turnout.

affects the distribution of votes across parties and candidates (Hansford and Gomez 2010; Kohler and Rose 2010; Brunell and DiNardo 2004; Citrin, Schickler, and Sides 2003). Some have found that turnout tends to benefit the Democrats in the U.S. (Citrin, Schickler, and Sides 2003; Erikson 1995) and the Labor Party in Australia (Fowler 2013). Others document that the Republican party realizes higher vote shares in high-turnout elections (Tucker, Vedlitz, and DeNardo 1986; Nagel and McNulty 1996). This previous work has provided insights into the effects of turnout on elections in which parties and candidates offer entire packages of multidimensional policy bundles. So far, however, we lack knowledge about how turnout affects direct-democratic policy decisions.

We explore the public policy effects of turnout by examining how sanctioned compulsory voting affects referendum outcomes. We argue that imposing a fine for abstention increases turnout among those at the bottom of the income distribution. This is because a monetary sanction imposes the highest relative costs on those who have the least financial resources available and, as is well documented in the literature, low-income individuals generally have a low probability of participating in elections under voluntary voting (Filer, Kenny, and Morton 1991; Husted and Kenny 1997). Thus, the set of citizens that can be mobilized by electoral institutions such as compulsory voting is particularly large. Since low income voters favor more redistribution than high income individuals (Meltzer and Richard 1981; Alesina and La Ferrara 2005; Lipset 1959), differential mobilization should result in more electoral support for leftist policies, i.e., policies that aim to lower income inequality, increase welfare spending, enhance workers' employment conditions, and strengthen pension systems (Mahler 2008; Kenworthy and Pontusson 2005; Mueller and Stratmann 2003).

Our evidence is based on an analysis of direct legislation in Switzerland and consists of two parts. The first and major part is a causal evaluation of the effects of sanctioned compulsory voting in the Swiss canton Vaud. This part enables us to estimate an upper bound of the causal effect of compulsory voting on leftist policy support in referendums. The second component of our empirical evidence is a correlational study of the relationship between compulsory voting and support for leftist policy proposals in referendums in all Swiss cantons from 1908 to 1970 which allows us to explore the generalizability of our main findings.

We first estimate the effects of a sanctioned compulsory voting law in the Swiss canton Vaud that

aimed mobilizing citizens to participate in direct legislation. Vaud practiced compulsory voting for more than twenty years (1925-1948). Abstention triggered a fine that local police authorities collected by visiting nonvoters' homes in person. Such a focus on federal referendum outcomes in one out of many cantons in a multilevel system provides us with a design in which it is plausible to assume that federal referendum issues are exogenous to policy preferences within this single subnational jurisdiction (Bechtel 2012). This circumvents some of the methodological issues that arise when examining national election outcomes where parties' and candidates' policy positions tend to form endogenously. Moreover, studying this period promises insights into the role of electoral institutions and political participation for the evolution of the modern welfare state: In many of the federal referendums Swiss citizens voted on fundamental components of the welfare state, such as income taxation, the health system, the right to work, pension schemes, and job security regulations (Linder 1994; Emmenegger 2009).

The results of our study of federal referendum outcomes in Vaud suggest that sanctioned compulsory voting has a massive effect on turnout, increasing participation in direct legislation by almost 30 percentage points, which implies that turnout was close to universal. Moreover, we find that this massive turnout differentially strengthens electoral support for leftist policy positions by about 80%. These results remain robust when using different model specifications, applying permutation tests, and employing multi-way clustered standard errors. Based on our findings, we also report point predictions for important welfare and social policy proposals of the left. The results suggest that compulsory voting also had a considerable impact on support for specific referendums on important redistributive policy issues. We then explore the external validity of our main findings by analyzing referendums in all Swiss cantons from 1908 to 1970. These correlational results suggest that our estimates seem to generalize to other cantons and time periods.

These findings speak to several literatures that have explored the policy impact of political participation and, more generally, the effects of electoral institutions on public policy. First, most scholars agree that knowledge about the political consequences of virtually universal turnout is crucial to our evaluation of the potential biases in public policy due to unequal political participation. Yet, previous work has either examined the impact of relatively moderate increases in turnout (Hansford

and Gomez 2010; Knack 1994; Filer, Kenny, and Morton 1993) or relied on stated preferences of nonvoters in surveys to explore this issue (Selb and Lachat 2009). Although these studies have generated important insights, their ability to explore the actual policy effects of compulsory voting remain limited. Already Lijphart (1997) points out that “nonvoters who are asked their opinions on policy and partisan preferences in surveys are typically citizens who have not given these questions much thought, who have not been politically mobilized, and who, in terms of social class, have not developed class consciousness. It is highly likely that, if they were mobilized to vote, their votes would be quite different from their responses in opinion polls” (p. 4). Finally, our results also speak to an ongoing debate about how compulsory voting may or may not affect political stability (Jackman 2001; Lijphart 1997) and inform the literature on the consequences of electoral institutions for the rise of the political left (Boix 1999; Rokkan 1970) and the evolution of the modern welfare state (Husted and Kenny 1997; Miller 2008; Radcliff 1992). We elaborate on the implications of our findings in more detail in the conclusion.

II. COMPULSORY VOTING, DIFFERENTIAL MOBILIZATION, AND PUBLIC POLICY

A. Previous Work

Several scholars have argued that high levels of turnout are desirable because they increase the legitimacy and the stability of the political system (Dahl 1989; Lijphart 1997; Saunders 2011). This debate has stimulated a large empirical literature that has examined the effects of compulsory voting on political participation and political interest along with the social, economic, and political determinants of turnout. Most studies have focused on estimating the mobilization effects of compulsory voting (Jackman 2001; Panagopoulos 2011; Bechtel, Hangartner, and Schmid 2015). According to this previous work, countries that practice compulsory voting have turnout levels that are 7 to 15 percentage points higher on average than in countries where voting is voluntary (Mueller and Stratmann 2003; Blais and Young 1996; Jackman 1987).

Scholarship has also examined the effects of compulsory voting and turnout on elections by examining changes in parties’ or candidates’ vote shares. While earlier studies report somewhat mixed results (Tucker, Vedlitz, and DeNardo 1986; Nagel and McNulty 1996) the most recent set of studies

documents that high turnout improves the representation of Latinos and Asian Americans in U.S. city elections (Hajnal and Trounstein 2005), increases vote shares of mainstream parties (Ferwerda 2014), and raises electoral support for the Democrats in the U.S. (Hansford and Gomez 2010; Citrin, Schickler, and Sides 2003). In the study that is most closely related to our own contribution, Fowler (2013) shows that higher turnout due to compulsory voting increases vote shares for the Labor Party in Australian State Assembly Elections. This previous work suggests that turnout matters for the outcomes of elections in which parties and candidates compete for office. We advance the literature by studying the effects of compulsory voting on the outcomes of referendums in which citizens directly vote on policy issues.

We distinguish three theoretical arguments about the effects of compulsory voting on public policy choices in referendums: equal mobilization, amplifying bias, and bias correction. We then explore these predictions in a direct-democratic setting where citizens directly decide on policy in referendums, which allows for a direct empirical test of the competing theoretical arguments.

B. Mobilization, Sanctioned Compulsory Voting, and Public Policy

How do increases in political participation affect policy choices in referendums? We answer this questions by focusing on compulsory voting as a legal intervention that aims to increase political participation by (exogenously) changing the costs of voting. Other examples could be the introduction of postal voting, the removal of poll taxes, weather events, changes in the accessibility of polling stations, or the introduction of literacy tests. These instruments and their introduction are typically independent of the dominant policy issues in pre-election periods, the specific content of referendums, the quality of the candidates that run for office, parties' campaign strategies, or targeted campaign messages by political interest groups. Increases in the costs of voting will demobilize citizens to participate in elections, while increases in the costs of abstaining will mobilize individuals (Riker and Ordeshook 1968). But if all citizens equally respond to the cost changes, their interests would still be equally well (or poorly) represented. Thus, according to the equal mobilization argument, changes to the costs of voting or non-voting will remain inconsequential for public policy.²

²A related argument holds that citizens who would abstain under voluntary voting would vote randomly under compulsory voting which would lead to the same prediction.

One possible argument starts from the assumption that citizens have heterogeneous propensities to vote. Any theoretical prediction about the effects of changes in the costs of non-voting on turnout depends on how these individual propensities respond to cost shocks. In principle, it might be possible that individuals respond uniformly to changes in the costs of non-voting. This would result in an equal mobilization of different voter groups. The available empirical evidence, however, suggests that citizens do not respond uniformly to changes in voting costs. Rather, the turnout effects of mobilization instruments appear to depend on their specific nature (Jackman 2001). For example, literacy tests impose particularly high costs on less educated citizens. As a consequence, such tests depress turnout among those with low levels of education (Filer, Kenny, and Morton 1993). To give another example, the introduction of poll taxes increases the costs of voting more strongly for those with low income. Therefore, poll taxes tend to decrease turnout among low earners (Filer, Kenny, and Morton 1991; Husted and Kenny 1997). These phenomena illustrate the functioning of differential mobilization and how electoral institutions can reduce or exacerbate inequalities in political participation. Consistent with this reasoning, we focus on two arguments about the effects of mobilization efforts on public policy: The *amplifying bias* argument and the *bias correction* argument. Both theories reject the view that shocks to the costs of voting have equal mobilization effects, albeit in opposite directions.

The amplifying bias argument predicts that non-partisan mobilization efforts such as simple get-out-the-vote campaigns or norm-based approaches such as compulsory voting will increase representational inequality because they are most effective among those who already have a high propensity to vote.³ Therefore, increases in turnout will translate into more representational inequality which will amplify biases in public policy. Recent field experimental evidence supports this idea: Enos, Fowler, and Vavreck (2014) show that get-out-the-vote interventions more strongly mobilize those who already have a high propensity to vote, which would further increase the potential biases in policy decisions due to unequal political participation. Since constituencies that support right policies have a higher propensity to vote (ibid.), this reasoning suggests that compulsory voting will strengthen support for

³Note that this prediction differs from what we would expect from electoral mobilization by interest groups. For example, recent work argues that unions foster solidarity among their members and thereby strengthen redistributive policy preferences (Mosimann and Pontusson 2014). If unions mobilize their members, this should reduce representational imbalances given that supporters of the right generally have a higher probability to participate in elections (Korpi 2006).

right policies more strongly than support for leftist policies.

We argue that increasing civic engagement can reduce representational inequality and policy biases. In the context of sanctioned compulsory voting, this bias correction argument rests on the idea that introducing fines for non-voting places a disproportionate burden on those with low incomes, who have been documented to have a particularly low probability of turning out (Fowler 2013; Mueller and Stratmann 2003; Verba, Scholzman, and Brady 1995; Blais and Young 1996). This reasoning is consistent with the finding that poll taxes, which impose higher costs relative to income for low earners, indeed reduce turnout more strongly in poorer counties (Filer, Kenny, and Morton 1991). Since a monetary punishment for non-voting will more strongly mobilize low income individuals, this will add voters located at the lower end of the income distribution to the electorate. Following Meltzer and Richard (1981), this changes the median voters' preferred level of redistribution: The median voter under sanctioned compulsory voting will have a higher demand for income redistribution and its various instruments: social welfare, pension systems, universal health care. Individual-level evidence that documents a strong negative correlation between income and support for redistribution lends empirical support to this reasoning (Alesina and La Ferrara 2005; Piketty 1995).⁴ Therefore, the bias correction argument predicts an increase in turnout among low-income voters that translates into a shift toward more relative support for leftist, redistributive policies (Husted and Kenny 1997).

We examine the empirical validity of our argument by studying the policy impact of sanctioned compulsory voting in Switzerland in the first half of the 20th century. Switzerland has a direct-democratic system where citizens directly vote on policy issues in referendums. This allows us to estimate how turnout changes due to compulsory voting affect direct-democratic policy choices. Therefore, our study promises to provide evidence that enables us to arbitrate between different theoretical accounts of the effects of turnout on policy decisions in referendums.

⁴A related literature has examined the correlation between income and voting behavior in elections where citizens vote for parties or candidates. These studies find that the positive correlation between income and vote choice is weaker in richer states (Bartels 2006; Gelman et al. 2007; Gelman, Kenworthy, and Su 2010; Brooks and Brady 1999) and less industrialized countries (Nevitte et al. 2009).

III. THE SWISS PARTY SYSTEM AND COMPULSORY VOTING IN VAUD IN THE EARLY 20TH CENTURY

Switzerland seems to be an ideal political system for studying the policy effects of compulsory voting in referendums. Already Lijphart (1997) emphasizes its exceptionally low levels of turnout and Linder (1994) observes that “especially when participation is low, the choir of Swiss direct democracy sings in upper or middle-class tones” (p. 95-96). Moreover, the period we study (1908-1970) includes the advent of industrialization in the early 20th century which marked the rise of the classic, left-right conflict between capital and labor interests in Switzerland and this cleavage continued to dominate political competition for decades (Kreis 2014; Fueter 1928). The increasing importance of the industrial sector and the economic consequences of World War I further strengthened the support of the working class for the social democratic party (SP). In line with their typically low-income constituencies, SP demanded leftist policies, such as, social benefits, a tax-funded pension system, public health care, and other types of classical redistributive policies (Linder 1994). In contrast, the Free Democratic Party (FDP) wanted to prevent state interventions in the economy, opposed welfare programs, and supported the extension of working hours. Since the FDP held the majority of seats in the federal parliament, the SP could influence public policy only through direct-democratic decisionmaking. As a consequence, citizens had to vote on important welfare and social policy proposals in federal referendums. Prominent examples include proposals to introduce a public pension system and a public disability insurance (1925, 1947), a popular initiative to fight the economic crisis (1935), and a popular initiative for economic reforms and the establishment of a right to work (1947). Within less than three decades, direct-legislation on economic and social policy formed the basis of the modern welfare state in Switzerland.

To provide a causal estimate of how turnout affects public policy we first analyze the effects of sanctioned compulsory voting that the canton of Vaud introduced in November 1924.⁵ According to Vaud’s compulsory voting law all citizens between the age of 20 and 65 years had to participate in federal referendums. To assess whether the introduction of compulsory voting constitutes an exogenous intervention, we searched the cantonal archives and carefully reviewed a large set of primary documents

⁵Law on political rights #113/49, 17th November 1924.

including parliamentary minutes and newspapers. These sources suggest that policymakers in Vaud tried to improve political participation and interest in political matters and to ensure that outcomes of federal referendums in Vaud had a stronger impact on federal legislative decisions (Bulletin du Grand Conseil 1924, p. 658).

We have analyzed the parliamentary minutes to explore whether compulsory voting was introduced strategically. In particular, one may worry that the SP advocated compulsory voting because it expected to benefit from higher support for leftist policy positions in referendums. The archival material, however, does not support this hypothesis. First, the parliamentary minutes suggest that policymakers lacked sound evidence on the actual effects of sanctioned compulsory voting. They explicitly viewed the introduction of compulsory voting for federal referendums as an experiment to learn about its effects on civic engagement (Bulletin du Grand Conseil 1924, p. 705-707). Second, the SP did not hold a majority of seats in Vaud's parliament, which means that it was unable to introduce compulsory voting on its own. Third, the SP actually opposed sanctioned compulsory voting because of the fear that this may exacerbate Switzerland's internal division between French- and German-speaking regions (Bulletin du Grand Conseil 1924, p. 710-711). Fourth, it expected that the enforcement of sanctioned compulsory voting would cause overly high administrative costs and confusion among voters about which types of referendums and elections would be compulsory and which would remain voluntary (Bulletin du Grand Conseil 1924, p. 703-705). Finally, the SP was concerned that the considerable fine for non-voting would infuriate their voter base which consisted mainly of low-income individuals.

At the end of the parliamentary debate, the FDP supported the introduction of compulsory voting while the SP opposed it. The FDP aimed to increase the weight of the French-speaking cantons in federal direct-legislation. Thereby, liberal elites hoped to prevent further centralization decisions that would have strengthened legislative authority at the federal level. Since the FDP held 54% of the seats in Vauds cantonal parliament, this majority was sufficient to introduce compulsory voting as part of a revision of the law on political rights #113/49 on 17 November 1924. Thus, the SP did not strategically introduce compulsory voting because they expected to particularly benefit from it. This lends plausibility to the idea of compulsory voting as an exogenous policy intervention.⁶

⁶Note that for a clean identification of the average treatment effect on the treated in a difference-in-differences design

Vaud’s compulsory voting law sanctioned nonvoters by imposing a fine of two Swiss francs (Gazette de Lausanne 1924). This amount appears substantial, as it equaled about 125% of a low-skilled worker’s hourly wage (Siegenthaler and Ritzmann 1996). Local police authorities collected the fine by visiting nonvoters’ homes in person. The revenues from the fine, which varied between 8’000 and 16’000 Swiss francs per referendum, helped financing a charity fund for poor people and public hospitals.⁷ Vaud temporarily suspended its compulsory voting law in the World War II period from 1940 to 1945 and reactivated it in late 1945 (Gazette de Lausanne 1945). Although Vaud’s government continued to generally support compulsory voting, it was eventually abolished in 1948 because of its high administrative costs.

IV. DATA AND METHOD

A. *Dependent Variables*

For the treated and control districts we collected data on *Turnout* in all conflictual federal referendums (21) held from 1908 to 1948 together with information about the outcomes of these direct-democratic decisions. Table 6 in the Supporting Information provides a list of all referendums included in our sample together with information about turnout and Yes/No vote shares. Examining these referendum results provides us with a direct measure of support for a specific policy issue. In contrast, the use of a party’s vote share would not allow us to disentangle whether changes in electoral support are due to the specific combination of its multidimensional policy platform, its candidates, or their perceived competence. By examining votes on specific policy issues we avoid this challenging complication.

To explore the effects of compulsory voting on support for leftist/rightist policies, we need measures of electoral support for policy proposals endorsed by the left. We create the variable *Support Left* which measures the share of votes for a proposal if it is endorsed by the social democratic party (SP) and the share of votes against a proposal if the SP recommends to vote against the proposal. In the robustness section we explore the sensitivity of our results to an alternative, manual coding

only the timing of the introduction of compulsory voting, not the policy per se, has to be exogenous to canton-year (or district-referendum) specific shocks (Abadie 2005, p. 2-3).

⁷The Supporting Information provides the exact text of the compulsory voting law (see Table 11 in the Supporting Information).

of proposals that does not rely on parties' endorsements. The results remain very similar.⁸ More formally, we define *Support Left* as

$$Support\ Left := \begin{cases} \frac{\#Yes}{\#EV} & \text{if } SP = 1 \\ \frac{\#No}{\#EV} & \text{if } SP = 0, \end{cases} \quad (1)$$

where $\#Yes$ and $\#No$ is the number of yes and no votes, respectively, and $\#EV$ denotes the number of eligible voters. The proposal-specific indicator variable SP equals 1 if the proposal was endorsed by the SP and is 0 if the SP opposed the proposal.

Analogously, we create the variable *Support Right* to measure support for right policy proposals defined as:

$$Support\ Right := \begin{cases} \frac{\#Yes}{\#EV} & \text{if } FDP = 1 \\ \frac{\#No}{\#EV} & \text{if } FDP = 0, \end{cases} \quad (2)$$

where $\#Yes$ and $\#No$ is the number of yes and no votes, respectively, and $\#EV$ denotes the number of eligible voters. The proposal-specific indicator variable FDP equals 1 if the proposal was endorsed by the FDP and is 0 if the FDP opposed the proposal.⁹

Finally, to allow for a direct statistical test of the relative effect of changes in turnout on electoral support we construct the variable *Relative Support Left*. This variable measures the share of yes votes as a share of the total number of valid votes if the SP endorses the proposal and the share of no votes as a share of the total number of valid votes if the SP opposes the proposal. Thus, this variable directly measures relative electoral support for policy positions of the left. Formally, the variable is defined as:

⁸For each referendum, Table 6 in the Supporting Information also provides information about whether the SP endorsed it.

⁹Note that some proposals were neither supported nor opposed by the SP, the FDP or both. In these cases parties declared a free vote. While we would have liked to also identify those federal proposals that were endorsed by the right-wing party SVP (Swiss People's Party), this is not possible because this party has not been founded until 1918. Moreover, for the post-1918 period we find that in more than 80% of the proposals both the FDP and the SVP held the same policy positions. We also examined the consistency of FDP and SP endorsements at the national and cantonal level. Using data from 1970, we find that these differences are negligible. For the SP, 97.4% of the endorsements by this party at the national level coincided with those by the SP in Vaud. This figure is only slightly lower (91.1%) for the FDP.

$$Relative\ Support\ Left := \begin{cases} \frac{\#Yes}{\#Yes+\#No} & \text{if } SP = 1 \\ \frac{\#No}{\#Yes+\#No} & \text{if } SP = 0 \end{cases} \quad (3)$$

We collect a large set of covariates that previous work has shown to help predict turnout and election outcomes. This data include the number of ballots in a referendum, public spending and revenues, percentage of secondary students, share of urban population, and share of people older than 50 or 60, respectively. Since economic indicators are only available since 1998, we use the number of motor vehicles per person as a proxy for economic performance (Knack 1995; Filer, Kenny, and Morton 1993; Duch and Stevenson 2010). Table 4 in the Supporting Information provides a complete covariate list and data sources.

B. Research Design

We estimate the causal effect of compulsory voting on turnout and support for leftist/rightist policy proposals in federal referendums. Ideally, we would compare district-level outcomes of federal referendums under voluntary voting with referendum outcomes in the same districts under compulsory voting. However, we never observe both outcomes for the same districts. Therefore, we need to impute a credible counterfactual that serves as the baseline when estimating a causal effect. A simple before-and-after comparison of treated districts will fall short of providing convincing causal estimates as many time-varying factors may be responsible for differences in the outcome variables over time. For example, citizens voted on different policies in these periods which would undermine the credibility of such a before-and-after comparison.

To estimate the causal effect of compulsory voting on support for leftist policy we employ standard fixed effects regression. The idea is to impute the missing counterfactual, i.e., the change in electoral support for a specific policy proposal we would expect in the treated districts in the absence of compulsory voting, using the change in electoral support for the same policy proposals in comparable control districts that did not practice compulsory voting. This design allows us to identify the causal effect in the presence of unobservable time-invariant or smoothly-changing confounders. It requires, however, that we exclude districts from the analysis in which voting was compulsory at some point in

the period that we study. Figure 2 in the Supporting Information shows a map of Switzerland in the early 20th century that identifies which cantons were included in the analysis as control units. The Supporting Information (section I) provides a detailed, formal treatment of the estimation strategy.

We estimate the effect of compulsory voting on policy support using fixed-effects regression as it identifies our quantity of interest solely on the basis of within-district variation in treatment, turnout and referendum outcomes. The fixed effects estimator for panel data, a generalization of the difference-in-difference design to multiple time periods, provides us with a valid causal estimate under the parallel trends assumption as stated in equation (5) in the Supporting Information (Angrist and Pischke 2008). The parallel trends assumption says that in the absence of compulsory voting, the dependent variable (e.g., turnout) would have experienced the same changes over time as in the control districts in which voting remained voluntary during the treatment period. Further below we show that the parallel trends assumption is plausible in our application. Therefore, this identification strategy prevents unobserved, time-invariant district characteristics, such as a district’s geographic features, its local political culture, or its structural demographic, economic, and social composition, to confound our causal effect (see section I for details). Furthermore, by including district-specific time trends even helps to account for local trends in unobserved confounders, such as changes in voter preferences.

Several features of our research design suggest the use of two-way clustered standard errors to avoid falsely rejecting the null hypothesis of no effect (Bertrand, Duflo, and Mullainathan 2004). More specifically, since we observe the same districts over time and all districts vote on the same referendum on the same day, we have to account for intra-district and contemporaneous dependence. Although this does not affect the estimated treatment effect, which will remain unbiased, throughout all estimations we compute standard errors that use the two-way variance estimator proposed by Cameron, Gelbach, and Miller (2011) which provides us with standard errors that are robust against both potential district-level and referendum-level dependencies. We also address the fact that our treatment is imposed at the cantonal level, as this means that the treated districts within a canton are not independent in case of a common cantonal-level shock. Although, again, this does not affect the magnitude of the estimated treatment effect, this may result in deflated standard errors. To address this issue, we compute the p -values using the two-way clustered standard errors in combination with

a t -distribution with only 10 degrees of freedom. This reflects that, although we have 12 cantons in our sample, the intervention was imposed at the cantonal level and, additionally, one of our covariates (share of automobiles) is measured at the cantonal level.

V. RESULTS

A. *Compulsory Voting, Turnout, and Support for Leftist Policy in Referendums*

Model 1 in Table 1 presents fixed effects regression estimates of the impact of compulsory voting on turnout in federal referendums. We focus on referendums in which the two major parties offered conflictual endorsements, i.e., one of the parties recommended voting for a policy while the other party advocated voting against the proposal.¹⁰ All models include district and referendum fixed effects. We also include district-specific linear time trends to account for smooth, time-varying trends at the district level and a full set of socio-demographic and economic covariates.¹¹ All estimations use two-way robust standard errors that are clustered by district and referendum day (Cameron, Gelbach, and Miller 2011). Additionally, for our treatment estimate we report p -values that are based on the t -distribution with 10 degrees of freedom to account for the fact that the treatment is applied at the cantonal level. We report various robustness as well as placebo tests further below. According to Model 1 in Table 1, turnout in referendums increases significantly ($p < 0.01$) by 33 percentage points on average in the period in which Vaud practiced compulsory voting. To better grasp the magnitude of this effect we divide the point estimate by the counterfactual turnout level in the absence of compulsory voting. We find that compulsory voting boosts turnout by 66% on average.

How does this pronounced increase in political participation affect support for leftist and rightist policy in referendums? Model 2 reports our results for the variable *Support Left*. This dependent variable measures the share of votes for proposals endorsed by the SP and the share of votes against a proposal if the SP recommended to vote against the policy (see Equation 1). Put simply, this captures support for the position advocated by the left party. We again include our compulsory voting

¹⁰This choice implies that referendums in the period in which compulsory voting was temporarily suspended are no longer in the sample because there are no conflictual referendums in that period.

¹¹The covariates are: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector, share of automobiles.

treatment indicator along with a full set of socio-demographic and economic covariates, district fixed effects, referendum fixed effects, and district-specific linear time trends. The results suggest that electoral support for leftist policy positions increases significantly by 23 percentage points in the period in which Vaud sanctioned non-voters. This represents a significant ($p = 0.01$) increase of more than 190% over the baseline level of support for leftist policy positions in the absence of compulsory voting.

According to the equal mobilization argument, compulsory voting should also have mobilized support for right policies. To evaluate this prediction, we estimate the effect of compulsory voting on the variable *Support Right*. This variable measures the share of votes for proposals which the FDP endorsed and the share of votes against a proposal if the SP recommended to vote against the policy (see Equation 2). Model 3 in Table 1 reports the results. The coefficient on our treatment indicator is positive (.10) but only half the size of the effect we find for leftist policy. Moreover, the effect on support right is not significant if we use the p -values for a t -distribution with 10 degrees of freedom ($p = 0.12$).

These results suggest that leftist policy positions gained more electoral support due to compulsory voting. Yet, we still lack a direct test of the relative effect of compulsory voting on referendums. To implement such a test and directly estimate the differential mobilization effect of compulsory voting we regress the variable *Relative Support Left* on the treatment indicator. This variable measures the relative strength of support for leftist policy proposals. If a proposal was endorsed by the SP, the variable equals the number of yes votes as a share of the total number of valid votes for the proposal. In case a proposal was opposed by the SP, the variable equals the share of no votes as a share of the total number of valid votes.

Model 4 in Table 1 reports our estimate. We find that compulsory voting significantly ($p = 0.04$) increases relative support for leftist policy positions by 19 percentage points on average. Compared to the counterfactual level of relative support left this constitutes an increase by 80%. Thus, the turnout increase due to compulsory voting strongly boosts electoral support for leftist policies even when taking into account that it also had some mobilization effects on voters of the right.

What mechanism underlies this differential mobilization effect? We theorize that parties engage

in an efficient allocation of their scarce campaign resources and invest most strongly in mobilization efforts in the context of referendums of core issues as opposed to votes on peripheral issues. For example, when considering the era of industrialization, policy decisions on social benefits, labor rights, or pension systems are defining issues for leftist parties, whereas other issues, such as, foreign policy or public transport, play much less of a role. Such differences in issue salience can reflect the importance attached to these issues by a party (Benoit and Laver 2006) or its voters (Ansolabehere, Rodden, and Snyder 2008), or may result from the need to efficiently allocate scarce campaign resources by focusing on selected core issues (Hauser, Morton, and Stratmann 2011).

This has direct consequences for a party's mobilization efforts and the effect of compulsory voting. Parties tend to mobilize more strongly and successfully when citizens have to vote on core issues as compared to peripheral issues that have a lower priority on their policy agenda. This reasoning implies that, although compulsory voting generally increases support for leftist policies, it will most strongly mobilize voters in referendums on non-core issues because parties spend their resources on maximizing support for core issues. Thus, the effect of compulsory voting on turnout and support for leftist policies should be greater when the referendum is on peripheral issues than when voters decide on core issues where parties have already heavily mobilized.

To evaluate this prediction we performed a qualitative coding of all referendums to identify those proposals that concerned core issues of the left. These are decisions on unemployment benefits, pensions, the size of government, social welfare, labor rights, the minimum wage, and immigration. We use this binary indicator to partition the data and re-estimate the main models on these samples. Table 2 reports the results. First, we note that the effect of compulsory voting on turnout is significant and sizable for both core and non-core issues. However, we find that for non-core issues the effect of compulsory voting on turnout is greater (41 percentage points) than for core issues (26 percentage points), although the mean turnout in Vaud under compulsory voting is quite similar (85% and 82%). This suggests that compulsory voting has the strongest effect on turnout when parties tend to mobilize less and is consistent with the idea of parties engaging in an efficient allocation of their scarce campaign resources. Consequently, when parties' campaign efforts succeed in realizing almost the full potential of electoral support for a policy, compulsory voting itself has less pronounced effects.

The remaining results in Table 2 underscore this impression. The effect of compulsory voting is considerably stronger for referendums on non-core issues. When considering support left (Model 4), the treatment effect for peripheral issues is estimated at 41 percentage points while the effect for core issues is considerably smaller (15 percentage points). We re-estimate the main model for relative support left (Models 7 and 8). Although compulsory voting still increases electoral support for leftist policies, this differential mobilization effect is more pronounced when examining referendums on policy proposals that do not represent core issues of the left (the estimated treatment effect is 37 percentage points for non-core issues and 11 percentage points for core issues of the left). Taken together, our results suggest that, although compulsory voting affects electoral support significantly for both peripheral and core issues, the effect materialized most strongly in referendums on less ideologically defining issues.

These estimates provide information about average treatment effects. But what did the effects of compulsory voting look like in specific and politically important referendums? To illustrate the impact of the surge in turnout we compute its effects on three policy proposals particularly relevant from the perspective of the left-right welfare state cleavage. The first referendum is the so called “crisis initiative” in 1935, a popular initiative to fight the economic crisis. The initiative stipulated a large set of leftist policy reforms including a state guarantee for a minimum wage, subsidies to workers and farmers, higher unemployment benefits, stricter regulation of financial markets, restrictions on capital outflows, and stricter anti-trust regulation. Based on our estimates, compulsory voting increased support for the crisis initiative in Vaud by 22 percentage points as compared to the counterfactual level of support in the absence of compulsory voting. As another example, consider the popular initiative to introduce the right to work in 1947. According to our findings, electoral support for this policy was 38 percentage points higher in Vaud than it would have been without compulsory voting. Clearly, political power also implies the ability to prevent policy changes advocated by political opponents. Therefore, as a final example, we have computed the effect of compulsory voting on electoral support for a federal bill that aimed at reducing public officials’ salaries in 1933. The SP opposed this bill and we find that compulsory voting reduced support for this proposal by 15 percentage points due to the mobilization effect of compulsory voting.

B. Identifying Assumption and Robustness

In this section we first demonstrate the plausibility of the main assumption needed for estimating the causal effect of compulsory voting on turnout and public policy. We then turn to probing the robustness of our results. We relax some of the assumptions about the functional form that underlies our estimates, perform falsification tests to further explore the significance of our findings, and re-estimate the main results using an alternative, manual coding of leftist policy proposals.

PARALLEL TRENDS ASSUMPTION

To assess the plausibility of our identifying assumption, we consider the evolution of all four of our outcome variables in treated and control districts in the pre-treatment period. This constitutes an important step to assess whether the outcome variables in treated and control districts followed parallel trends prior to the introduction of compulsory voting. If this is the case, this adds to the credibility of our results, because it is more plausible to assume that, in the absence of the introduction of compulsory voting, our outcome variables in treated and control districts would have followed parallel trends. The upper left panel in Figure 1 plots average turnout in conflictual referendums by treatment group. In the period prior to compulsory voting, turnout evolves almost perfectly similar in both treated and control districts. This does not constitute a direct test of the parallel trends assumption, which remains fundamentally untestable. Yet the parallelism of pre-treatment trends lends credibility to the assumption that in the absence of compulsory voting, treated and control districts would have followed the same turnout trajectory. As soon as Vaud introduces compulsory voting, however, the two time series strongly diverge. Thus, the turnout effect we document above is also clearly visible to the naked eye.

We also examine the pre-treatment trends in support for leftist and rightist policy proposals. The upper right panel in Figure 1 shows the evolution of support for proposals endorsed by the SP in treated and control districts over time. In the pre-treatment period, electoral support for policies endorsed by the social democratic party evolve similarly in both treated and control districts. But once compulsory voting is introduced, support for leftist policy increases in treated districts and remains virtually constant in the control district. The lower left panel in Figure 1 shows the pre-treatment

trends in support for proposals endorsed by the right. Support for proposals endorsed by the FDP follow very similar trends in treated and control districts prior to the introduction of compulsory voting.

The lower right panel in Figure 1 plots relative support for leftist policy proposals, our main outcome variable. We again find that prior to the introduction of compulsory voting, support for leftist policy relative to right policy proposals trended downwards in both groups, and the change seems almost identical. Taken together, these results strengthen our confidence in the identifying assumption: It appears reasonable to assume that in the absence of compulsory voting, our outcomes of interest would have followed similar trends. Therefore, when examining the effects in the treatment period, observable changes in the dependent variables in the control districts provide us with a credible counterfactual change in turnout and policy support in the treated districts.

FUNCTIONAL-FORM ASSUMPTIONS

We conduct several tests to explore the robustness of our results. First, we re-estimate all models and additionally include district-specific quadratic time trends. This functional form relaxes the assumptions needed for estimation since it eliminates non-linear local trends in unobserved covariates, e.g., smooth changes in sociodemographics like economic growth or age structure. As a consequence, this adds to our confidence that the estimated treatment effect can be attributed to the introduction of compulsory voting and not to some trend in unobserved covariates. The results in Table 7 in the Supporting Information are comparable to those reported in Table 1. Most importantly, we again find that compulsory voting differentially mobilized support for leftist policy proposals: We estimate that on average relative support for leftist policy proposals in referendums significantly increased by 17 percentage points due to compulsory voting ($p = 0.06$).

Second, we re-estimate the treatment effects within a fully non-parametric setting by excluding all covariates and time trends. In this specification, the effects of compulsory voting are directly identified as a difference in means without making additional assumptions about the functional form that maps covariates into outcomes. Table 8 in the Supporting Information shows the results. The treatment effects are slightly smaller, but exhibit the same pattern: We find a strong and significant turnout

increase (estimated at 25 percentage points) under compulsory voting and the effect on electoral support is again differential: Relative support for leftist policy increases significantly ($p = 0.04$) by about 12 percentage points during compulsory voting and this effect still constitutes a 40% increase over the mean level of relative support for leftist policy proposals.

So far, we have weighted our data by district size. To explore the sensitivity of our findings to this weighting, we re-estimate the main results (Table 1) without weights, i.e., assigning equal weight to each district. Table 9 in the Supporting Information reports the results. The estimates are very similar and, if anything, slightly larger than those from our main analysis.

FALSIFICATION TESTS AND ALTERNATIVE CODING OF LEFTIST POLICY PROPOSALS

We also conduct a series of falsification tests by estimating placebo treatment effects for the control districts (Abadie, Diamond, and Hainmueller 2010). This permutation test proceeds as follows: We define a placebo treatment group that contains all districts in a canton and pretend that these districts practiced compulsory voting in placebo treatment periods defined as 1925 to 1939 and 1945 to 1948. Note that assigning all districts in a canton to either the placebo treatment or the control condition is important to mirror that the actual treatment is applied at the cantonal level. Based on this assignment we generate additional temporal variation by including four leads and four lags of the placebo treatment indicators. This provides us with a total of nine placebo treatment period indicators. For each of these indicators we estimate a regression identical to our main model with district fixed effects, referendum fixed effects, district-specific linear time trends, and all covariates to compute the placebo treatment effect. We repeat this procedure for all 11 control cantons and plot the distribution of these 99 placebo treatment effects. This provides us with the distribution of the treatment effect under the null hypothesis of no effect and does not rely on any assumption about the correlation structure between the error terms.

The upper left panel in Figure 3 in the Supporting Information plots the frequencies of placebo treatment effects on turnout for the control districts. The mass of the distribution is concentrated at 0 percentage points and the effects are roughly symmetrically distributed. The red bar in Figure 3 indicates the actual treatment effect for our treated districts estimated in the main analysis (about

30 percentage points). We note that all placebo effects are clearly located to the left of this effect. This suggests that the turnout effect we document can be attributed to the fact that Vaud introduced compulsory voting. When computing the corresponding p -value we find that the turnout effect is highly significant ($p = 0.01$). We repeat this permutation test for all remaining outcome variables: support left ($p = 0.01$), support right ($p = 0.15$), and relative support left ($p = 0.02$). As predicted by the bias correction argument, the results suggest that the turnout increase induced by compulsory voting had a significantly positive effect on support for policies advocated by the left, both in absolute and relative terms. The p -values derived from these permutation tests are very similar, and if anything even smaller compared to those computed from the two-way clustered standard errors reported above.

Our original coding used parties' endorsements to identify leftist policy proposals and we focused on those proposals for which we found partisan conflict in the party endorsements. Do our results depend on this coding rule? To explore the robustness of our results, we have performed an alternative, manual left-right coding of policy proposals. Table 6 in the Supporting Information provides a list of all referendums along with information about this alternative classification for each proposal. This alternative left-right coding results in a smaller, more restrictive set of referendums that we can analyze. Table 10 in the Supporting Information presents the results when we re-estimate our main models using our alternative left-right coding. We again find that compulsory voting increased turnout in these referendums by about 29 percentage points and this estimate is highly significant (the t -value is 9.4). Most importantly and consistent with our main results, Model 4 in Table 10 in the Supporting Information shows that compulsory voting significantly increased relative support for leftist policy proposals by 10 percentage points. Thus, our findings remain intact when using an alternative coding of leftist policy.

C. External Validity: Evidence from Swiss Cantons, 1908-1970

So far, we have established the effect of compulsory voting on leftist policy in one canton. This focus allowed us to reduce threats to the internal validity of our estimates that result from case heterogeneity and bias induced by observable and unobservable confounders. In other words, this provides us with a relatively credible estimate of the causal effect of compulsory voting since our research design keeps a

large set of potentially confounding factors constant. Prioritizing internal over external validity comes at a price, however, as we have excluded all cantons that practiced compulsory voting at some point in the period we study. Do our results have the potential to generalize to other time periods and cases?

We have performed a detailed coding of the archival material for all districts in all cantons from 1908 to 1970. We collected information about when exactly and how the districts we excluded from our analysis practiced compulsory voting along with the available covariate information. This data collection effort is time-consuming and challenging because enforcement of compulsory voting sometimes happened at the municipality level where archival data is often missing. For some cases, there remains some uncertainty about the extent to which compulsory voting was actually enforced. Consequently, we expect the effects to be smaller because of imperfect enforcement. Moreover, since we have only data since 1908 and most cantons had introduced compulsory voting prior to that year, we point out that identification in the subsequent analysis stems mainly from the abolishment of compulsory voting.

According to Model 1 in Table 3, compulsory voting again significantly and positively affects turnout in direct legislation. On average, districts that practice compulsory voting experience 10 percentage points higher turnout levels in federal referendums. We also find a positive and significant effect on support for leftist policy positions: According to Model 4 in Table 3, yes votes for leftist policy proposals increases by about 7 percentage points in periods of compulsory voting. In contrast, compulsory voting is not significantly associated with changes in support for right policy positions (Model 3). Unsurprisingly, the results in Model 4 in Table 3 suggest that compulsory voting and relative support for leftist policy are positively and significantly correlated. Relative support for leftist policy positions increases by 4 percentage points during periods of compulsory voting, which represents an 11% increase over the baseline. These results based on a sample of all cantons from 1908 to 1970 suggest that our results have the potential to generalize to other cantons and time periods.

VI. CONCLUSION

If political participation is skewed toward specific parts of the electorate, typically those with low income and less education, democracy may bias policy in favor of those who vote and thereby fail to serve the interests of those who are not represented. Some have argued that compulsory voting may alleviate this problem as it would mobilize politically inactive citizens which could reduce representational inequality and policy bias. Although this argument has attracted considerable attention in the literature and the potential gravity of the underlying problem is well known, we possess little systematic knowledge about the actual policy effects of compulsory voting.

We argue that sanctioned compulsory voting increases support for leftist policies because it imposes the highest costs on citizens at the bottom of the income distribution which tend to hold leftist policy preferences. We explore the empirical validity of this argument in the context of a direct-democratic system where citizens directly vote on policy issues in referendums. Our results suggest that sanctioned compulsory voting increases turnout in federal referendums massively, by about 30 percentage points on average. More importantly, we find that this turnout increase has a pronounced positive effect on support for leftist policy proposals: Electoral support for policy proposals endorsed by the social democratic party doubles under compulsory voting. We also conduct a set of simulations to explore the magnitude of these effects in specific important referendums that lie at the heart of the left-right cleavage. We find that compulsory voting induced profound shifts in votes for leftist policy and stricter market regulation. At the same time, our results suggest that the differential mobilization effect of compulsory voting is lower (but still significant) in referendums on core issues. This finding is consistent with the argument that parties concentrate campaign spending on core issues, which limits the potential effect compulsory voting can have on electoral outcomes.

These results add to several literatures that have examined the economic and social policy effects of electoral institutions, and inform the debate about the impact of electoral mobilization on political stability. First, and most directly, our results suggest that exogenous increases in turnout may indeed increase support for leftist policy. Second, since we examine the effects of compulsory voting on support for leftist policy in the period of industrialization and the great depression, one may hypothesize that electoral institutions such as compulsory voting have a role to play in our understanding of

the evolution of the modern welfare state that has not yet been appreciated in the literature so far. Third, although our analysis focuses on how turnout affects support for specific policies, we expect the findings to also inform the debate about whether political mobilization leads to more erratic electoral outcomes and unstable political majorities by increasing the share of uninformed voters who tend to vote almost randomly. At least in the case we examine, sanctioning non-voting leads to a systematic increase in electoral support for leftist policies which appears difficult to square with the random voting argument.

We have studied the consequences of turnout in a direct democracy with a focus on estimating an internally valid causal effect. Do our results have the potential to generalize to elections in representative (indirect) democracies? First, we note that the recent evidence on the positive effect of turnout on leftist parties' vote shares in elections is consistent with our findings. Second, however, we acknowledge that the extent to which our results generalize depends on various conditions, for example the importance of valence factors vs. issue-positions in electoral choices. The generalizability of our results of course also hinges on the baseline level of turnout in a political system. Low turnout under voluntary voting constitutes a necessary condition for the pronounced effects that we document. However, participation rates have been decreasing for decades in most industrialized democracies (Dalton and Wattenberg 2000) and remain far from universal. In the United States, for example, average turnout in presidential elections has remained below 60% since the late 1960s and in many other countries participation rates in subnational and EU elections are even lower. Therefore, we believe that our results provide informative evidence that speaks to ongoing public and academic debates about the desirability and policy effects of compulsory voting. Third, we have analyzed referendum outcomes, i.e., behavioral data to learn about the policy effects of compulsory voting. Exploring the causal mechanisms at the individual level would be a valuable endeavor which we leave to subsequent research. Finally, we have examined the effect of a plausibly exogenous change in electoral institutions on policy choices in referendums. Given the potentially profound policy consequences of interventions such as compulsory voting, postal voting, or enfranchisement decisions, future research may want to devote more attention to identifying cases in which we can learn about the effects of political participation on the (strategic) adoption of these and other types of electoral institutions (Drometer and

Rincke 2014).

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TABLES

Table 1: The Policy Effects of Compulsory Voting

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.83	0.35	0.48	0.42
Compulsory voting	0.33	0.23	0.10	0.19
	(6.44)	(3.56)	(1.68)	(2.30)
	[0.00]	[0.01]	[0.12]	[0.04]
Observations	2,163	2,163	2,163	2,163
Districts	103	103	103	103
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District time trends	✓	✓	✓	✓
Covariates	✓	✓	✓	✓
Effect Size (% Δ)	66%	192%	26%	83%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. All specifications include district and referendum day fixed effects, as well as linear district-specific time trends and the full set of covariates. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 (number of cantons in the sample minus 2) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level and one of the covariates (share of automobiles) is measured at the cantonal level. Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. Covariates: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector, share of automobiles. All models are weighted relative to the number of registered voters per district.

Table 2: The Policy Effects of Compulsory Voting on Core Issues of the Left

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome	Turnout		Support Left		Support Right		Rel. Support Left	
Core Issue Left	No	Yes	No	Yes	No	Yes	No	Yes
Mean in treated VD	0.85	0.82	0.43	0.29	0.42	0.53	0.50	0.36
Compulsory voting	0.41	0.26	0.41	0.15	0.00	0.10	0.37	0.11
	(3.55)	(7.02)	(3.09)	(3.79)	(0.01)	(1.89)	(2.63)	(1.79)
	[0.01]	[0.00]	[0.01]	[0.00]	[0.99]	[0.09]	[0.03]	[0.10]
Observations	1,545	1,545	1,545	1,545	1,545	1,545	1,545	1,545
Districts	103	103	103	103	103	103	103	103
District FEs	✓	✓	✓	✓	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓	✓	✓	✓	✓
District time trends	✓	✓	✓	✓	✓	✓	✓	✓
Covariates	✓	✓	✓	✓	✓	✓	✓	✓
Effect Size (% Δ)	93%	46%	2050%	107%	0%	23%	285%	44%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of models (1) and (2) is turnout, of models (3) and (4) support left, of models (5) and (6) support right and of model (7) and (8) relative support left. All specifications include district and referendum day fixed effects as well as district-specific time trends. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 (number of cantons in the sample minus 1) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level. Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. A proposal is coded as a core issue if it involves a decision on unemployment benefits, pensions, size of government, social welfare, labor rights, minimum wage, or immigration. Covariates: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector, share of automobiles. All models are weighted relative to the number of registered voters per district.

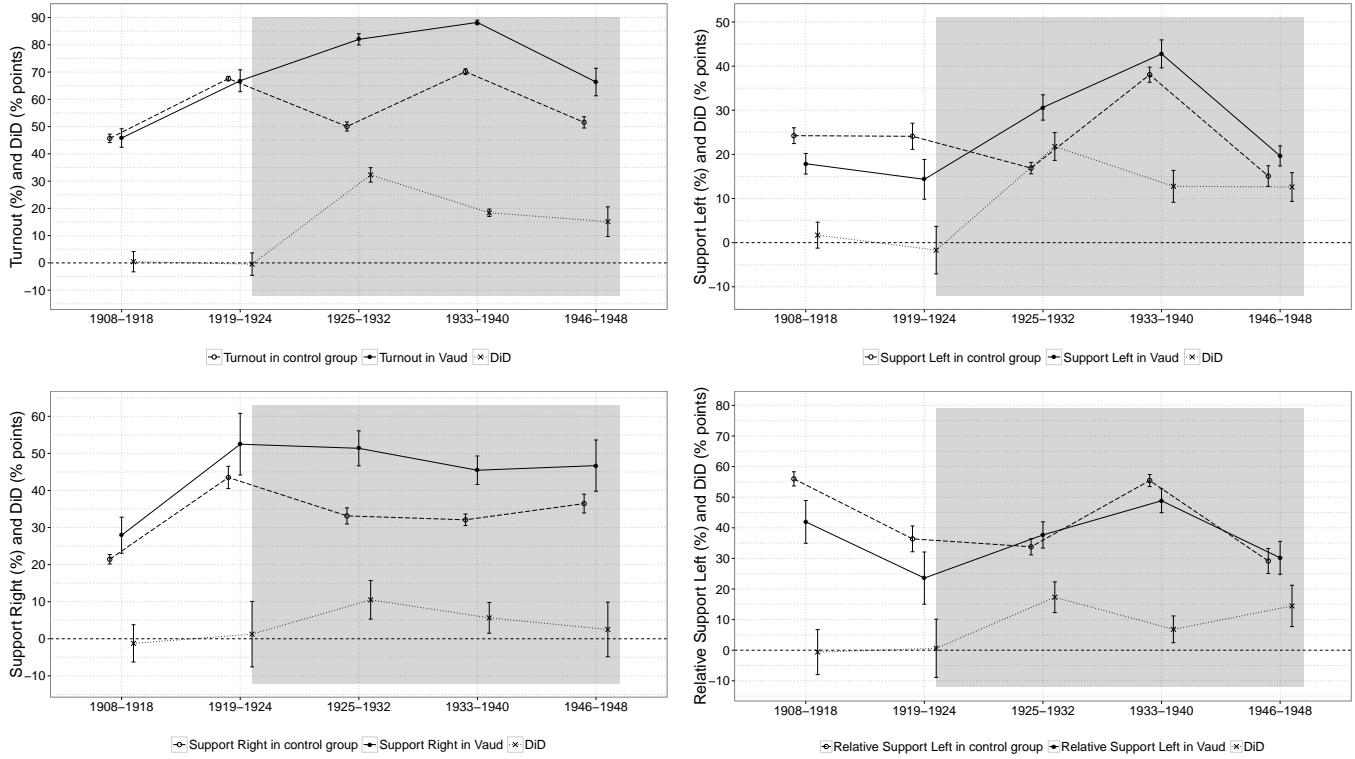
Table 3: Turnout and Support for Leftist Policy Proposals: All Cantons, 1908-1970

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.74	0.30	0.44	0.40
Compulsory voting	0.10	0.07	0.03	0.04
	(3.40)	(3.89)	(1.68)	(2.08)
	[0.00]	[0.00]	[0.11]	[0.05]
Observations	6,255	6,255	6,255	6,255
Districts	172	172	172	172
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District linear time trends	✓	✓	✓	✓
Covariates	✓	✓	✓	✓
Effect Size (% Δ)	16%	30%	7%	11%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of model (1) is turnout, of model (2) support left, of model (3) support right and of model (4) relative support left. All specifications include district and referendum day fixed effects, as well as linear district-specific time trends and the full set of covariates. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 (number of cantons in the sample minus 2) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level and one of the covariates (share of automobiles) is measured at the cantonal level. Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. Covariates: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector. All models are weighted relative to the number of registered voters per district.

FIGURES

Figure 1: Pre-Treatment Trends in Turnout and Support for Leftist/Rightist Policy Positions in Federal Referendums



Note: The figure shows pre-treatment trends (period averages) for our four outcome variables (Turnout, Support Left, Support Right, Relative Support Left) in Vaud and the control districts (in %). DiD=Difference-in-Differences. The pre-treatment period ends in 1924. Vaud introduced compulsory voting in 1925.

SUPPORTING INFORMATION

I. RESEARCH DESIGN AND ESTIMATION DETAILS

To estimate the causal effects of compulsory voting on support for public policy we employ standard fixed effects regression that generalizes the difference-in-differences estimator to multiple time periods. This design allows us to identify the causal effect even in the presence of unobservable, time-invariant or smoothly changing confounders.

We introduce the following notation. Our geographic units are districts $i = \{1, 2, \dots, I_0 - 1, I_0, I_0 + 1, \dots, I\}$ in which citizens vote on federal referendums denoted $t = \{1, 2, \dots, T\}$. In the control districts, $I_0 + 1, \dots, I$, voting remained voluntary throughout the sample period $1, 2, \dots, T$. In the treated districts, $1, \dots, I_0$, voting remained voluntary for referendums in period p and was compulsory for referendums in period d . To simplify notation, we define the period indicator¹² τ as:

$$\tau = \begin{cases} p & \text{if } t \leq T_0 \\ d & \text{if } t \in \{T_0 + 1, \dots, T_1, T_2 + 1, \dots, T_3\}. \end{cases}$$

We define the causal effect of compulsory voting for the treated districts as

$$\alpha_{ATET} = E[Y_{it}(1) - Y_{it}(0) \mid \tau = d, i \leq I_0], \quad (4)$$

where $Y_{it}(1)$ is the potential outcome under treatment for district i and referendum t and $Y_{it}(0)$ the corresponding potential outcome under control. Figure 2 in the Supporting Information shows a map of Switzerland in the early 20th century. Districts in areas shaded gray are included in the control group. We exclude districts from the analysis in which voting was compulsory at some point in the sample period. While the potential outcome $Y_{it}(1)$ for the treated districts in the treatment period (i.e., $i \leq I_0$ and $\tau = d$) is observed (Y_{it}), the corresponding potential outcome under control, $Y_{it}(0)$, is counterfactual for these referendums and districts.

Under the parallel trends assumption,

$$E[Y_{it}(0) \mid \tau = d, i \leq I_0] - E[Y_{it}(0) \mid \tau = p, i \leq I_0] = E[Y_{it}(0) \mid \tau = d, i > I_0] - E[Y_{it}(0) \mid \tau = p, i > I_0], \quad (5)$$

we can estimate the causal effect of compulsory voting on the treated districts, α_{ATET} , using standard fixed-effects regression. The parallel trends assumption says that in the absence of compulsory voting, the dependent variable (e.g., turnout) would have experienced the same changes as in the control districts, i.e., parallel to the observed shifts in the districts where voting remained voluntary during the treatment period. Based on the parallel trends assumption (Equation 5) we can identify the effect of compulsory voting on the treated districts as a difference in differences (Angrist and Pischke 2008):

$$\begin{aligned} \alpha_{ATET} &= E[Y_{it}(1) - Y_{it}(0) \mid \tau = d, i \leq I_0] \\ &= \underbrace{\{E[Y_{it} \mid \tau = d, i \leq I_0] - E[Y_{it} \mid \tau = d, i > I_0]\}}_{\text{Difference between treated and control in the treatment period}} \\ &\quad - \underbrace{\{E[Y_{it} \mid \tau = p, i \leq I_0] - E[Y_{it} \mid \tau = p, i > I_0]\}}_{\text{Difference between treated and control in the pretreatment period}} \quad (6) \end{aligned}$$

To estimate α_{ATET} we use standard fixed effects regression that readily generalizes the difference-in-difference estimator to several pre-and post-treatment periods:

$$Y_{it} = \eta_i + \delta_t + \alpha_{ATET} \text{Compulsory Voting}_{it} + X'_{it}\beta + \varepsilon_{it},$$

where Y_{it} is either turnout or support for left/right referendum proposals, η_i denotes a district fixed effect that controls for time-invariant unobserved factors, δ_t is a referendum fixed effect to control for common shocks, $\text{Compulsory Voting}_{it}$ is a binary indicator that equals 1 if voting is compulsory in a given district and time and 0 otherwise, X_{it} is a vector of time-varying covariates, including a constant, and ε_{it} is an idiosyncratic error term with $E[\varepsilon_{it} \mid \eta_i, \delta_t, \text{Compulsory Voting}_{it}, X_{it}] = 0$ and finite variance. The parameter α_{ATET} captures the effect of switching from voluntary to compulsory voting. The fixed-effects regression identifies this quantity solely on the basis of within-district variation in turnout and referendum outcomes. Therefore, this identification strategy prevents unobserved, time-invariant district characteristics, such as a

¹²Note that compulsory voting was suspended during the WWII years $T_1 + 1, \dots, T_2$.

district’s geographic features, its local political culture and history, or its structural demographic, economic, and social composition, to confound our causal effect. Furthermore, the inclusion of district-specific time trends even helps to account for smooth local trends in unobserved confounders.

SUPPORTING INFORMATION TABLES AND FIGURES

Table 4: Variables Description

- *Turnout*: Percentage of voters as share of total number of citizens eligible to vote. Sources: Linder, Bolliger, and Zürcher (2007) and Swissvotes (2012)
- *Support Left*: Share of yes votes for left policy proposals. Policy proposals were coded as left if they were endorsed by the social democratic party. Sources: Linder, Bolliger, and Zürcher (2007) and Swissvotes (2012)
- *Support Right*: Share of yes votes for right policy proposals. Policy proposals were coded as right if they were endorsed by the liberal, pro-market FDP. Sources: Linder, Bolliger, and Zürcher (2007) and Swissvotes (2012)
- *Relative Support Left*: Share of yes votes for leftist policy proposals in the population of actual voters. Sources: Linder, Bolliger, and Zürcher (2007) and Swissvotes (2012)
- *Share of Catholics*: Share of individuals with Catholic denomination. Source: Linder, Bolliger, and Zürcher (2007)
- *% Sector 1*: Share of individuals working in primary sector. Source: Linder, Bolliger, and Zürcher (2007)
- *% Sector 2*: Share of individuals working in secondary sector. Source: Linder, Bolliger, and Zürcher (2007)
- *% Self-employed sector 1*: Number of self-employed individuals as a share of the total working population in the primary sector. Source: Linder, Bolliger, and Zürcher (2007)
- *% Self-employed sector 2*: Number of self-employed individuals as a share of the total working population in the secondary sector. Source: Linder, Bolliger, and Zürcher (2007)
- *% Self-employed sector 3*: Number of self-employed individuals as a share of the total working population in the tertiary sector. Source: Linder, Bolliger, and Zürcher (2007)
- *Automobiles*: Number of automobiles. Source: Siegenthaler and Ritzmann (1996)
- *District Size*: Total number of eligible voters in a district. Source: Linder, Bolliger, and Zürcher (2007)

Table 5: Overview of Compulsory Voting in Switzerland

Canton	Compulsory Voting		Sanctioned	Fine
	Not sanctioned			
Aargau			1848-1970	1 to 4 SFR
Appenzell Inner Rhodes	1872-1879		1880-1967	5 SFR (for delay, absence, leave too early, etc.), 50 Cents for non-voting, 1 SFR for lost polling card
Appenzell Outer Rhodes				
Basel-Landschaft				
Basel-Stadt	1870-1980		1851-1869	1 SFR
Bern				
Fribourg	1887-1929			
Geneva	1861-1889		1890-1961	1 SFR
Glarus			1963-1971	depending on municipality
Graubunden			1848-1866	1 to 2 SFR
Lucerne	1867-1974			
Neuchatel	1848-1944			
Nidwalden	1850-1928			
Obwalden	1850-2012			
Schaffhausen			1905-1970	1 SFR
Schwyz	1848-1876			
Solothurn	1849-1855, 1900-1970		1856-1899	Estimate: 70 Cents
St.Gallen	1890-1947, 1980-2009		1948-1979	2 to 5 SFR
Thurgau			1904-1985	.5 to 1 SFR
Ticino				
Uri	1888-1984			
Valais				
Vaud			1925-1947	2 SFR
Zug	1873-1954			
Zurich			1866-1931, 1955-1983	up to 1SFR, later 1 to 3 SFR (1973: 5 to 10 SFR, depending on municipality)

Note: There exists clear evidence for enforcement for Vaud only.

Table 6: Overview of Federal Referendums Included in the Analysis

Date	Proposition	Issue	Turnout	Yes Share	SP	Left-Right Issue	Leftist Position
05.07.1908	Absinthe Prohibition Act	The initiative proposed a ban on the production, import, transport, and sale of absinthe.	49.3%	63.5%	Yes	1	Yes
23.10.1910	Proportional Election of National Council	The initiative proposed the introduction of proportional representation for elections to the National Council.	62.3%	47.5%	Yes	1	Yes
02.06.1918	Introduction of Federal Taxes	The initiative proposed the introduction of a federal income tax to cover military expenditures during World War I.	65.4%	45.9%	Yes	1	Yes
13.10.1918	Proportional Election of National Council	The initiative was the second attempt to introduce proportional representation for elections to the National Council.	49.5%	66.8%	Yes	1	Yes
16.05.1920	Membership to League of Nations	The mandatory referendum proposed Switzerland to join the League of Nations.	77.5%	56.3%	No	0	-
30.01.1921	Abolishment of Military Jurisdiction	The initiative proposed to abolish the Swiss military jurisdiction and to use the civilian judicial system to enforce military law.	63.1%	33.6%	Yes	1	Yes
22.05.1921	Federal Authority in Road and Air Traffic	The constitutional amendment shifted authority to enact new road and air traffic regulations from the cantonal to the federal level.	38.6%	59.8%	No	0	-
24.09.1922	Criminal Code Act	The proposition proposed immediately arresting individuals who "constitute a threat to national security".	70.3%	44.6%	No	1	No
03.12.1922	Nonrecurring Property Tax Act	The initiative proposed the introduction of a nonrecurring federal property tax on individuals and firms with property exceeding 80,000 Swiss Francs.	86.3%	13.0%	Yes	1	Yes
15.04.1923	Federal Tariffs Act	The initiative proposed to abolish tariffs on consumer goods introduced in 1921.	65.8%	26.8%	Yes	1	Yes
17.02.1924	Factory Act	The proposition would have increased the working hours from 48 to 54 during times of economic crisis.	77.0%	42.4%	No	1	No
24.05.1925	Initiative for Old Age, Widow and Disability Insurance	The initiative proposed using the revenues from the nonrecurring war tax to finance an insurance for old age people, widows and disabled persons.	68.2%	42.0%	Yes	1	Yes
25.10.1925	Residence Permit for Foreigners	The proposition stipulated to shift residence responsibilities from the cantonal to the federal level.	68.0%	62.2%	No	1	No
03.03.1929	Tariff Act	The initiative proposed to increase import tariffs to finance the new federal system of corn production.	67.3%	66.4%	No	1	No

12.05.1929	Liquor Prohibition Act	The initiative allowed cantons to ban the production and sale of distilled spirits.	66.4%	Yes	0	-
08.02.1931	Decorations Act	The proposition allowed federal and cantonal public officials to accept decorations of foreign countries.	41.8%	No	0	-
15.03.1931	Number of Seats in the National Council	The proposition set the number of seats in the National Council to be constant at 200.	53.5%	No	1	No
15.03.1931	Office Term Act	The proposition increased the term of elected National Council members from three to four years.	53.5%	No	1	No
28.05.1933	Temporary Pay Cuts for Public Employees	The proposition would introduce a temporary pay cut for public employees.	80.5%	No	1	No
11.03.1934	Public Order Act	The federal act proposed extending the criminal code to include several crimes against the state.	79.0%	No	1	No
24.02.1935	Military Organization Act	The referendum proposed measures to strengthen the Swiss military.	79.9%	No	1	No
05.05.1935	Transport Mode Act	The proposition was a proposal to increase the use of railroad transport by firms and carrying businesses.	63.2%	No	0	-
02.06.1935	Initiative to Fight the Economic Crisis	The initiative required the federal state to take measures against the economic crisis in order to guarantee an adequate living standard for all Swiss citizens.	84.4%	Yes	1	Yes
18.05.1947	Economic Reforms and Right to Work	The initiative required the state to provide economic welfare and proposed to include a right to work in the federal constitution.	59.4%	Yes	1	Yes

Table 7: The Policy Effects of Compulsory Voting: District-specific Quadratic Time Trends

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.83	0.32	0.52	0.42
Compulsory voting	0.33	0.15	0.15	0.17
	(6.25)	(5.19)	(3.88)	(2.17)
	[0.00]	[0.00]	[0.02]	[0.06]
Observations	2,163	2,163	2,163	2,163
Districts	103	103	103	103
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District time trends	✓	✓	✓	✓
District quad. time trends	✓	✓	✓	✓
Covariates	✓	✓	✓	✓
Effect Size (% Δ)	66%	88%	41%	68%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of model (1) is turnout, of model (2) support left, of model (3) support right and of model (4) relative support left. All specifications include district and referendum day fixed effects, as well as linear and quadratic district-specific time trends and the full set of covariates. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 (number of cantons in the sample minus 2) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level. Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. Covariates: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector, share of automobiles. All models are weighted relative to the number of registered voters per district.

Table 8: The Policy Effects of Compulsory Voting: Fixed-Effects Only

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.83	0.35	0.48	0.42
Compulsory voting	0.25 (5.88) [0.00]	0.17 (3.73) [0.00]	0.08 (2.25) [0.05]	0.12 (2.35) [0.04]
Observations	2,163	2,163	2,163	2,163
Districts	103	103	103	103
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District linear time trends	✗	✗	✗	✗
District quad. time trends	✗	✗	✗	✗
Covariates	✗	✗	✗	✗
Effect Size (% Δ)	43%	94%	20%	40%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of model (1) is turnout, of model (2) support left, of model (3) support right and of model (4) relative support left. All specifications include district and referendum day fixed effects. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 11 (number of cantons minus 1) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level. The effect size is the percent increase of the average treatment effect on the treated relative to the counterfactual outcome levels in absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. All models are weighted relative to the number of registered voters per district.

Table 9: Main Results, unweighted

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.84	0.32	0.52	0.38
Compulsory voting	0.29	0.22	0.08	0.19
	(6.19)	(3.35)	(1.30)	(2.52)
	[0.00]	[0.01]	[0.22]	[0.03]
Observations	2,163	2,163	2,163	2,163
Districts	103	103	103	103
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District linear time trends	✓	✓	✓	✓
District quad. time trends	✗	✗	✗	✗
Covariates	✓	✓	✓	✓
Effect Size (% Δ)	53%	220%	18%	100%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of model (1) is turnout, of model (2) support left, of model (3) support right and of model (4) relative support left. All specifications include district and referendum day fixed effects, as well as linear district-specific time trends and the full set of covariates. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 degrees of freedom (number of cantons in the sample minus 2). Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945.

Table 10: Turnout and Support for Leftist Policy Proposals: Alternative Coding

Model	(1)	(2)	(3)	(4)
Outcome	Turnout	Support Left	Support Right	Rel. Support Left
Mean in treated VD	0.84	0.32	0.52	0.38
Compulsory voting	0.29	0.16	0.13	0.10
	(9.45)	(4.66)	(2.93)	(2.03)
	[0.00]	[0.00]	[0.02]	[0.07]
Observations	1,751	1,751	1,751	1,751
Districts	103	103	103	103
District FEs	✓	✓	✓	✓
Referendum Day FEs	✓	✓	✓	✓
District time trends	✓	✓	✓	✓
Covariates	✓	✓	✓	✓
Effect Size (% Δ)	53%	100%	33%	36%

Note: This table shows the coefficients from fixed effect regressions with t -statistics in parentheses and p -values in brackets. The outcome of model (1) is turnout, of model (2) support left, of model (3) support right and of model (4) relative support left. All specifications include district and referendum day fixed effects, as well as district-specific time trends and the full set of covariates. Standard errors (not shown) are two-way clustered by district and referendum days. The p -values are based on the t -distribution with 10 (number of cantons in the sample minus 2) degrees of freedom to take into account that compulsory voting was imposed at the cantonal level. Effect size is the percent increase in the outcome variable for the treated districts relative to the counterfactual outcome level in the absence of the treatment. Compulsory voting was enforced from 1925 to 1939 and from 1946 to 1948. It was suspended from 1940 to 1945. Covariates: Share of catholic population, share employed in the primary sector, share employed in the secondary sector, share of self-employed individuals in the primary sector, share of self-employed individuals in the secondary sector, share of automobiles. All models are weighted relative to the number of registered voters per district.

Table 11: Compulsory Voting Norm in the Swiss Canton of Vaud

Original Text

Vote obligatoire

Art. 49. En matière constitutionnelle ou législative fédérale, l'exercice du droit de vote est obligatoire pour tout citoyen âgé de moins de 65 ans révolus, inscrit au rôle des électeurs. Le citoyen qui n'a pas pris part au scrutin doit présenter, par écrit, une excuse à la municipalité au plus tard le deuxième jour après la clôture des opérations. La municipalité transmet au préfet, dans les dix jours, la liste des défailants et les excuses qui lui sont parvenues. Le préfet statue sans recours sur ces excuses. Il tablit la liste définitive des citoyens soumis à la contribution prévue à l'art. 113 et l'adresse au receveur pour perception. Un arrêté du Conseil d'Etat fixe les détails d'exécution. Pour chaque votation fédérale, cet article est inséré dans l'arrêté cantonal.

Vote obligatoire. Contribution.

Art. 113. Tout citoyen, âgé de moins de 65 ans, qui n'a pas pris part à une votation fédérale, sans excuse valable, est tenu de verser une contribution de deux francs. Ne sont considérés comme excuses valables que les cas de force majeure tels que l'absence nécessaire, le grand éloignement et la maladie.

English Translation

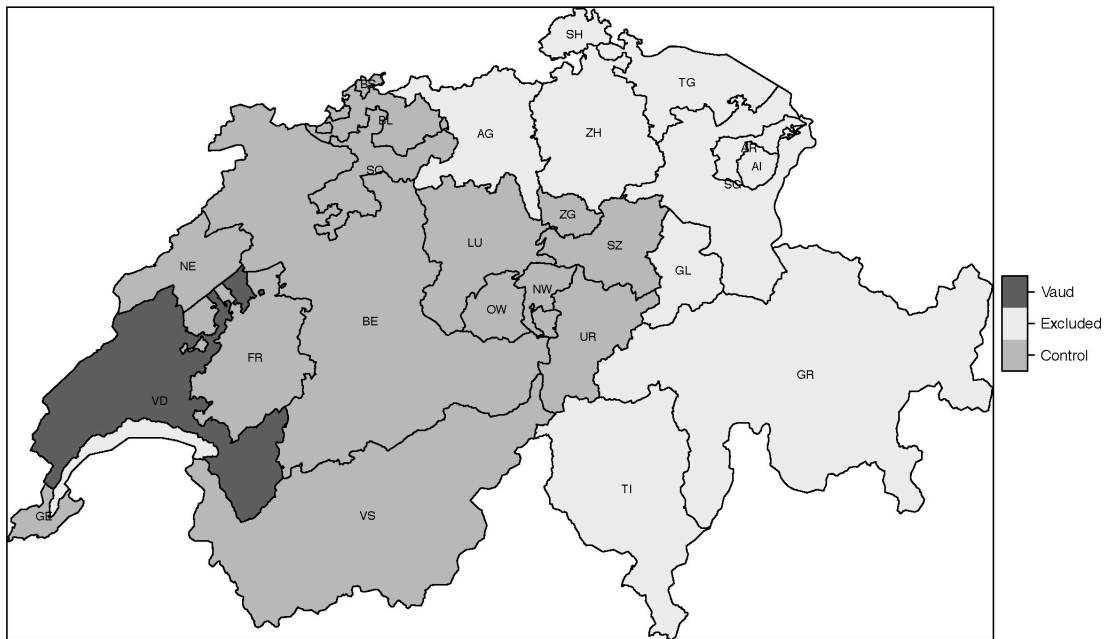
Compulsory voting

Art. 49. Concerning the federal constitution or legislation, the exercise of the suffrage is compulsory for any citizen under 65 years of age registered as a voter. The citizen who did not take part in the ballot has to excuse himself in writing to the municipality no later than the second day after the closing of the polls. The municipality sends to the prefect the list of defaulters and the excuses they submitted. The prefect decides with no recourse on these excuses. He compiles the definitive list of citizens subject to the fee according to art. 133 and addresses it to the receiver for the collection. A decree of the cantonal council records the details of the execution. For every federal vote, this article is inserted in the cantonal decree.

Compulsory voting. Fee.

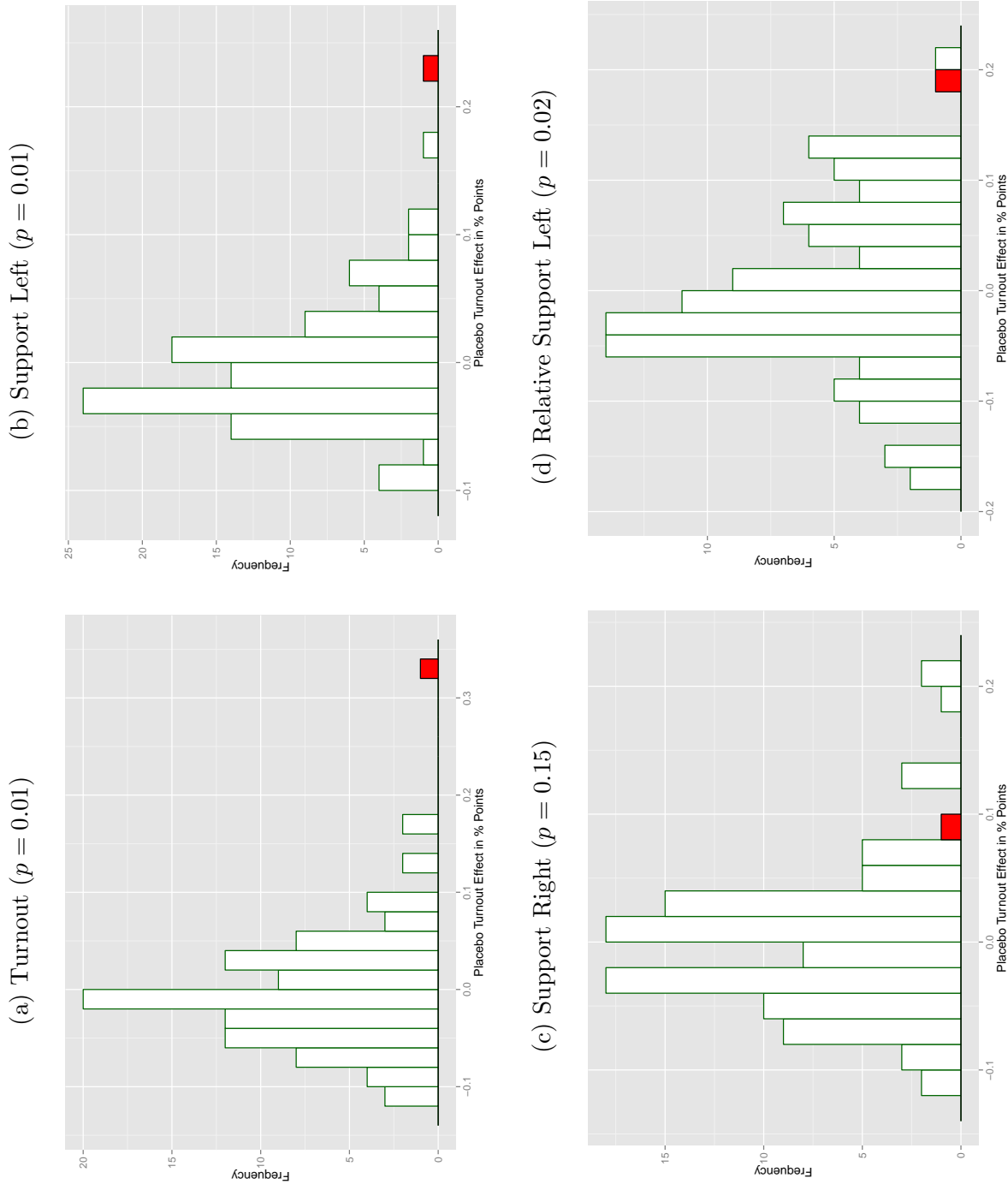
Art. 113. Any citizen under 65 years of age who did not participate in a federal vote without any valid excuse is required to pay a fee of two francs. Only cases of forced absence due to Force majeure, a long distance or disease, are considered as valid excuses.

Figure 2: Switzerland in Early 1900: Treated, Control, and Excluded Cantons



Note: The treated districts in the canton Vaud are shaded black, control districts are shaded dark gray, excluded districts are shaded light gray. The electoral districts (19) in Vaud are: Aigle, Aubonne, Avenches, Cossonay, Echallens, Grandson, Lausanne, Lavaux, Morges, Moudon, Nyon, Orbe, Oron, Payerne, Pays-d'Enhaut, Rolle, La Valle, Vevey, Yverdon. Control cantons are: Berne, Lucerne, Schwyz, Obwalden, Nidwalden, Zug, Freiburg, Solothurn, Basel-Landschaft, Valais, Neuenburg.

Figure 3: Permutation Tests



Note: The figure shows the distribution of placebo treatment effects (in % points). The estimated treatment effect for Vaud is shaded darker.