

# Compulsory Voting, Turnout, and Government Spending: Evidence from Austria\*

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## Abstract

We study a unique quasi-experiment in Austria, where compulsory voting laws are passed or rescinded across Austria's nine states at different times. Analyzing all state and national elections since World War II, we show that compulsory voting laws with mild sanctions decreased abstention by roughly 50%. However, we find no evidence that this change in turnout affected spending patterns (in levels or composition) or the political equilibrium. Individual-level data on turnout and political preferences suggest these results occur because individuals swayed to vote due to compulsory voting are more likely to be non-partisan and have low interest in politics.

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# 1 Introduction

Despite the centrality of elections to democracy, in elections around the world, many people fail to vote. Many European countries have seen a steep decline in turnout rates in the past 30 years, with record low rates in the past two (2009 and 2014) elections for the European Parliament.<sup>1</sup> Ethnic minorities, immigrants, and poor voters in Europe are significantly less likely to vote, potentially distorting the political process (e.g., [Gallego, 2007](#)). In the US, turnout in national elections is often only around 50%, with large disparities along socioeconomic and racial lines.<sup>2</sup> Such disparities in turnout are believed to cause disadvantaged groups to be under-served by government (e.g., [Meltzer and Richard, 1981](#); [Lijphart, 1997](#)).

One policy solution to help address these issues is to make voting mandatory. As of 2008, thirty-two countries had a compulsory voting (hereafter, “CV”) law in place ([Chong and Olivera, 2008](#)), and a higher number had CV at some point during the last 50 years. In March 2015, US President Barack Obama proposed the possibility of CV, arguing “It would be transformative if everybody voted—that would counteract money more than anything. If everybody voted, then it would completely change the political map in this country. Because the people who tend not to vote are young, they’re lower income, they’re skewed more heavily towards immigrant groups and minority groups...There’s a reason why some folks try to keep them away from the polls.”<sup>3</sup> However, little is known empirically about how CV affects voter behavior, politician behavior, or government policy. CV laws are typically enacted at the national level, making it difficult to separate causal impacts of the laws from time trends.

We provide robust empirical evidence on the impact of CV laws on turnout, the political equilibria, and fiscal policy using a unique natural experiment in Austria. Since World War II, Austria’s nine states have changed their CV laws at different times for different types of

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<sup>1</sup>From <http://www.europarl.europa.eu/elections2014-results/en/turnout.html>, accessed April 28, 2015.

<sup>2</sup>For example, those with a graduate degree often vote at twice the rate of high school dropouts ([Linz et al., 2007](#)). For evidence on racial disparities in turnout, see, e.g., [Timpone \(1998\)](#). Turnout is lower in midterm than presidential elections, e.g., <http://time.com/3576090/midterm-elections-turnout-world-war-two/>.

<sup>3</sup>See, e.g., <http://www.cnn.com/2015/03/19/politics/obama-mandatory-voting/>, accessed April 28, 2015.

elections. Austria provides a compelling case study for several reasons. First, the variation in CV laws is significant across states and over time (including the abrupt ending of CV for parliamentary elections due to a 1992 ruling of the Austrian constitutional court), providing rich variation for quasi-experimental analysis. Second, the penalties for not voting were light, specifically, fines that were weakly enforced, which is useful for thinking about external validity (e.g., it seems unlikely that harsh penalties for not voting could be enforced in other developed countries).<sup>4</sup> Third, like the US and many other countries, Austria's elections exhibit socioeconomic disparities in turnout, with poor and underserved groups being much less likely to vote than the rich.<sup>5</sup>

Using state-level voting records on state and national elections from 1949-2010, we find that CV reduced abstention by roughly 50%, increasing turnout from roughly 80% to 90%. Impacts on turnout vary somewhat across the three types of elections (parliamentary, state, and presidential), but are sizable for all three types. Interestingly, however, changes in CV laws appear to have no impact on election outcomes or state-level spending. These zero effects are reasonably precisely estimated and are robust to different specifications that deal with concerns of endogenous changes in CV laws.

How could it be that CV had large impacts on turnout, but did not affect policy outcomes? Our analysis shows that despite the large increase in turnout, CV did not seem to affect the political equilibrium: vote shares for liberal parties did not change significantly, nor did the number of parties running for office, or the victory margin in state or parliamentary elections. To dig further, we complement our state-level analysis with repeated cross-sections of individual-level data. We analyze interaction effects of CV laws with voter characteristics

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<sup>4</sup>For the US, consider the large public reaction and legal challenges to making it compulsory to have health insurance under the 2010 Affordable Care Act.

<sup>5</sup>Austria's disparities in turnout are easily seen in the Austrian Social Survey data discussed below. Of course, there are many important differences between Austria and the US (as well as between Austria and other countries). For Austria and the US, a particularly important difference is that voting rates are considerably higher in Austria (both with and without CV). Thus, there are obviously limitations in what our results here may imply for the US. However, high voting rates are observed in many other countries, both in Europe and elsewhere. In Europe, countries with high voting rates (on the order of 80% or higher) include Belgium, Denmark, Germany, Iceland, Italy, Luxembourg, Netherlands and Sweden (see [http://www.idea.int/publications/voter\\_turnout\\_weurope/upload/Full\\_Reprot.pdf](http://www.idea.int/publications/voter_turnout_weurope/upload/Full_Reprot.pdf), accessed May 20, 2015).

so as to examine which people were swayed to vote because of the CV laws. These voters were often female, less educated, and low-income. In addition, such voters are more likely to have low interest in politics, to have no party affiliation, and to be uninformed (as proxied by newspaper reading). We speculate that such voters may have been more likely to vote for the leading candidate or to vote “at random,” thereby having little effect on electoral outcomes.

Our paper relates to three main literatures. First, an important literature in political economy analyzes how changes in turnout and electorate composition affect public policy (Persson and Tabellini, 2000). The enfranchisement of particular population groups causes changes in policies, which are more likely to be catered toward these group’s preferences. For example, Miller (2008) shows that expanding the suffrage rights to women in the US generated an increase in health expenditures, an issue highly regarded by women at the time. Similarly, Naidu (2012) provides evidence that laws restricting voting for African-Americans in the late 19th century had sizable impacts on public policy. Analyzing a more recent episode, Fujiwara (Forthcoming) shows that the adoption of electronic voting in Brazil had sizable impacts on voting patterns, mainly due to the effective enfranchisement of the poor and illiterate, leading to increases in health expenses and child health.<sup>6,7</sup> Our findings do not contradict this literature, but complement it, demonstrating that the extent to which changes in turnout affect policy depends critically on whether these policies affect a group of the population with specific policy preferences.

Second, it relates to the literature on the determinants of voter turnout. Political scientists and economists have taken substantial interest recently in studying potential interventions

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<sup>6</sup>Other papers in this literature show mixed results of the extension of the voting franchise on redistributive policies (e.g., Husted and Kenny, 1997; Rodriguez, 1999; Alesina and Glaeser, 1988; Gradstein and Milanovic, 2004; Timpone, 2005; Cascio and Washington, 2014). A common message from this literature is that public efforts to extend the voting franchise can often significantly affect public policy, making it much more aligned with voters’ preferences. Most of this literature analyzes episodes in which groups with specific policy preferences are *de jure* or *de facto* enfranchised, leading elected officials to cater policies toward them.

<sup>7</sup>There is a recent strand of this literature looking into the electoral and policy effects associated with changes in voting costs (and thus turnout). Hodler et al. (2015) study the effect of the discontinuous introduction of postal voting across states in Switzerland, and find that this decrease in voting costs led to a sizable increase in turnout, a lower education of participants, lower knowledge of political issues, and lower government welfare expenditures. Godefroy and Henry (2014) use rainfall and influenza incidence as instruments for turnout in French municipal elections, and find that an increase in turnout by one percentage point causes a decrease in the municipal budget by more than two percentage points.

targeted at increasing turnout, oftentimes using randomized experiments.<sup>8</sup> A major lesson from the experimental literature in advanced democracies is that turnout is sticky (Fujiwara et al., 2014; Nickerson, 2008). For example, reminding people about the election in various ways usually has statistically significant, but modest, impacts on turnout. Even fairly significant interventions, like shaming people who don't vote by mailing this information to their neighbors, typically increases turnout only several percentage points (Gerber et al., 2008).<sup>9</sup> Turning to non-experimental studies, a significant literature examines the impact of voting costs, often reaching different results from different changes in costs. For example, Farber (2009) shows that election holidays and "time-off" have little impact on turnout in the US, whereas Brady and McNulty (2011) shows that an increase in voting costs due to unexpected changes in the location of polling costs significantly reduces non-absentee turnout. In terms of partisan effects, the results are mixed. While turnout in itself is an important outcome to analyze, one of the reasons why we care about it is because of its ability to ultimately affect policy. We complement this literature by simultaneously analyzing turnout and government policy.

Finally, it relates to a small but burgeoning literature analyzing CV. Among a number of theoretical contributions on this question, Börgers (2004) and Krasa and Polborn (2009) build on the pivotal voting model to show that compulsory voting (or costly voting) allows an aggregation of preferences that can increase welfare. On the other hand, Krishna and Morgan (2011) argue that CV is welfare reducing, since preference intensities can no longer affect voting participation and, thereby, voting outcomes. Turning to empirical work, in a cross-country study, Chong and Olivera (2008) show that countries with mandatory voting have lower income inequality, suggesting that these policies actually democratize societies,

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<sup>8</sup>There is a large family of papers using non-experimental data that analyze different factors that determine participation in elections. Weather shocks have been used as exogenous shifts in the cost of voting (e.g., Knack, 1994; Gomez et al., 2007; Hansford and Gomez, 2010; Fraga and Hersh, 2010; Gomez et al., 2007), as have general rules of governance (Hinnerich and Pettersson-Lidbom, 2014; Herrera et al., 2014), candidates' ethnicity (Washington, 2006), and availability of certain information technology (Stromberg, 2004; Enikolopov et al., 2010; Gentzkow, 2006; Gentzkow et al., 2011; Gavazza et al., 2014).

<sup>9</sup>Green and Coppock (2013) illustrates methodological points on field experiments using examples from the large and recent experimental literature on voting.

making governments more accountable and forcing them to deliver to the poor. [Fowler \(2013\)](#) takes advantage of the discontinuous introduction of CV across Australian states in the early twentieth century and finds that mandatory voting lead to an increase in voter turnout of 24 percentage points in state assembly elections. [De Leon and Rizzi \(2014\)](#) study the Brazilian case, where voting is voluntary for citizens between 16 and 18 years old, but mandatory afterward. Using a sample of students in Sao Paolo, they find that CV increases turnout, but does not affect levels of political information. The results suggest that both recent and long-term exposure to CV increases knowledge about the party system and party issue platforms, but might actually contribute to a decrease in familiarity with individual candidates and representatives. Using a field experiment in Peru providing information about changes in compulsory voting law fines, [León \(n.d.\)](#) shows that a reduction in the cost of abstention significantly decreases turnout, and consistent with our findings, that the reduction is driven by uninformed voters, uninterested and centrist voters.

A few political science papers involve the specific case of CV in Austria. The first paper to explore CV in Austria was [Hirczy \(1994\)](#), who compared overall voting rates between Austrian states over time using simple graphs on mean turnout rates (no control variables); the graphs suggest that adoption of CV led to significant increases in turnout. The paper closest to ours (and contemporaneous with ours) is [Ferwerda \(2014\)](#). [Ferwerda \(2014\)](#) analyzes the effects of the repeal of CV by the Austrian parliament in 1992 on turnout in parliamentary elections and on changes in party vote shares. The effects found are relatively small, though consistent with a theory of party consolidation. Further, even though he uses a much shorter analysis period, the magnitude of the effects found on electoral participation and party vote shares are broadly consistent with ours.<sup>10,11</sup> Our paper goes beyond these studies in three main ways. First and foremost, not only do we analyze the political consequences of mandatory voting, but we also analyze impacts on spending, thereby providing the first micro study (for Austria or any

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<sup>10</sup>[Ferwerda \(2014\)](#) also uses municipal-level data instead of state-level data.

<sup>11</sup>Another contemporaneous paper, [Shineman \(2014\)](#), also uses Austria as a case study to demonstrate the effects of CV on individual-level political sophistication, finding that both recent and long-term exposure to CV increase voters' information.

other country) to examine how CV affects government spending. Second, we complement the analysis of aggregate data with individual level information on political preferences and voting behavior, allowing us to study the shift in the composition of the pool of voters resulting from CV. Finally, we analyze all elections in Austria since World War II (1949-2010) instead of just a subset; this enables us to implement a fixed effects analysis allowing for different state linear trends, which allows us to rule out the concern that the effects observed are only valid in the short term and that we should expect a reversion to the mean.

The remainder of the paper proceeds as follows. Section 2 provides background on democratic institutions and CV in Austria. Section 3 describes the data and our estimation strategy and Section 4 shows the estimation results. Section 5 discusses the mechanisms behind our results and Section 6 concludes.

## 2 Democratic Institutions and Compulsory Voting in Austria

### 2.1 Democratic Institutions and Budgeting Processes in Austria

Austria is a federal and parliamentary democracy, composed of nine autonomous states. The National Parliament is composed of two chambers, the National Council (*Nationalrat*) and the Federal Council (*Bundesrat*), with legislative authority vested mostly in the former. National Council members are directly elected for five-year periods by proportional representation, whereas members of the Federal Council are elected by the state legislatures.<sup>12</sup> Austria's executive branch is composed of the Federal President (*Bundespräsident*), the Federal Chan-

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<sup>12</sup>Historically, no political party has had a majority in parliament, hence coalitions have to be formed. The two dominant political parties (Austrian People's Party and the Social Democratic Party, ÖVP and SPÖ) are usually involved in these coalitions. Once a new government is formed, it generally issues a coalition agreement document stating its main policy objectives. The agreements achieved rely on input from the Ministry of Finance to set yearly deficit targets, and are the primary basis for discussion during the annual budget negotiation rounds. However, these documents can't be considered a medium-term expenditure framework, since they can easily be changed by the partners, and in practice they cease to exist in the waning moments of the government's term of office (Blöndal and Bergvall, 2007).

cellor (*Bundeskanzler*) and the Federal Cabinet. The Federal President is elected by simple majority in a popular election for a six-year term, and the candidates are nominated by party coalitions. The president holds the mostly ceremonial position of head of state. The Federal Cabinet is composed of the Federal Chancellor, the head of government, and a group of ministers, all of whom are appointed by the president. Austrian states are ruled by their own regional parliament (*Landtag*), a state government (*Landesregierung*), and a governor (*Landeshauptmann*). State parliament representatives are directly elected and serve for five-year terms.<sup>13</sup> Unlike the federal government, state governors are elected by the state parliament.

Ninety-five percent of taxes are collected at the federal level, and are distributed across the three levels of government (i.e., federal, state, and local) according to Fiscal Equalization Laws, which last for short periods of time (three to four years) and are established by a consensus between the federal and regional governments (Blöndal and Bergvall, 2007). Within the two lower levels of government, tax revenues are distributed across the different units according to a formula, which takes into account demographic and revenue criteria, but allocates each state/municipality a fixed percentage of the overall budget. Although the largest portion of tax revenues are allocated to the central government, state governments receive a significant part of the total budget, and are responsible for providing a wide array of public goods and services. In 2006, for example, spending by state governments accounted for 17% of total spending, with 70% and 13% of spending carried out by the central and municipal governments, respectively. Furthermore, state governments are responsible for administering primary education, regional infrastructure, transportation, social welfare and pensions for state civil servants. There are several areas such as health care, education, and social welfare, in which the responsibilities of the central and state governments overlap and are thus co-financed or managed jointly.<sup>14</sup> State governments have considerable fiscal autonomy, reflected in the substantial variation in how they choose to allocate their resources. In the 1980-2012 period, for example, the government of Burgenland devoted 66% of its budget to

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<sup>13</sup>An exception to this is the state of Upper Austria, whose representatives serve for six years.

<sup>14</sup>For further details see the International Monetary Fund Country Report No. 08/189, Austria, Selected Issues, <https://www.imf.org/external/pubs/ft/scr/2008/cr08189.pdf>.



welfare expenditures and only 13% to infrastructure spending, whereas the neighboring state of Lower Austria spent 43% of its resources on welfare, and 40% on infrastructure.

In the postwar period, Austria had four major parties. At the right of the political spectrum are the People's Party (ÖVP), a center-right conservative party originated from the former Christian Social Party, and the right-wing populist Freedom Party of Austria (FPÖ). At the left of the spectrum, we find the Social Democratic Party (SPÖ) and the Communist Party of Austria (KPÖ). Other minor parties such as the Green Party, the Allegiance for the Future of Austria, and the Liberal Forum have become a recent part of the political scene. There are five different types of elections contemplated by the Austrian political system: elections for the National Council (henceforth "parliamentary elections"), for the state parliaments ("state elections"), for the Federal President ("presidential elections"), and elections for municipal councils and the European Parliament. Throughout this paper we will focus exclusively on the first three.

## 2.2 Compulsory Voting in Austria

Figure 1 summarizes the process by which CV was introduced and later repealed in Austria. The mandate to vote was established and subsequently eliminated many times throughout the 1949-2010 period; whether voting was compulsory varied substantially both across and within states, and depending on the type of election, as can be seen in Figure 2. CV was first introduced in Austria in the 1929 Constitution. In particular, voting became mandatory for all citizens in presidential elections, but it was up to each state to determine whether voting was mandatory or voluntary in parliamentary and state elections (See Appendix B for further details).

The first presidential election with CV was held in 1951. Up until 1980, there were a total of seven presidential elections. Voting was mandatory in all of them. However, an amendment to the Austrian Constitution in 1982 made voting in presidential elections compulsory only in the states that decided so. Thus, for the 1986 presidential elections, it became up to each state

to decide whether to keep mandatory voting or not. The states of Vorarlberg, Tyrol, Styria, and Carinthia decided to keep CV. Furthermore, Carinthia enacted a law establishing CV for parliamentary and state elections. The remaining five states abolished CV in presidential elections after the 1982 amendment.

In 1992, a Federal Constitution amendment by the national parliament withdrew the power of establishing mandatory voting in the national parliament elections from the states.<sup>15</sup> Starting in the 1994 parliamentary elections, voting was optional in all states. After this constitutional amendment, the states which still had CV in presidential and state parliament elections started repealing their state laws one by one. In 1993, Carinthia and Styria eliminated CV for both types of elections. Tyrol repealed CV for state parliament elections in 2002, and Vorarlberg got rid of it before the 2004 presidential elections. After these elections, Tyrol finally repealed CV for presidential elections. Thus, the 2010 presidential elections, the last in our sample, were the first in which voting was voluntary throughout the country.

During the period in which voting was compulsory, local authorities were responsible for issuing fines against the non-voters failing to provide a reasonable excuse for abstaining. Sanctions for abstention in presidential elections were initially capped at 1,000 schillings.<sup>16</sup> In 2004, the last presidential election in which any state had CV, this sanction could amount to 72 euros (approximately 72 US dollars in 2015).<sup>17</sup> Fines for non-voting in parliamentary elections were substantially higher. In 1957, for example, while the fines for abstention in presidential elections were capped at 1,000 schillings, sanctions for non-voting in parliamentary elections could reach up to 3,000 schillings. The national law regulating parliamentary elections also established that failure to settle this fine was punishable with up to four weeks in jail.<sup>18</sup> However, informal evidence suggests that fines were weakly enforced,<sup>19</sup> and formally, there were a wide range of admissible excuses for not voting, such as illnesses, professional

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<sup>15</sup>Federal Law Gazette No. 470/1992.

<sup>16</sup>Federal Presidential Election Law (Bundespräsidentenwahlgesetz), Article 25.

<sup>17</sup>Federal Presidential Election Law (Bundespräsidentenwahlgesetz) of 2007, Article 23(3).

<sup>18</sup>Federal Parliament Election Law (Nationalrats-Wahlordnung), Article 105 (3).

<sup>19</sup>For example, the website [http://www.idea.int/vt/compulsory\\_voting.cfm](http://www.idea.int/vt/compulsory_voting.cfm) describes the sanctions for not voting as being “weakly enforced” (accessed May 31, 2015).

commitments, urgent family matters, being outside the state during the election, or other compelling circumstances due to which the voter could not go to the polls.<sup>20</sup>

## 3 Data and Estimation Strategy

### 3.1 Data Sources

In the empirical analysis, we draw upon three main sources of information. To analyze the effect of CV laws on voter turnout, political competition, and public spending, our initial sample consists of all parliamentary, presidential, and state elections held since the end of World War II until 2010.<sup>21</sup> For each of these elections we hand-collected information on voter turnout, proportion of invalid ballots, election results, and political competition from the Austrian Federal Ministry of the Interior’s yearbooks. Secondly, we draw upon detailed annual information on expenditures by each of the state governments, which is publicly available from the Austrian Statistical Agency’s website. Unfortunately, this information is only available since 1980.<sup>22</sup> In all of our specifications, we also include state-specific, time-varying covariates (i.e., total population and unemployment rates) obtained from the Austrian Statistical Agency.

Table 1 shows the descriptive statistics of our data. On average, turnout in all Austrian elections is relatively high, ranging between 86% in state elections and 90% in parliamentary elections.<sup>23</sup> The average incidence of invalid ballots in these elections is between 2%-4%. Both in state and parliamentary elections, voting for the main right wing parties is more prevalent (52%-53%), while voting for the two leading leftist parties is around 40%.<sup>24</sup> Furthermore, a

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<sup>20</sup>Federal Presidential Election Law (Bundespräsidentenwahlgesetz), Article 23 and Federal Parliament Election Law (Nationalrats-Wahlordnung), Article 105 (4).

<sup>21</sup>In our empirical analysis, we exclude the 1945 elections, just after WWII ended. In the period under consideration there were 19 parliamentary elections, 12 presidential elections, and around 11-15 state elections in each of the nine Austrian states.

<sup>22</sup>This restricts our analysis to 10 parliamentary elections, 6 presidential elections and 6-7 state elections in each state. In the appendix, we show our main results for turnout, invalid votes and political competition for the restricted period of 1979-2010, and the magnitude of our coefficients is remarkably similar to the analysis for the full post war period.

<sup>23</sup>Turnout is the proportion of registered voters who showed up to the polls. Registration is automatic for all citizens with a permanent residence in the country.

<sup>24</sup>We consider the sum of votes for ÖVP and FPÖ as right wing votes, and the sum of votes for the SPÖ

negligible 8% of votes goes on average to other minor parties. The average number of parties competing in parliamentary elections is higher than those competing for seats in the state parliament (6.96 vs. 5.98). We classify expenditures into three broad categories: Administrative expenditures, Social Expenditures, and Infrastructure Expenditures.<sup>25</sup> In the 1980-2012 period, a great majority of expenses (54%) were devoted to the social sector, while 25% of all resources were spent in administration, and the remaining 21% were devoted to infrastructure.

Finally, to understand how CV affects the composition of the electorate, we use the Austrian Social Survey, a nationally representative survey conducted in 1986, 1993, and 2003.<sup>26,27</sup> The survey asks respondents standard questions on demographics, socioeconomic status, education, and importantly, it inquires about voting behavior, and political and social preferences. Table 2 shows the descriptive statistics from our individual level data.<sup>28</sup> Eighty-eight percent of respondents report having voted in the previous parliamentary elections. Even though the data is based on self reports of voting, the national and regional averages resemble quite accurately the actual turnout rates in each of the elections.<sup>29</sup> Thirty-three percent of voters in our sample have a preference for left-wing parties, 31% for right-wing parties, and 7% report having a preference for other smaller political parties. While the broad majority of voters identify themselves with a specific political party, a sizeable proportion of voters (30%) report that they do not have a specific preference for a political party. We see a similar pattern when we look at party membership. A large majority of the population (82%) reports not being affiliated with a political party. While a significant share of our sample declares that they are

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and KPÖ as votes for the left.

<sup>25</sup>Administrative expenditures include spending on elected representatives and general administration, Social Expenditures comprise expenditures on education, health, arts and culture and social welfare and housing, while Infrastructure Expenditures are those for construction, transport, and security. The yearly expenditure data is expressed in current millions of euros.

<sup>26</sup>The survey round carried out in 1993 did not include questions on turnout, so we exclude it from our main analysis.

<sup>27</sup>For a general description of the waves of the Austrian Social Survey used, see [Haller et al. \(1987\)](#) and [Haller et al. \(2005\)](#).

<sup>28</sup>Our sample includes all individuals who reported whether they voted or not in the previous parliamentary elections. Only 3% of respondents failed to provide this information, and attrition is not correlated to whether voting was compulsory or not in their state.

<sup>29</sup>Furthermore, the coefficient measuring the effect of CV on turnout obtained from our estimations with individual data in Table 9 is strikingly similar to the coefficient from our estimations using state-level official turnout data.

interested in politics (24% are very interested and 40% are somewhat interested), we observe that 36% is not interested in politics at all. Finally, we proxy for political information using a question that identifies voters who read the newspaper regularly. Thirty-one percent of voters report that they don't regularly read the newspaper.

## 3.2 Estimation Strategy

We estimate the causal effect of CV laws on turnout, invalid ballots, political competition and public spending in different elections using a difference-in-difference model in which we compare the outcomes of interest in states with and without CV. Our baseline specification is as follows:

$$y_{st} = \alpha_0 + \beta_1 CV_{st} + X_{st}\beta_2 + \delta_s + \nu_t + \gamma_{st} + \epsilon_{st}$$

where  $y_{st}$  is an outcome variable in state  $s$  and year/election  $t$ .  $CV_{st}$  is a dummy variable indicating whether voting was compulsory in year/election  $t$  and state  $s$ ,  $X_{st}$  is a vector of state-year covariates (population and the unemployment rate).  $\delta_s$  and  $\nu_t$  are state and year/election fixed effects.  $\gamma_{st}$  is a set of state-specific linear time trends, and finally  $\epsilon_{st}$  is the error term. We run these regressions separately for different types of elections (i.e., parliamentary, state, and presidential), and allow for arbitrary correlation structures in the error terms by clustering our standard errors at the state level. Given the small number of clusters, our standard errors might be inconsistently estimated (Bertrand et al., 2004). Following Cameron et al. (2008), we also report wild-bootstrap p-values for the variables of interest.

Using state level data, we analyze the effect of CV on: (i) turnout and valid ballots; (ii) left/right vote shares, number of parties, vote shares and margin of victory of the winning party; and (iii) government expenditures in social services, administration, and infrastructure. For (i) and (ii), the analysis unit is stateXelection, while when analyzing the impact of CV on expenditures, the analysis unit is stateXyear. We assume that government spending in

the years within a particular electoral period depends on whether voting was compulsory in the previous election. Thus, if elections takes place in years  $t$  and  $t + 4$ , we consider that expenditures in the years spanning from  $t + 1$  to  $t + 4$  are a function of whether voting was compulsory in  $t$ .<sup>30</sup> This is a plausible assumption, since most of the elections in our sample occurred in the last trimester of the year, thus policies implemented by the elected government would only start having an effect on spending decisions in subsequent years.<sup>31</sup>

The identification assumption in our main specification is that assignment to CV is uncorrelated with other state-specific, time varying, observable or unobservable characteristics, once we have controlled for time invariant, state-specific factors, as well as year-specific, state invariant factors. For example, if conservative states are more likely to support CV, this should be absorbed by our state fixed effects. On the other hand, if it is the case that in a specific year there was a national push for abolishing these types of laws (like, for example in 1982), this effect would be captured by the corresponding year fixed effect. One threat to our identification assumption is that, even though some of the changes in CV laws were issued by the federal parliament (e.g., the 1992 repeal of CV in parliamentary elections), and thus are unlikely to respond to state-specific political dynamics, others changes were issued at the state level, and these decisions might be related to voting trends. As in any difference-in-difference model, this is the same as assuming that, conditional on the set of observables and fixed effects, the trends in voting, political competition, and expenditures in states in which CV was introduced was the same as in states where voluntary voting was in place; if the new voting regime had not been enacted, e.g., they have parallel trends in the pre-treatment period.

The parallel trends assumption would be violated if the states most likely to implement CV were those in which turnout was downward trending. In this case, an estimation relying

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<sup>30</sup>Due to this, the sample for which we carry out the expenditure and receipt regressions spans the elections held in the 1979-2010 period, which in turn determines the expenditures in years 1980-2012.

<sup>31</sup>In the case of (i), in addition to running separate regressions for each type of election, we also run a pooled regressions using all elections. Further, beyond the reduced form analysis presented above, we also analyze the effect of (exogenous) changes in turnout on (ii) and (iii) using an instrumental variable approach in which  $CV_{st}$  is used as an instrument for voter turnout. These results are shown in the appendix.

on simple fixed effect will understate the effect of CV laws. Similarly, state governments might find it easier to enact CV laws when turnout is trending upward, since enforcement costs will be lower in these states. In this case, a fixed effects model would overestimate the results. The inclusion of state-specific time trends controls for any linear trends in our outcome variables, and thus partially addresses these concerns. In the next section, we show a set of placebo and falsification tests supporting the idea that the introduction or abolition of CV laws at the state level does not seem to be driven by differential trends. Additionally, we include a regression in which we only consider the change in CV laws issued at the federal level in 1992, and show that the point estimates are very similar to those found with the full sample.

We confirm the results from our state-level data using individual-level information from the 1986 and 2003 Austrian Social Survey. In this survey, we have information on whether each individual voted in the previous parliamentary election (1983 and 2002), and exploit within and between state variation in CV introduced by the federal abolition of CV between the surveys (in 1992) to identify the effect on individual level turnout. While in the 2002 parliamentary election none of the Austrian states had CV, three of them (Styria, Tyrol, and Vorarlberg) had it in the 1983 elections. As in our state-level analysis, we use a difference-in-difference strategy to estimate the causal effect of CV on turnout:

$$voted_{ist} = \alpha + \beta_1 CV_{st} + X_{ist}\beta_2 + \delta_s + \nu_t + \epsilon_{ist}$$

where  $voted_{ist}$  is a dummy for whether individual  $i$  in state  $s$  and survey year  $t$  voted in the previous parliamentary election,  $CV_{st}$  is a dummy for whether voting was compulsory in that election in the state where the respondent lives,  $X_{ist}$  is a vector of individual covariates (age, sex, educational attainment, parents' education, working status, household size, and community size),  $\delta_s$  and  $\nu_t$  are state and survey-year fixed effects, and  $\epsilon_{ist}$  an error term. Our main interest is in the coefficient associated with compulsory voting ( $CV_{st}$ ). In this case, to be able to interpret  $\beta_1$  as the causal effect of CV laws on individual voting behavior, we assume that the trends in individual voting behavior in states that abolished CV after the

1983 elections would have remained similar to those states that didn't, had CV not been adopted. In the following section, we provide evidence supporting this assumption.

The availability of individual-level information allows us to go further in explaining not only how much CV affected turnout, but also *who* is more likely to respond to changes in the CV laws, and thus help us identify the main channels through which changes in turnout could affect actual policy outcomes.<sup>32</sup> The Austrian Social Survey includes questions that allow us to characterize voters along several key dimensions: (i) political preferences and party affiliation, (ii) interest in politics, (iii) political information, and (iv) socioeconomic characteristics (e.g., gender, educational attainment, and income). To test whether the effect of CV on turnout was driven by a particular type of voter, we interact the term of interest in the regression above with each of these dimensions.<sup>33</sup> Specifically, we run the following regression:

$$voted_{ist} = \sum_{j=1}^J [\phi_j G_{jist} + \gamma_j CV_{st} * G_{jist}] + X_{ist}\beta + \delta_s + \nu_t + \epsilon_{ist}$$

Our main interest is in  $\gamma_j$ , the coefficient associated with the interaction between compulsory voting ( $CV_{st}$ ) and voter characteristics ( $G_{jist}$ ).<sup>34</sup>

## 4 Compulsory Voting, Turnout, and Public Spending

### 4.1 Turnout and Invalid Votes

Even with mild enforcement, as is the Austrian case, CV can affect turnout through the signaling value of enacting a law. Panel A in Table 3 shows the effects of CV on turnout

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<sup>32</sup>Although the Austrian Social Survey asks about the party individuals voted for in the previous elections, we do not analyze this outcome because 17% of the respondents who report to have voted in the elections didn't answer this question. Furthermore, attrition is differential along individuals' self-reported political preferences.

<sup>33</sup>In this set of regressions, we exclude the constant, so we are able to identify which specific group of the population is driving most of the effect.

<sup>34</sup>For political preferences and income, we have four categories ( $j = 4$ ); when evaluating whether the effect of CV on turnout is driven by voters with different levels of interest in politics or educational attainment, we have 3 categories ( $j = 3$ ). Finally, party membership, our measure of political information, and gender are binary, and hence,  $j = 1$ .



within and across Austrian states in the 1949-2010 period. The introduction of CV causes statistically and economically significant increases in turnout in parliamentary, state, and presidential elections.

In parliamentary elections, CV increases turnout by 6.5 percentage points, while for state and presidential elections the effect is of 17.2 percentage points and 9.5 percentage points, respectively. Pooling all the election data available provides more variability in the data, and allows for a precise estimation of the year and state fixed effects, as well as better identification of the state-specific linear trends, which in turn allows for a more precise estimation of our main effects. In column 4 of Panel A in Table 3, we report the independent effect of CV on each type of election using the pooled dataset. The introduction of CV increases turnout in parliamentary elections by 6.6 percentage points, while for state and presidential elections, the effect is of 8.5 percentage points and 9.2 percentage points, respectively. Note that the results in the pooled estimation show slightly lower point estimates than in the previous regressions, and this is particularly the case for state elections, for which we have a smaller sample size. Given abstention rates of 12%-24% when voting is voluntary, this effect implies a reduction in abstention ranging from 39% to 55%, depending on the type of election. In all regressions, we report standard errors clustered at the state level in parenthesis, and the wild-bootstrap p-values for the coefficients of interest are reported in square brackets. The statistical significance of the results remains unchanged when looking at either.

Mandating voting can increase turnout by drawing voters who have a low intrinsic value for voting, uninterested voters, or new voters who might not be familiar with the voting process. If this is the case, we might expect the proportion of invalid ballots to rise when more people are mandated to vote. As shown in Panel B of Table 3, the increase in turnout is paired with a statistically significant increase in invalid votes. In elections when voting is voluntary, the share of invalid votes ranges between 1.5% and 3.8%. Based on the results in the preferred specification (column 4), we see that the introduction of CV increases the share of invalid votes by 0.9–1.8 percentage points, depending on the type of election. Even though

the increase in turnout associated with CV is also conducive to a higher proportion of invalid votes, there is certainly not a one-to-one relation. That is to say, for every 10 people who are driven to vote due to CV, only 1.5–3 of them issue an invalid ballot, while the others correctly vote for a party or candidate. Hence, an increase in turnout of this magnitude could very well result in a shift in the election results, and in the policies being implemented.<sup>35</sup>

## 4.2 Public Spending

The introduction of CV leads to a significant increase in turnout of about 9 percentage points, and the large majority of this increase is driven by valid votes. An increase in participation rates can potentially affect government spending in several ways. Depending on the competencies of the elected body analyzed, it could increase the overall size of the budget by pushing the local government or local parliamentarians to negotiate larger budgets from the federal government, or by increasing taxation. Alternatively, if preferences for public goods in the participating electorate are now different, the government might also change the distribution of public spending, keeping the size of the overall budget constant, but shifting it between sectors. Previous evidence suggests that a large increase in turnout, as the one we observe in Austria, lead to changes in policy outcomes (e.g., [Miller, 2008](#); [Fujiwara, Forthcoming](#)).

In the Austrian context, if anything, we should expect increases in turnout in different elections to affect different parts of the budgetary process. As discussed in section 2.1, given the ceremonial role of the federal president, we don't expect to see any effects of CV in presidential elections on spending<sup>36</sup>. On the other hand, the national parliament does decide on the amount of money that each state and local government gets, so if anything, we should observe changes in the parliamentarian's constituents affecting the state's total budget, but not its sectoral

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<sup>35</sup>Given that the analysis of the effects of CV on fiscal behavior is performed only for those years for which expenditure data is available (1979–2010), we rerun the analysis from Table 3 on a comparable sample in Appendix table B.1. The results shown for turnout and invalid votes are comparable to the ones in the full sample.

<sup>36</sup>As a placebo test, we run the regressions estimating the effect of CV in presidential elections on fiscal behavior at the state level, and as expected, we do not find any effects. These results are shown in Appendix table B.2

distribution. Finally, given that state parliaments nominate a share of the members of the Federal Council, we should expect changes in the state parliamentarian’s political incentives to affect the national distribution of the budget. Likewise, state parliaments are in charge of preparing the state’s budget, and thus laws that affect this level of government should have an effect on the sectoral distribution of state spending. In this section, we turn our attention to the effects of CV on fiscal policy at the state level. Because data on public spending is only available for the years 1980-2012, we limit our analysis to that period.

In the subsequent analysis, we focus on total state expenditures, as well as their composition: administrative, welfare, and infrastructure expenditures. For each spending category, we independently analyze three different measures of fiscal policy, which are intended to test the different mechanisms described above: (i) the log levels, (ii) the log per capita, and (iii) as a percentage of the total budget. Using a similar estimation framework as in the previous section, the results of our reduced form regressions for parliamentary and state elections are shown in Table 4. Given the competences of the federal and state parliaments, it is surprising that changes in laws affecting the incentives of parliamentarians do not manifest themselves in economic or statistically significant effects on the level or composition of expenditures. Overall, we find no evidence of an effect of CV on the amount or composition of public expenditures, both for parliamentary and state elections. In all regressions, the estimated coefficients are very close to zero, and the clustered standard errors as well as the wild-bootstrap p-values indicate that there is no statistical relationship between CV and total budget or its composition.<sup>37</sup> Given the zero effect found in the reduced form in Table 4, it is not surprising that when we use an instrumental variable approach, where we estimate the effect of turnout (instrumented by CV) on expenditures, we also find a zero effect (see Table B.3 in the appendix.)

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<sup>37</sup>We only find one significant coefficient out of the 33 regressions that we show in Table 4 and Appendix table B.2, for the effect of CV in state elections on the percentage of the budget going to welfare.

### 4.3 Robustness Checks

In order to be able to causally interpret the results presented in Sections 4.1 and 4.2 we need to assume that, once we control for the set of fixed effects and state trends, assignment to CV is uncorrelated with the error term. This assumption would be violated if states that chose to implement CV did so as a response to secular trends in our main variables of interest. This is equivalent to assuming that, had CV never been introduced, states where it was introduced would have followed a similar trend as in those where voting was always voluntary, a standard assumption in any difference-in-difference framework. In this section, we provide a set of placebo and falsification tests supporting our identifying assumption.

As mentioned in Section 2.2, in our study period there is one change in CV laws that is unrelated to any state–year specific characteristic, namely, the one introduced by the federal government in 1992.<sup>38</sup> This Federal Constitution amendment withdrew the prerogative of establishing mandatory voting in the national parliament elections from the states. Effectively, while some states already had voluntary voting, others were forced to adopt it.

The results in Table 5 show the difference-in-difference regression limiting our sample to the parliamentary elections in the electoral periods between 1986 and 2011, in which the only change in CV laws was the one enacted in 1992. This law forced Vorarlberg, Styria, Tyrol and Carinthia to eliminate CV in parliamentary elections.<sup>39</sup> The magnitude and statistical significance of the results is remarkably similar to those shown in Tables 3 and 4. The repeal of CV in 1992 causes a decrease in turnout in parliamentary elections of 9.8 percentage points, and an increase in invalid ballots of 1.3 percentage points. Likewise, in neither of our

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<sup>38</sup>Ferwerda (2014) uses this federal change in legislation to explore changes in the political equilibrium, and argues that, given that it was issued at the federal level, it is independent to the political dynamics at the local level.

<sup>39</sup>The estimation equation is given by:  $y_{st} = \alpha_0 + \alpha_1 CV_s * Pre_t + X_{st}\beta + \delta_s + \nu_t + \epsilon_{st}$ . As in our previous specifications,  $y_{st}$  is an election outcome variable or expenditures in state  $s$  and year  $t$ ;  $CV_s$  is a dummy variable indicating whether voting was compulsory in state  $s$  before the 1992 constitutional amendment,  $Pre_t$  is a dummy for the elections before 1992,  $X_{st}$  is a vector of state–year covariates (population and the unemployment rate),  $\delta_s$  and  $\nu_t$  are state and year fixed effects and  $\epsilon_{st}$  is the error term. Our interest lies in the coefficient that measures the difference-in-difference between states with and without CV, before and after the reform,  $\alpha_1$ . For comparison with previous tables, we introduce the “Pre” instead of “Post” dummy because after 1992, CV was repealed, rather than introduced.

specifications do we find that CV affects fiscal policy. These results suggest that any other changes in CV (besides the 1992 one) are unlikely to be correlated with trends in the main dependent variables.

The parallel trend assumption can also be shown graphically. Figure 3 shows the evolution of turnout, invalid votes, and total, administrative, welfare, and infrastructure expenditures in the same analysis period (1986-2011), for states that never had CV and those that were mandated to eliminate it in 1992. States that had CV before 1992 had higher turnout and more invalid ballots, but importantly, after the law is abolished, the trends in these variables run parallel to the ones in states that did not have CV before 1992. Similarly, in our four expenditure variables, for which we do not observe an effect of the elimination of CV, the trends for both types of states run parallel during the whole study period.

To further alleviate the concerns that CV laws might have been introduced responding to changes in our dependent variables of interest (e.g., they could have been a response to declining turnout rates), in Table 6 we include leads and lags of our main independent variable in our preferred specification for turnout and invalid votes. If it were the case that CV laws responded to changes in turnout, we would expect turnout in period  $t$  to be correlated to either CV in  $t + 1$  or CV in  $t - 1$ . The results show that, besides the contemporaneous effect of CV on turnout and invalid votes, the introduction of CV in the previous election or next electoral period has no effect on our variables of interest. The estimated effects for the three types of elections show a precise zero of all the lags and leads of our independent variable.<sup>40</sup> We report the results of the same analysis for our public spending regressions in Table 7. A potential concern is that authorities anticipate the introduction/repeal of CV laws and alter the level or composition of public spending before the law change takes place. If this were the case, we would observe a correlation between public spending in year  $t$  and CV in  $t + 1$ . Alternatively, any delays in the reaction of public spending to changes in CV laws would lead to a correlation between CV in  $t - 1$  and public spending in year  $t$ , which would not

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<sup>40</sup>One exception is the surprisingly significance of the coefficient of the lead of CV for presidential elections. However, the estimated coefficient is negative, which goes against our main effects.

be captured in our baseline specification. As seen in Table 7, public spending is uncorrelated whether voting was compulsory in the past, current, or posterior electoral period for all types of elections.

Taken together, the results shown in Figure 3 and Tables 5, 6, and 7 provide evidence supporting the parallel trend assumption, and rule out the potential reverse causation between turnout and CV laws.

## 5 Understanding the “Null Effect” on Policy Outcomes

How could it be that CV had sizable impacts on turnout, increasing the number of valid votes, but did not affect policy outcomes? One potential explanation for these results is that, even though more voters attend to the polls, the political choices of voters who would have otherwise abstained are, on average, similar to the ones of voters who would have gone to the polls even in the absence of CV. Alternatively, it could also be the case that the victory margins are, on average, larger than the increase in turnout, hence even if everyone voted for the same party, this would not affect the electoral result. In a standard median voter model (Downs, 1957), a change in the preferences of the median voter leads to changes in candidate’s platforms, and hence, to changes in policy. Alternatively, citizen-candidate models (Besley and Coate, 1997; Osborne and Silvinski, 1996) predict that when parties cannot credibly commit to implement policies that are inconsistent with their ideology, variations in the composition of the electorate will affect the policies implemented through their impact on the identity/preferred policies of the party that gets elected. In the context of Austria, the results observed so far, are consistent with either theoretical frameworks.

If new voters do not make significantly different political choices, compared to those voters who participate even under voluntary voting, we would not expect the identity of the median voter to change, and hence shouldn’t observe changes in policies. Unlike other studies in the literature analyzing large increases in turnout due to *de jure* or *de facto* enfranchisement of very specific groups of the electorate (e.g., women in Miller (2008), the poor and

illiterate in Fujiwara (Forthcoming), and African-Americans in Naidu (2012)), there are no *a priori* reasons to believe that voters who participate in the elections because of the CV laws make significantly different political choices than those who participate even when voting is voluntary. In the subsequent analysis, we explore whether CV laws caused changes in the political equilibrium, and identify marginal voters affected by the introduction of CV.

## 5.1 Electoral Competitiveness and Partisan Advantage

Table 8 tests whether the introduction of CV had any effects on the identity of the elected politician, political competition, or her victory margin. We estimate a similar regression as in the Section 4.1, but use as dependent variables the percentage of votes to the left or right wing parties, the number of parties, the share of votes of the winning party and its margin of victory (i.e., the difference in vote share between the winning party and the runner-up).

As shown in Table 8, CV does not lead to substantial changes in the results or the competitiveness of the elections.<sup>41</sup> For both parliamentary and state elections, CV does not affect the share of votes going to the right or left parties.<sup>42</sup> Further, there is no response from the political supply: the number of parties remains constant at about 6.9 and 6 for parliamentary and state elections, respectively. Finally, the party that wins the election does not receive a significantly different proportion of votes under CV, compared to states and elections in which voting is voluntary.<sup>43</sup>

In a related paper, Ferwerda (2014) exploits the 1992 constitutional change to analyze

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<sup>41</sup>We do not perform these regressions for presidential elections because parties do not run as separate entities in those races. Instead, they form coalitions that cross party lines and change over time, making it impossible to identify the proportion of votes for right and left wing parties. In 1974, for e.g., the candidate nominated by the socialist SPÖ won the presidential election. This candidate was reelected in the 1980 elections, where he received support from the SPÖ but also from the right-wing ÖVP party.

<sup>42</sup>Although we only report the results of our regressions considering vote shares for left (SPÖ + KPÖ) and right wing (ÖVP + FPÖ) parties, we also run regressions using the individual vote shares of these parties and find no effect. We also check whether there was any impact on voter polarization, and find that there is no effect of CV on the sum of vote shares for the two main parties (SPÖ and ÖVP).

<sup>43</sup>Appendix Table B.4 shows the results for the sample 1979-2010. The results are comparable to those in Table 8. We find relatively larger point estimates for the effects of CV on party vote shares, but they are not statistically significant. Only for the case of votes for the left wing parties in Parliamentary elections do we find a statistically significant impact of CV; however, if we focus on the wild-bootstrapped p-values (the most robust), the coefficient is not significant at the conventional levels.

the effects of political participation on electoral results. Using municipality level data from the 1990 and 1994 elections (before and after the change), he finds statistically significant but fairly small effects on the vote share for minor parties, as well as an increase in votes for the SPÖ (left wing party). The magnitude of the results found are consistent with our findings, particularly with the magnitude of the coefficients found when restricting our analysis period (Appendix Table B.4). However, the focus of our paper is on explaining the potential effects of CV on fiscal behavior, and even though there might be an (insignificant) effect on party vote shares, they are small enough that they do not affect the election outcomes.

Overall, the results in Table 8 show that the introduction of CV did not lead to changes in party vote shares, electoral competition, or partisan advantage. If the Austrian political process follows the workings of a citizen-candidate model (Besley and Coate, 1997; Osborne and Silvinski, 1996), the fact that the increase in turnout was not paired with changes in the political equilibria is consistent with a null impact of CV on public expenditure in the period under consideration.

## 5.2 Composition of the Electorate

In this section, we use individual level data on political preferences and demographics from two rounds of the Austrian Social Survey (1986 and 2003) to explore whether the null effects of CV on economic policies and the political equilibria can be explained by the identity of marginal voters who are driven to the polls only due to the introduction of CV. For identification, we exploit the fact that between the two survey rounds CV laws changed in some states.

For comparison purposes, the first column of Table 9 resembles the baseline specification from Table 3 at the individual level. The introduction of CV leads to an increase in turnout of 5.8 percentage points, slightly lower than the one shown with aggregate, state-level data. We must bear in mind that in these regressions we rely on self-reported data, which might measure turnout with error. As long as this measurement error is classical, our results should



be attenuated.<sup>44</sup>

In columns (2)–(4) of Table 9 we show how the demographic composition of the electorate changes with CV. Rational choice models of voting suggest that an increase in the cost of abstention resulting from CV should drive low-income voters to the polls (Downs, 1957; Riker and Ordeshook, 1968). Consistent with previous literature (Matsusaka, 1995; Lijphart, 1997; Shue and Luttmer, 2009) we find that women, voters with low educational attainment, and low income, seem to be the ones who respond more often to CV laws, whereas men, highly educated people, and relatively high income voters are likely to participate even in the absence of CV laws.<sup>45</sup>

This demographic composition of the electorate should lead to changes in the preferences of the median voter, in the political equilibria, and therefore in economic policies, if the demographic characteristics of new voters correlate with political preferences. In Table 10 we explore the latter dimension. The results show that marginal voters who respond to the introduction of mandatory voting are non-partisan, and have a low subjective value of voting (as measured by their interest in politics). Specifically, while we do not observe an effect of CV on voters who declare preferences for right, left, or centrist parties, those who do not declare partisan preferences are 14.2 percentage points more likely to vote when facing CV. Along the same lines, Column (2) shows that voters who are not members of any party respond to these laws by showing up at the polls 8.4 percentage points more often, while members of political parties vote regardless of the legislation. Consistent with these results and with previous work (Lassen, 2005), voters who respond to the legislative incentives to vote are the ones who declare themselves as not being interested in politics and the uninformed (Column 3 and 4). Overall, the results in Table 10 show that marginal voters do not have clear partisan preferences, and in general, do not seem to attach a high intrinsic value to political participation.

Although compulsory voting seems to have shifted the demographic characteristics of the

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<sup>44</sup>Given that our coefficient for CV is slightly lower than the one obtained in our regressions using aggregate state-level data, one need not be concerned about higher over-reporting by individuals for which voting was compulsory.

<sup>45</sup>The results regarding the effect of CV for people with different income levels should be taken with care, as there were a lot of individuals who did not report their household income.

median voter in terms of gender, educational attainment and income, this does not correlate with the median voter’s political choices. All in all, the marginal voter turning out to vote as a result of the enactment of compulsory voting laws seems to be an apathetic voter who does not issue, on average, a different vote from the voters who were already participating in voluntary elections. If the choices of the average voter are not shaped by the implementation of compulsory voting, it should not be surprising that these laws do not impact the policies implemented nor the identity of the elected party. Alternatively, these results are also consistent with a citizen candidate framework in which, even though the identity of the median voter changes, we do not observe changes in policy outcomes.

## 6 Conclusion

Although compulsory voting (CV) is often viewed as a way to foster voter turnout and consequently improve the representativeness of the political process, relatively little is known how CV causally affects voter participation and, in particular, how it affects economic policy. In this paper, we analyze the impacts by leveraging a unique quasi-experiment in Austria. Exploiting substantial variation in CV laws across Austria’s nine states, we find that CV increased turnout from roughly 80% to 90%, reducing abstention by roughly 50%. This occurred even though penalties for not voting were mild. However, the increase in turnout did not seem to affect state-level spending (either in levels or shares of sectoral spending) or electoral outcomes.

How should our results be interpreted? Using individual-level data, we find that people induced to vote by CV seem to be those with no preference between political parties. Thus, even though voters affected by CV are also more likely to have lower education and lower income, our results are not inconsistent with median voter models. Our results are also consistent with citizen candidate models where candidates implement preferred policies despite a change in the identity of the median voter. While our results do not crisply distinguish between different theoretical models of voting, they provide causal evidence (previously lacking)

that CV laws need not have significant impacts on government spending, even if they have large impacts on who is voting. We believe this is important evidence for the policy debate regarding CV.<sup>46</sup>

While our results are specific to Austria, we believe our findings are relevant for other advanced democracies where reforms to increase political participation (such as CV laws) are being evaluated. Voter turnout levels in Austria (both with and without CV) have generally been high (at least relative to the US), but high turnout levels are shared by many other countries, both in Europe and elsewhere. The advantage of analyzing the whole postwar period, rather than a single historical change in electoral laws, is that it allows us to rule out that the effects observed are due to specific historical contexts, providing more external validity to our results. It is less clear how our results would extrapolate to a country like the US.<sup>47</sup> More research on the impacts of compulsory voting is clearly warranted.

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<sup>46</sup>That is, it provides a counterpoint to the argument that CV laws are necessarily transformative for government policy.

<sup>47</sup>In terms of turnout, US voters are sometimes viewed as being less trustful of government than voters in Europe, so it is not clear that US voters would react substantially to small fines. On the other hand, Austria had a relatively high turnout rate to begin, so one might imagine that our findings would form a “lower bound” on impacts for reforms implemented in countries with low turnout. In terms of spending, it is possible that CV laws could have different impacts on presidential instead of parliamentary systems, though we do not have strong priors that this would be the case.

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Figure 1: Evolution of CV Laws (1918-2010)

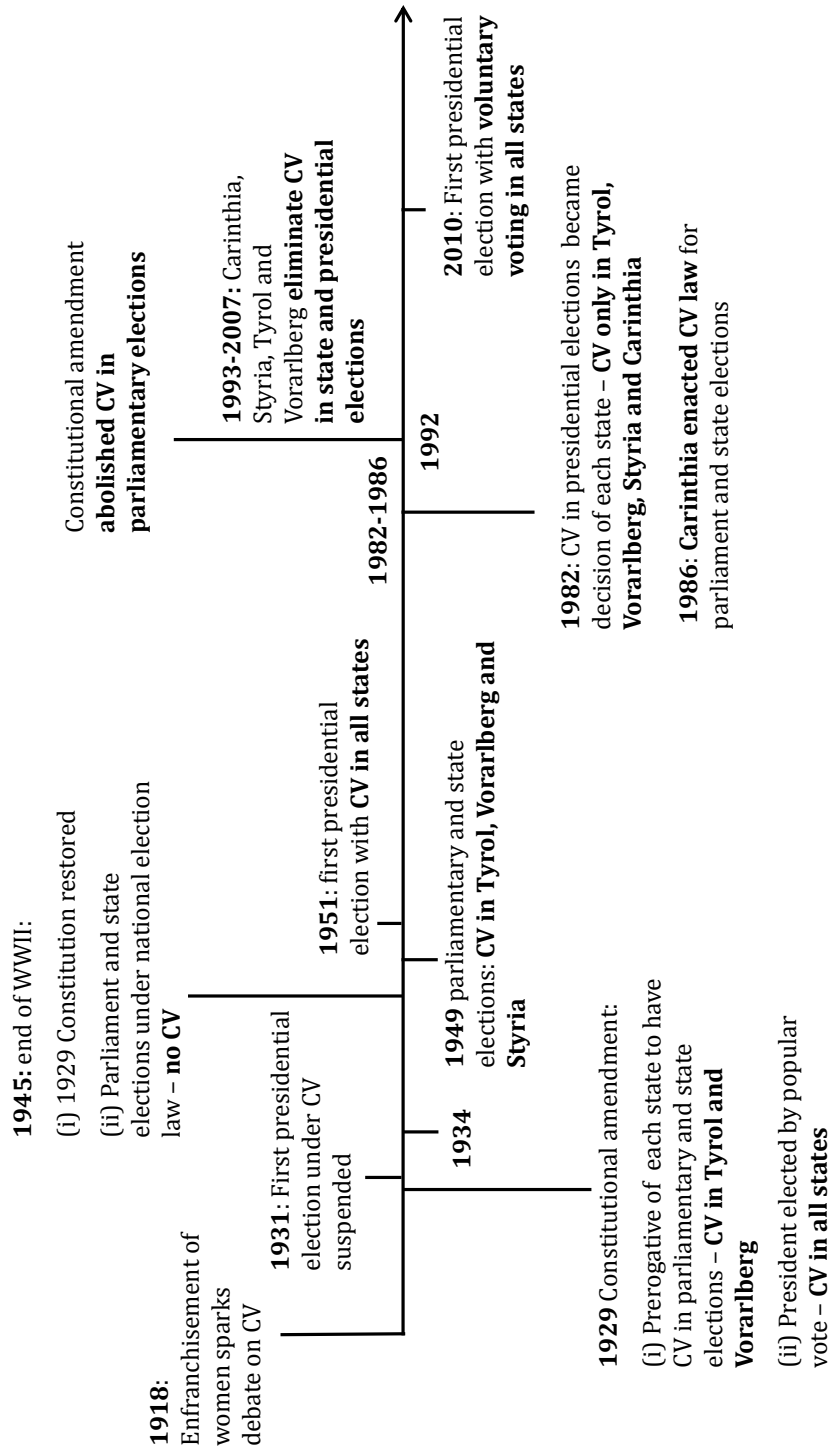
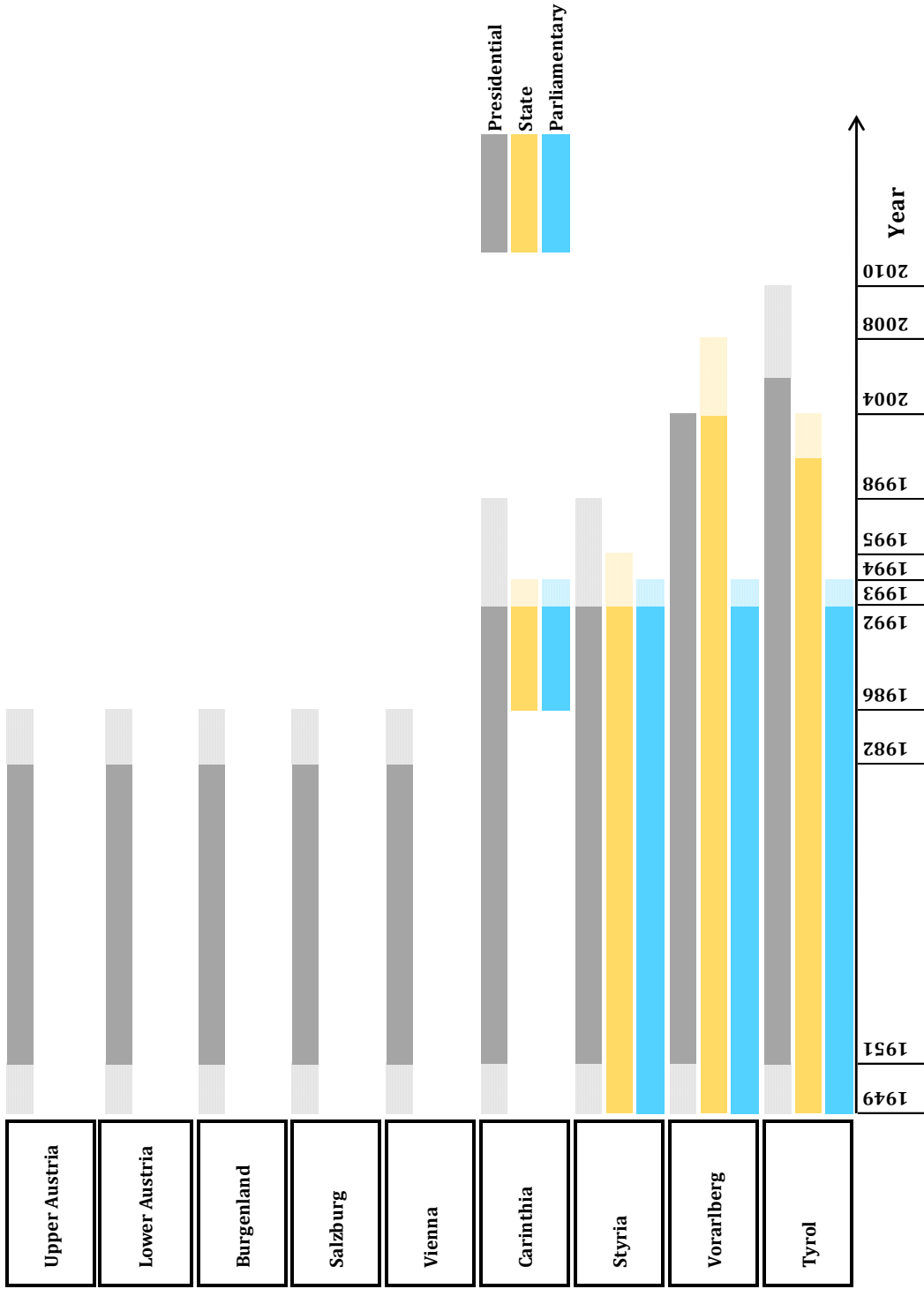
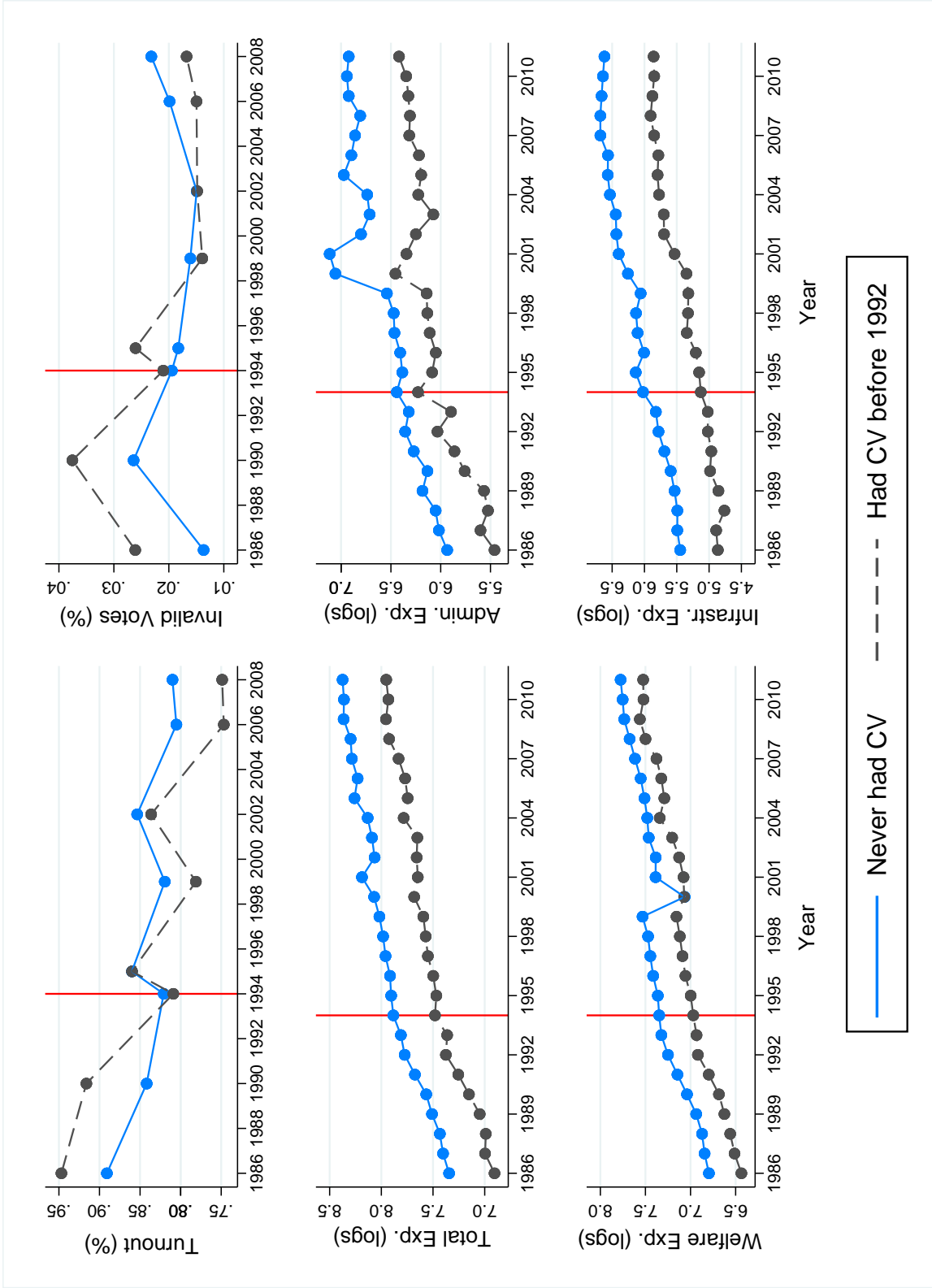


Figure 2: Elections Under Compulsory and Voluntary Voting (1949-2010)



Solid bars mark the period in which elections with CV were held. Shaded bars indicate that the enactment/abolition of the CV law was already in place, although no elections were held in that period.

Figure 3: Turnout, Invalid Votes and Expenditures (1986-2012)



Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of votes considered invalid. All state expenditures are expressed in million of current euros, in logs. The figures for turnout and invalid votes cover the parliamentary elections held in 1986-2008, and the figures for expenditures cover all the years in 1986-2012.

Table 1: Summary Statistics (1949-2012)

	Observations	Mean	Std. Dev	Min	Max
<b>Panel A: Election Data (1949-2010)</b>					
<b>Parliamentary Elections</b>					
Turnout (%)	171	0.90	0.07	0.70	0.98
Invalid Votes(%)	171	0.02	0.01	0.01	0.05
Votes Right (%)	171	0.52	0.09	0.22	0.75
Votes Left (%)	171	0.40	0.10	0.15	0.62
Number of Parties	171	6.96	2.94	4.00	13.00
Vote Share Winner (%)	171	0.47	0.08	0.29	0.65
Margin of Victory (%)	171	0.12	0.09	0.00	0.40
<b>State Elections</b>					
Turnout (%)	121	0.86	0.09	0.61	0.98
Invalid Votes(%)	121	0.02	0.01	0.01	0.08
Votes Right (%)	121	0.53	0.11	0.21	0.76
Votes Left (%)	121	0.39	0.11	0.10	0.62
Number of Parties	121	5.98	1.05	4.00	8.00
Vote Share Winner (%)	121	0.49	0.06	0.36	0.65
Margin of Victory (%)	121	0.10	0.07	0.00	0.34
<b>Presidential Elections</b>					
Turnout (%)	132	0.88	0.13	0.38	1.00
Invalid Votes(%)	135	0.04	0.02	0.01	0.11
<b>Panel B: Yearly State Data (1980-2012)</b>					
Total Expenditures	297	2,897	2,690	264	12,325
Administrative Expenditures	297	734	772	64	6,771
Welfare Expenditures	297	1,563	1,239	160	5,856
Infrastructure Expenditures	297	600	910	36	3,684
Unemployment Rate (%)	297	0.06	0.02	0.00	0.10
Population (in thousands)	297	890	492	269	1717

State-level election data covers all elections held in 1949-2010. Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of ballots considered invalid. Vote shares for the right and left are the percentage of valid votes that went to ÖVP + FPÖ and SPÖ + KPÖ, respectively. The vote share of the winner is the percentage of valid votes obtained by the highest ranking party in each state, and margin of victory is the difference in vote shares between the highest ranking party and the runner-up. Expenditure, unemployment, and population data at the state-level cover all the years in 1980-2012. All state expenditures are expressed in millions of current euros.

Table 2: Descriptive Statistics: 1986 and 2003 Austrian Social Survey

	Observations	Mean	Std. Dev	Min	Max
<b>Turnout</b>					
Voted in Last Parliamentary Elections (%)	3693	0.88	0.33	0.00	1.00
<b>Political Party of Preference</b>					
Left (%)	3637	0.33	0.47	0.00	1.00
Right (%)	3637	0.31	0.46	0.00	1.00
Minor Parties (%)	3637	0.07	0.25	0.00	1.00
No Party Preference (%)	3637	0.30	0.46	0.00	1.00
Not Member of a Political Party (%)	3661	0.82	0.39	0.00	1.00
<b>Interest in Politics and Information</b>					
Uninterested in Politics (%)	3693	0.36	0.48	0.00	1.00
Mildly Interested in Politics (%)	3693	0.40	0.49	0.00	1.00
Very Interested in Politics (%)	3693	0.24	0.43	0.00	1.00
Doesn't read newspaper regularly	3672	0.31	0.46	0.00	1.00
<b>Socioeconomic Variables</b>					
Age	3693	48.14	16.69	19.00	93.00
Female	3693	0.58	0.49	0.00	1.00
Household Income (in 2003 Euros)	2886	1796.38	964.75	180.00	4341.90
Number of Members in Household	3693	2.84	1.57	1.00	9.00
Employed (%)	3693	0.49	0.50	0.00	1.00
Unemployed (%)	3693	0.03	0.17	0.00	1.00
Retired (%)	3693	0.27	0.44	0.00	1.00
<b>Educational Attainment</b>					
Compulsory Schooling (%)	3693	0.65	0.48	0.00	1.00
High School - Vocational (%)	3693	0.13	0.34	0.00	1.00
High School - Academic Track (%)	3693	0.16	0.37	0.00	1.00
College (%)	3693	0.06	0.24	0.00	1.00

The sample includes all individuals in the 1986 and 2003 Austrian Social Survey who reported whether they voted in the last parliamentary elections (1983 and 2002) and were eligible to vote. Political party of preference specifies the party the respondent identifies with (left if SPÖ or KPÖ, right if ÖVP or FPÖ, no party preference if the individual doesn't identify with any party, and minor parties otherwise), and not a member of a political party is a dummy for whether the individual has no party affiliation. Individuals are separated into three categories according to whether they manifest to be uninterested, mildly or very interested in politics. The Austrian Social Survey separates household income into 21 different categories. To make the figures comparable across periods, we imputed household income as the midpoint of the category into which individuals fell, and converted the 1986 mid-point into 2003 euros. Educational variables are mutually exclusive dummies for the maximum educational attainment.

Table 3: Effect of CV on Turnout and Invalid Votes (1949-2010)

	Parliamentary	State	Presidential	Pooled
<b>Panel A: Turnout (%) as Dependent Variable</b>				
CV	0.065** (0.020) [0.002]	0.172** (0.059) [0.000]	0.095*** (0.022) [0.004]	
CV * Parliamentary				0.066** (0.010) [0.000]
CV * State				0.085*** (0.016) [0.000]
CV * Presidential				0.092*** (0.020) [0.004]
Observations	171	121	132	424
R Squared	0.956	0.953	0.961	0.999
Mean Turnout (if CV=0)	0.881	0.840	0.763	0.848
<b>Panel B: Invalid Votes (%) as Dependent Variable</b>				
CV	0.005 (0.004) [0.160]	0.019* (0.008) [0.000]	0.019** (0.007) [0.000]	
CV * Parliamentary				0.009*** (0.002) [0.004]
CV * State				0.013*** (0.003) [0.058]
CV * Presidential				0.018*** (0.005) [0.000]
Observations	171	121	135	427
R Squared	0.787	0.834	0.835	0.948
Mean Invalid Votes (if CV=0)	0.015	0.017	0.038	0.019

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state election trends. An observation in these regressions is a state-election. The sample in columns (1)-(3) includes all parliamentary, state, and presidential elections in 1949-2010, respectively. The pooled regressions in column (4) include the elections of all three types in 1949-2010, with their corresponding election type dummies. Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of ballots considered invalid. CV is a dummy for whether voting was mandatory in the state and election.

Table 4: Effect of CV on Expenditures (1980-2012)

	Log-Levels				Log-Per Capita				% of Total			
	Total	Admin.	Welfare	Infrastr.	Total	Admin.	Welfare	Infrastr.	Admin.	Welfare	Infrastr.	
<b>Panel A: Parliamentary Elections</b>												
CV	0.031 (0.017) [0.114]	0.017 (0.111) [0.854]	0.020 (0.033) [0.590]	0.059 (0.100) [0.564]	0.008 (0.037) [0.828]	-0.006 (0.119) [0.976]	-0.003 (0.049) [0.922]	0.035 (0.092) [0.682]	-0.003 (0.027) [0.940]	-0.002 (0.024) [0.970]	0.005 (0.016) [0.738]	
R Squared	0.993	0.956	0.984	0.981	0.964	0.869	0.928	0.954	0.564	0.777	0.874	
<b>Panel B: State Elections</b>												
CV	-0.019 (0.037) [0.538]	-0.174 (0.107) [0.102]	0.040 (0.029) [0.258]	-0.025 (0.099) [0.774]	0.023 (0.058) [0.734]	-0.132 (0.118) [0.330]	0.082 (0.058) [0.220]	0.017 (0.086) [0.826]	-0.043* (0.022) [0.040]	0.036 (0.022) [0.182]	0.007 (0.017) [0.654]	
R Squared	0.993	0.957	0.984	0.981	0.964	0.870	0.929	0.954	0.574	0.782	0.874	
Observations	297	297	297	297	297	297	297	297	297	297	297	
Mean Dep. Variable	7.587	6.161	7.048	5.644	-5.939	-7.365	-6.479	-7.883	0.249	0.592	0.159	

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state trends. An observation in these regressions is a state-year, and the sample is composed of all the years in 1980-2012. The dependent variable is yearly (current) spending by the state government, and the independent variable in Panels A and B is whether voting in the corresponding electoral period was compulsory for parliamentary or state elections, respectively. Spending totals and spending for each subcategory (administrative, welfare, and infrastructure) is in logs in columns (1)-(4) and in per capita logs in columns (5)-(8). Yearly spending for each subcategory is expressed as a percentage of total state spending in columns (9)-(11).



Table 5: Effect of the 1992 Elimination of CV on Turnout, Invalid Votes, and Spending

	Turnout (%)	Invalid Votes (%)	Total Exp. (in logs)	Admin. Exp. (in logs)	Welfare Exp. (in logs)	Infrastr. Exp. (in logs)
CV	0.098*** (0.014) [0.148]	0.013** (0.004) [0.806]	-0.006 (0.066) [0.296]	0.070 (0.047) [0.426]	-0.089 (0.063) [0.442]	0.104 (0.191) [0.506]
Observations	72	72	234	234	234	234
R Squared	0.921	0.723	0.985	0.939	0.971	0.957
Mean Dep. Variable	0.835	0.020	7.768	6.348	7.227	5.805

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state trends. An observation is a state-election in columns (1)-(2) and a state-year in columns (3)-(6). The sample includes all parliamentary elections held in 1986-2008 in columns (1)-(2), and yearly state-level spending for 1986-2012 in columns (3)-(6). Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of ballots considered invalid. Current spending in total and for each subcategory (administrative, welfare, and infrastructure) is in logs. CV is a dummy for whether voting was compulsory in the corresponding parliamentary elections in columns (1)-(2), and a dummy for whether voting in parliamentary elections was compulsory in the corresponding electoral period in columns (3)-(6).

Table 6: Robustness Check: Effect of CV on Turnout and Invalid Votes

	Turnout (%)	Invalid Votes (%)
CV (t+1) * Parliamentary	-0.017 (0.020) [0.410]	-0.000 (0.005) [0.920]
CV (t) * Parliamentary	0.098** (0.037) [0.008]	0.009 (0.007) [0.218]
CV (t-1) * Parliamentary	-0.011 (0.020) [0.642]	0.003 (0.003) [0.342]
CV (t+1) * State	-0.003 (0.014) [0.888]	0.001 (0.008) [0.890]
CV (t) * State	0.109* (0.049) [0.020]	0.018* (0.008) [0.066]
CV (t-1) * State	-0.017 (0.055) [0.700]	-0.007 (0.004) [0.254]
CV (t+1) * Presidential	-0.026* (0.012) [0.016]	-0.003 (0.006) [0.622]
CV (t) * Presidential	0.078*** (0.017) [0.000]	0.012* (0.006) [0.028]
CV (t-1) * Presidential	-0.028 (0.017) [0.266]	-0.001 (0.004) [0.756]
Observations	388	391
R Squared	0.935	0.853
Mean Dep. Variable (if CV=0)	0.848	0.019

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, linear state-specific election trends, and election type dummies. An observation in these regressions is a state-election, and the sample includes all parliamentary, state, and presidential elections in 1949-2010. Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of ballots considered invalid. CV dummies and their lags and leads indicate whether voting was mandatory in a state and election.

Table 7: Robustness Check: Effect of CV on Expenditures

	Log-Levels				Log-Per Capita				% of Total		
	Total	Admin.	Welfare	Infrastr.	Total	Admin.	Welfare	Infrastr.	Admin.	Welfare	Infrastr.
<b>Panel A: Parliamentary Elections</b>											
CV (t+1)	0.017 (0.047) [0.772]	-0.071 (0.142) [0.614]	0.070 (0.079) [0.480]	0.079 (0.140) [0.598]	-0.021 (0.072) [0.734]	-0.109 (0.148) [0.470]	0.032 (0.103) [0.832]	0.042 (0.133) [0.778]	-0.028 (0.037) [0.562]	0.029 (0.039) [0.568]	-0.001 (0.026) [0.960]
CV (t)	-0.011 (0.018) [0.418]	-0.021 (0.117) [0.794]	-0.023 (0.021) [0.550]	0.013 (0.060) [0.764]	-0.008 (0.022) [0.618]	-0.018 (0.121) [0.804]	-0.019 (0.017) [0.300]	0.017 (0.055) [0.678]	-0.002 (0.027) [0.944]	-0.006 (0.022) [0.718]	0.007 (0.007) [0.266]
CV (t-1)	0.064 (0.035) [0.142]	0.097 (0.170) [0.516]	0.042 (0.047) [0.606]	0.042 (0.081) [0.562]	0.036 (0.027) [0.116]	0.068 (0.151) [0.592]	0.013 (0.060) [0.834]	0.013 (0.082) [0.850]	0.010 (0.038) [0.774]	-0.006 (0.035) [0.832]	-0.004 (0.015) [0.832]
R Squared	0.993	0.956	0.984	0.981	0.964	0.870	0.929	0.954	0.568	0.779	0.874
<b>Panel B: State Elections</b>											
CV (t+1)	0.019 (0.046) [0.696]	-0.058 (0.127) [0.768]	0.039 (0.091) [0.762]	-0.026 (0.081) [0.702]	0.023 (0.049) [0.644]	-0.053 (0.131) [0.754]	0.043 (0.093) [0.740]	-0.022 (0.074) [0.726]	-0.018 (0.039) [0.912]	0.026 (0.037) [0.936]	-0.008 (0.010) [0.436]
CV (t)	-0.020 (0.039) [0.620]	-0.172 (0.098) [0.158]	0.038 (0.025) [0.154]	-0.025 (0.098) [0.824]	0.022 (0.057) [0.648]	-0.130 (0.110) [0.382]	0.080 (0.053) [0.138]	0.017 (0.086) [0.772]	-0.042* (0.019) [0.052]	0.035* (0.018) [0.126]	0.007 (0.017) [0.648]
CV (t-1)	0.001 (0.061) [0.938]	-0.022 (0.151) [0.890]	-0.015 (0.105) [0.986]	-0.063 (0.129) [0.660]	-0.001 (0.074) [0.988]	-0.024 (0.171) [0.926]	-0.017 (0.104) [0.978]	-0.064 (0.127) [0.684]	-0.002 (0.033) [0.910]	-0.002 (0.038) [0.968]	0.003 (0.024) [0.890]
R Squared	0.993	0.957	0.984	0.981	0.964	0.871	0.930	0.954	0.576	0.784	0.874
Observations	297	297	297	297	297	297	297	297	297	297	297
Mean Dep. Variable	7.587	6.161	7.048	5.644	-5.939	-7.365	-6.479	-7.883	0.249	0.592	0.159

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects and linear state trends. An observation in these regressions is a state-year, and the sample is composed of all the years in 1980-2012. The dependent variable is yearly (current) spending by the state government, and the independent variables in Panels A and B are whether voting in the corresponding, past, or future electoral period was compulsory for parliamentary or state elections, respectively. Spending totals and spending in the subcategory (administrative, welfare, and infrastructure) is in logs in columns (1)-(4) and in per capita logs in columns (5)-(8). Yearly spending for each subcategory is expressed as a percentage of total state spending in columns (9)-(11).

Table 8: Effect of CV on Political Competition (1949-2010)

	Left (%)	Right (%)	Num. of Parties	Share Winner (%)	Margin of Victory
<b>Panel A: Parliamentary Elections</b>					
CV	-0.014 (0.010) [0.102]	0.014 (0.017) [0.424]	0.428 (0.337) [0.314]	0.015 (0.018) [0.264]	0.029 (0.025) [0.102]
Observations	171	171	171	171	171
R Squared	0.984	0.924	0.967	0.889	0.768
Mean Dep. Variable	0.400	0.515	6.959	0.465	0.120
<b>Panel B: State Elections</b>					
CV	0.035 (0.046) [0.590]	0.001 (0.038) [0.992]	-0.051 (0.514) [0.862]	0.014 (0.036) [0.628]	0.004 (0.044) [0.950]
Observations	121	121	121	121	121
R Squared	0.967	0.915	0.823	0.870	0.790
Mean Dep. Variable	0.393	0.535	5.975	0.494	0.101

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state election trends. An observation in these regressions is a state-election. The sample in Panels A and B includes all parliamentary and state elections in 1949-2010, respectively. Vote shares for the left and right are the percentage of valid votes that went to SPÖ + KPÖ and ÖVP + FPÖ, respectively. Number of parties is the number of parties participating in each election and state. The vote share of the winner is the percentage of valid votes obtained by the highest ranking party in each state, and margin of victory is the difference in vote shares between the highest ranking party and the runner-up. CV is a dummy for whether voting was mandatory in the state in that particular election.

Table 9: Effect of CV on Voter Composition

Dependent Variable: Voted in Last Parliamentary Elections				
<b>1) Effect of CV on Turnout</b>				
CV	0.058**			
	(0.023)			
<b>2) Gender</b>				
Female * CV	0.055**			
	(0.027)			
<b>3) Educational Attainment</b>				
Compulsory Schooling * CV	0.060**			
	(0.024)			
Vocational High School * CV	0.050			
	(0.042)			
Academic High School or College * CV	0.059			
	(0.036)			
<b>4) Income Quartile</b>				
Income Q1 * CV	0.060*			
	(0.035)			
Income Q2 * CV	0.069**			
	(0.035)			
Income Q3 * CV	0.032			
	(0.037)			
Income Q4 * CV	0.035			
	(0.040)			
Observations	3,440	3,440	3,440	2,682
R Squared	0.093	0.093	0.888	0.895

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Robust standard errors reported in parentheses. All regressions control for age, age squared, gender, educational attainment, parents' education, working status, household size, community size, state fixed effects, and survey year fixed effects. The sample includes all individuals in the 1986 and 2003 Austrian Social Survey who reported whether they voted in the last parliamentary elections (1983 and 2002) and were eligible to vote. The dependent variable in all regressions is a dummy for whether the individual voted in the previous parliamentary elections, and CV is a dummy for whether voting was compulsory for that election in the individual's state of residence. Regression in Panel 2 includes compulsory voting and female dummies, but we only report their interaction. For regression 3 we separated individuals into three educational categories according to their maximum educational attainment. For regression 4 we calculated individual's equalized income by dividing the mid-point of the category in which their household income fell with respect to the equalized household size, and separated the survey respondents into quartiles for each wave. Regressions in Panels 3)-4) omit the constant, and include the full set of schooling and income quartile dummies, although we only report the interaction terms.

Table 10: Effect of CV on Voter Composition

Dependent Variable: Voted in Last Parliamentary Elections				
<b>5) Self-Reported Political Preference</b>				
Left * CV	0.032			
	(0.024)			
Right * CV	0.016			
	(0.025)			
Minor Parties * CV	-0.049			
	(0.163)			
No Party Preference * CV	0.142***			
	(0.046)			
<b>6) Party Membership</b>				
Not Party Member * CV		0.084***		
		(0.026)		
<b>7) Interest in Politics</b>				
Uninterested * CV			0.100***	
			(0.029)	
Mildly Interested * CV			0.040	
			(0.026)	
Very Interested * CV			-0.022	
			(0.036)	
<b>8) Informed. vs Uninformed Citizens</b>				
Uninformed * CV				0.042
				(0.028)
Observations	3,387	3,437	3,411	3,421
R Squared	0.898	0.891	0.104	0.095

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Robust standard errors reported in parentheses. All regressions control for age, age squared, gender, educational attainment, parents' education, working status, household size, community size, state fixed effects, and survey year fixed effects. The sample includes all individuals in the 1986 and 2003 Austrian Social Survey who reported whether they voted in the last parliamentary elections (1983 and 2002) and were eligible to vote. The dependent variable in all regressions is a dummy for whether the individual voted in the previous parliamentary elections, and CV is a dummy for whether voting was compulsory for that election in the individual's state of residence. Regression in Panels 6 (8) include the compulsory voting dummy and a dummy for whether the individual is not affiliated with a political party (doesn't read the newspaper regularly), but we only report their interaction. For regression 5 we separated individuals into four categories according to their political preferences (left if SPÖ or KPÖ, right if ÖVP or FPÖ, no party preference if the respondent doesn't identify with any party, and minor parties otherwise). For regression 7 individuals are separated into three categories according to whether they manifest to be uninterested, mildly, or very interested in politics. Regressions in Panels 5) and 7) omit the constant, and include the full set of political preference and interest in politics dummies, although we only report the interaction terms.

## Appendix A Tables (Not intended for publication)

Table B.1: Effect of CV on Turnout and Invalid Votes (1979-2010)

	Parliamentary	State	Presidential	Pooled
<b>Panel A: Turnout (%) as Dependent Variable</b>				
CV	0.045** (0.017) [0.046]	0.125 (0.096) [0.015]	0.110*** (0.024) [0.000]	
CV * Parliamentary				0.085** (0.028) [0.000]
CV * State				0.124*** (0.037) [0.006]
CV * Presidential				0.108*** (0.024) [0.000]
Observations	90	61	71	222
R Squared	0.945	0.964	0.974	0.999
Mean Turnout (if CV=0)	0.838	0.775	0.763	0.800
<b>Panel B: Invalid Votes (%) as Dependent Variable</b>				
Compulsory Voting	0.009** (0.003) [ 0.774]	0.020** (0.006) [ 0.079]	0.020** (0.007) [0.010]	
CV * Parliamentary				0.007 (0.006) [0.252]
CV * State				0.019* (0.009) [0.076]
CV * Presidential				0.021** (0.008) [0.006]
Observations	90	61	72	223
R Squared	0.718	0.791	0.820	0.960
Mean Invalid Votes (if CV=0)	0.017	0.020	0.038	0.023

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects and linear state election trends. An observation in these regressions is a state-election. The sample in columns (1)-(3) includes all parliamentary, state, and presidential elections in 1979-2010, respectively. The pooled regressions in column (4) include the elections of all three types in 1979-2010, with their corresponding election type dummies. Turnout measures the percentage of registered voters who issued a vote, and invalid votes is the proportion of ballots considered invalid. C is a dummy for whether voting was mandatory in the state and election.



Table B.2: Effect of Presidential CV on Expenditures (1980-2012)

	Log-Levels			Log-Per Capita			% of Total				
	Total	Admin.	Welfare	Infrastr.	Total	Admin.	Welfare	Infrastr.	Admin.	Welfare	Infrastr.
CV	-0.016 (0.037) [0.616]	-0.031 (0.086) [0.712]	-0.020 (0.052) [0.714]	-0.086 (0.097) [0.340]	0.023 (0.051) [0.776]	0.007 (0.091) [0.942]	0.018 (0.069) [0.870]	-0.048 (0.095) [0.572]	-0.001 (0.020) [0.998]	0.001 (0.022) [0.974]	-0.000 (0.017) [0.984]
R Squared	0.993	0.956	0.984	0.982	0.964	0.869	0.929	0.954	0.563	0.777	0.874
Observations	297	297	297	297	297	297	297	297	297	297	297
Mean Dep. Variable	7.587	6.161	7.048	5.644	-5.939	-7.365	-6.479	-7.883	0.249	0.592	0.159

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state trends. An observation in these regressions is a state-year, and the sample is composed of all the years in 1980-2012. The dependent variable is yearly (current) spending by the state government, and the independent variable is whether voting in the corresponding electoral period was compulsory for presidential elections. Spending totals and spending for each subcategory (administrative, welfare, and infrastructure) is in logs in columns (1)-(4) and in per capita logs in columns (5)-(8). Yearly spending for each subcategory is expressed as a percentage of total state spending in columns (9)-(11).

Table B.3: Instrumental Variables Regression: Effect of Turnout on Expenditures (1980-2012)

	Log-Levels			Log-Per Capita			% of Total				
	Total	Admin.	Welfare	Infrastr.	Total	Admin.	Welfare	Infrastr.	Admin.	Welfare	Infrastr.
<b>Panel A: Parliamentary Elections</b>											
Turnout (%)	0.556 (0.448) [0.182]	0.310 (2.025) [0.854]	0.356 (0.592) [0.574]	1.045 (1.759) [0.558]	0.138 (0.703) [0.836]	-0.108 (2.103) [0.976]	-0.062 (0.863) [0.922]	0.627 (1.658) [0.682]	-0.058 (0.469) [0.940]	-0.029 (0.430) [0.970]	0.087 (0.291) [0.732]
R Squared	0.993	0.956	0.984	0.981	0.964	0.869	0.928	0.954	0.564	0.777	0.874
<b>Panel B: State Elections</b>											
Turnout (%)	-0.141 (0.261) [0.634]	-1.277 (0.811) [0.110]	0.292 (0.236) [0.192]	-0.186 (0.702) [0.800]	0.170 (0.414) [0.642]	-0.966 (0.932) [0.366]	0.603 (0.377) [0.164]	0.126 (0.636) [0.768]	-0.315* (0.174) [0.076]	0.263 (0.169) [0.132]	0.051 (0.127) [0.656]
R Squared	0.993	0.952	0.983	0.981	0.964	0.861	0.923	0.954	0.513	0.750	0.873
Observations	297	297	297	297	297	297	297	297	297	297	297
Mean Dep. Variable	7.587	6.161	7.048	5.644	-5.939	-7.365	-6.479	-7.883	0.249	0.592	0.159

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state trends. An observation in these regressions is a state-year, and the sample is composed of all the years in 1980-2012. The dependent variable is yearly (current) spending by the state government, and the independent variable in Panels A, B, and C is turnout in the parliamentary, state, and presidential elections for the corresponding electoral period, respectively. Spending totals and spending for each subcategory (administrative, welfare, and infrastructure) is in logs in columns (1)-(4) and in per capita logs in columns (5)-(8). Yearly spending for each subcategory (administrative, welfare, and infrastructure) is expressed as a percentage of total state spending in columns (9)-(11). All equations are estimated using an instrumental variables regression. Turnout measures the percentage of registered voters who issued a vote, and is instrumented with a dummy for whether voting was mandatory in the state and electoral period.

Table B.4: Effect of CV on Political Competition (1979-2010)

	Left (%)	Right (%)	Num. of Parties	Share Winner (%)	Margin of Victory
<b>Panel A: Parliamentary Elections</b>					
CV	-0.020** (0.007) [0.024]	0.013 (0.025) [0.848]	-0.091 (0.522) [0.892]	0.005 (0.016) [0.732]	0.034 (0.031) [0.256]
Observations	90	90	90	90	90
R Squared	0.993	0.900	0.982	0.886	0.712
Mean Dep. Variable	0.379	0.506	8.722	0.425	0.107
<b>Panel B: State Elections</b>					
CV	0.047 (0.033) [0.057]	-0.017 (0.028) [0.045]	-0.538 (0.625) [0.005]	-0.009 (0.043) [0.789]	0.079 (0.043) [0.263]
Observations	61	61	61	61	61
R Squared	0.990	0.920	0.821	0.910	0.927
Mean Dep. Variable	0.363	0.549	6.607	0.478	0.106

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state election trends. An observation in these regressions is a state-election. The sample in Panels A and B includes all parliamentary elections and state elections in 1979-2010, respectively. Vote shares for the left and right are the percentage of valid votes that went to SPÖ + KPÖ and ÖVP + FPÖ, respectively. Number of parties is the number of parties participating in each election and state. The vote share of the winner is the percentage of valid votes obtained by the highest ranking party in each state, and margin of victory is the difference in vote shares between the highest ranking party and the runner-up. CV is a dummy for whether voting was mandatory in the state in that particular election.

Table B.5: Instrumental Variables Regression: Effect of Turnout on Political Competition (1949-2010)

	Left (%)	Right (%)	Num. of Parties	Share Winner (%)	Margin of Victory
<b>Panel A: Parliamentary Elections</b>					
Turnout (%)	-0.221 (0.170) [0.106]	0.270 (0.299) [0.442]	6.333 (6.921) [0.366]	0.302 (0.237) [0.208]	0.609* (0.291) [0.074]
Observations	171	171	171	171	171
R Squared	0.983	0.922	0.965	0.879	0.750
Mean Dep. Variable	0.400	0.515	6.959	0.465	0.120
<b>Panel B: State Elections</b>					
Turnout (%)	0.203 (0.233) [0.584]	0.005 (0.224) [0.992]	-0.303 (2.982) [0.862]	0.081 (0.226) [0.642]	0.021 (0.262) [0.950]
Observations	121	121	121	121	121
R Squared	0.965	0.915	0.823	0.862	0.790
Mean Dep. Variable	0.393	0.535	5.975	0.494	0.101

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Clustered standard errors are reported in parentheses, and cluster-robust wild-bootstrap p-values in square brackets. All regressions control for state population and unemployment rate, and include state fixed effects, year fixed effects, and linear state election trends. An observation in these regressions is a state-election. The sample in Panels A and B includes all parliamentary elections and state elections in 1949-2010, respectively. Vote shares for the left and right are the percentage of valid votes that went to SPÖ + KPÖ and ÖVP + FPÖ, respectively. Number of parties is the number of parties participating in each election and state. The vote share of the winner is the percentage of valid votes obtained by the highest ranking party in each state, and margin of victory is the difference in vote shares between the highest ranking party and the runner-up. All equations are estimated using an instrumental variables regression. Turnout measures the percentage of registered voters who issued a vote, and is instrumented with a dummy for whether voting was mandatory in the state and election.

## Appendix B Compulsory voting in Austria in the pre-war period

The debate concerning the introduction of CV in Austria goes back to the enfranchisement of women in 1918. Conservative parties feared that their women supporters would not be as politically active and easy to mobilize as women who supported the social democrats, who had advocated for universal voting rights in the first place. CV was therefore seen as an instrument for conserving their power. Informal accounts mention that during the debates regarding the implementation of CV, conservatives put forward the argument that participation in political decisions and public life was not only a right but a duty of every citizen.<sup>48</sup> Social democrats were against its implementation, and thus a compromise was reached, leaving the prerogative of instating mandatory voting to the states. In 1919, before the elections for the Constituent National Assembly, provisions for CV were made in Vorarlberg and Tyrol.<sup>49</sup> When the 1920 constitution was amended in December 1929, it became up to each state to decide whether voting was compulsory or not in national parliament and state parliament elections.<sup>50</sup>

The 1920 constitution, which was parliamentary in nature, underwent other important changes in 1929. The responsibilities of the president were broadened, and the election of the president became determined by popular vote rather than by decision of the members of the legislature. Furthermore, voting in presidential elections became mandatory in the whole country.<sup>51</sup> Although the first election was supposed to occur in 1931, due to the worldwide economic depression, political parties decided to suspend the elections and reelect the incumbent president. In May 1934, the fascist ruling party repealed the 1929 constitution, but after WWII, in May 1945, the 1920 constitution (with its 1929 amendments) was reinstated. Thus, both the country-wide provisions for mandatory voting in presidential elections and the state-determined CV in national parliament and state parliament elections were restored. In

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<sup>48</sup><http://www.onb.ac.at/ariadne/projekte/frauenwaehlet/Raum07.html>, last accessed April 19, 2015

<sup>49</sup><http://www.parlament.gv.at/PERK/HIS/WAHL/REGEL/index.shtml>, last accessed April 19, 2015.

<sup>50</sup>Federal Constitution of December 1929 (B-VG) Articles 26 (1) and 95 (1)-(2).

<sup>51</sup>Federal Constitution of December 1929 (B-VG) Article 60 (1).

spite of this, and probably due to the post-war chaos, the 1945 national and state parliament elections were carried out according to a national law made specifically for this election.<sup>52</sup> Thus, voting in the 1945 elections was optional for individuals in all states, including Tyrol and Vorarlberg. Only in the next election for national and state parliament, both held in 1949, did Vorarlberg and Tyrol re-implement CV. Furthermore, the state of Styria also enacted its own CV law for these elections.<sup>53</sup>

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<sup>52</sup>Election Law 198 (Wahlgesetz) from October 1945.

<sup>53</sup>Styria Law 30 from July 11, 1949.