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ORIGINAL ARTICLE

# Is compulsory voting a solution to low and declining turnout? Cross-national evidence since 1945

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**Abstract**

Despite the substantial body of research on compulsory voting's (CV) relationship with turnout, much remains unknown about the role of different types of CV rules, their enforcement, and their ability to prevent the secular turnout decline observed around the world. Moreover, existing studies that leverage changes to CV laws are limited to a single country. We assemble rich new data on voter turnout and electoral legislation that, we believe, include the most accurate and extensive cross-national measure of CV to date. We test three theoretically derived hypotheses: that CV enforcement matters for participation; that enforcement's effect is conditioned by state capacity; and that, only when CV is enforced, will it mitigate voter turnout's post-1970 tendency to decline. We find support for each. We also find that the nature of sanctions for non-voting is irrelevant for participation.

**Keywords:** Comparative politics: elections and campaigns; political institutions; political participation and turnout; voting behavior

A key and unsurprising correlate of compulsory voting (CV) is elevated voter turnout. Evidence of this dates back nearly a century and comes from a variety of empirical approaches (for reviews, see Birch (2009) and Singh (2021)). Still, much remains unknown about the extent to which different types of mandatory rules boost participation and whether states' ability to enforce penalties might matter. It is also unclear whether CV can prevent long-term declines in participation rates. This is an important question since shifts in turnout can affect electoral outcomes, representation, and political equality (see Blais *et al.*, 2020 for a review).

With a focus on both breadth and intra-country changes to CV laws, we assembled a new data set on voter turnout and CV. Our data cover over 1400 elections in 116 countries over the years 1945–2017. In creating our data set, we reviewed contemporary and historical documents, legislation, and constitutions to create what we believe is the most accurate and extensive measure of CV to date. There are a total of 26 countries that used CV in at least one election in our data set and 11 countries that experienced a switch to or away from CV within our time period.

We subject three theoretically derived hypotheses to our data. The first predicts that the positive impact of CV on turnout will be biggest where there are enforced legal sanctions for abstention. The second puts forth that sanctioned CV is most effectual where the state acts as a credible administrator that will actually implement sanctions for non-voting. Our final hypothesis is that the long-term secular decline in voter turnout observed in much of the democratic world can be mitigated only by enforced sanctions for abstention.

Using a variety of empirical approaches, we find support for each of our hypotheses. First, we show that CV without enforced sanctions increases turnout by about 7.5–10 points, as a percentage of registered voters, and that CV with enforced legal sanctions boosts turnout by a sizeable 14.5–18.5 points. These findings do not just confirm the unsurprising positive impact of CV in turnout; they demonstrate that this impact is remarkably large, even where citizens face little prospect of being fined for non-participation. Second, we find that the state's ability to carry out the administration of fines is a key factor when there are legal penalties for abstention. Thus, compulsory rules are most effectual where there are legal sanctions *and* the state can credibly identify and punish non-voters. Finally, we find that, while electoral participation has not declined over time in countries with enforced CV sanctions, *un*enforced CV does not arrest ongoing declines in voter turnout. Thus, unenforced CV can 'shift the intercept,' increasing the turnout rate relative to countries with voluntary voting over time, but it does not prevent the secular decline in participation.

## Background, theory, and expectations

Several dozen previous studies, which we summarize in Table 1, have sought to estimate the impact of CV on turnout across countries. This body of work is nearly unanimous in finding that voter participation tends to be higher where it is legally required. However, prior cross-country studies rely on coarse measures of CV, they rarely take seriously the challenges inherent to demonstrating causation, and they generally ignore intertemporal patterns.

Panagopoulos (2008) provides the first rigorous consideration of how qualitative variation in CV laws may affect their influence on turnout, recognizing that utility-maximizing citizens will participate only if the expected benefits exceed the expected costs of doing so. Enforced CV alters the result of this calculation by effectively imposing a "negative cost" of voting (Colomer, 1991). A voter avoids a penalty by participating and thus decides to vote even if the act of voting entails some costs of its own.

In line with his model, Panagopoulos finds that CV is ineffectual where there is no enforcement but that it robustly increases turnout where non-voters are likely to receive a meaningful punishment. The finding that CV has the biggest impact on turnout where non-voters are most likely to be non-trivially sanctioned is consistent with one earlier (Fornos *et al.*, 2004) and several subsequent (e.g., Birch, 2009; Singh, 2011; Dassonneville and Hooghe, 2017) studies.

However, laws may also have an "expressive function" wherein they affect societal norms and shape citizens' behavior by altering perceptions of what others approve or disapprove (e.g., Sunstein, 1996). As such, cost-benefit calculations about the expected benefits of shirking the law versus the consequences of being caught doing so may not alone predict compliance. Feitosa *et al.* (2020) find that CV can engender in citizens a sense of civic duty, which is itself a strong motivator of electoral participation (Riker and Ordeshook, 1968). As such, unenforced CV should boost turnout.

Still, not all citizens will feel or act upon a sense of duty to vote, and CV may actually reinforce counter-participatory attitudes among those opposed to electoral democracy (Singh, 2018). Therefore, it cannot be taken as a given that "toothless" CV laws will be as effective as the enforced variety. Instead, anticipation of legal sanctions for non-voting will further increase the efficaciousness of mandatory voting rules. As shown by Blais and Achen (2019), cost-benefit calculations shape the turnout decision for those who do not feel an intrinsic duty to vote. For these individuals, enforced CV can shift expected utility in favor of showing up to the polls.

In short, in places with CV but no sanctions for abstention, many people participate merely because they feel a duty to obey the law or align with norms. In places with enforced sanctions for non-voting, even those who feel no intrinsic motivation to vote are more likely to turn out to the polls due to the threat of a penalty. Based on this reasoning, we advance our first hypothesis:

**Table 1.** Cross-national studies that have estimated the effect of compulsory voting on turnout

| Author(s) (year) | Data level | Region | Positive effect? | Accounts for levels of CV? | Escalatory effect? |
|---|---|---|---|---|---|
| Tingsten (1937) | Aggregate | Europe | Yes | No | – |
| Powell (1980) | Aggregate | Global | Yes | No | – |
| Crewe (1981) | Aggregate | Global | Yes | No | – |
| Powell (1982) | Aggregate | Global | Yes | No | – |
| Powell and Bingham (1986) | Aggregate | Advanced democracies | Yes | No | – |
| Jackman (1987) | Aggregate | Advanced democracies | Yes | No | – |
| Colomer (1991) | Aggregate | Advanced democracies | Yes | No | – |
| Kaempfer and Lowenberg (1993) | Aggregate | Global | No | No | – |
| Jackman and Miller (1995) | Aggregate | Advanced democracies | Yes | No | – |
| Oppenhuis (1995) | Both | Europe | Yes | No | – |
| Franklin (1996) | Aggregate | Global | Yes | No | – |
| Franklin *et al.* (1996) | Individual | Europe | Yes | No | – |
| Katz (1997) | Aggregate | Global | Yes | No | – |
| Blais and Dobrzynska (1998) | Aggregate | Global | Yes | No | – |
| Franklin (1999) | Individual | Europe | Yes | No | – |
| Blais (2000) | Aggregate | Global | Yes | No | – |
| Franklin (2001) | Aggregate | Europe | Yes | No | – |
| Pérez-Liñán (2001) | Aggregate | Latin America | Yes | No | – |
| Franklin (2002) | Aggregate | Global | Yes | No | – |
| Norris (2002) | Aggregate | Global | No | No | – |
| Perea (2002) | Both | Europe | Yes | No | – |
| Siaroff and Merer (2002) | Aggregate | Europe | Yes | No | – |
| Fornos *et al.* (2004) | Aggregate | Latin America | Yes | Yes | Yes |
| Franklin *et al.* (2004) | Aggregate | Advanced democracies | Yes | No | – |
| Norris (2004) | Aggregate | Global | Mixed† | No | – |
| Schraufnagel and Sgouraki (2005) | Aggregate | Latin America | Yes | No | – |
| Geys (2006)* | Aggregate | Global | Yes | No | – |
| Flickinger and Studlar (2007) | Aggregate | Europe | Yes | No | – |
| Endersby and Krieckhaus (2008) | Aggregate | Global | Yes | No | – |
| Panagopoulos (2008) | Aggregate | Global | Yes | Yes | Yes |
| Birch (2009) | Aggregate | Global | Yes | Yes | Yes |
| Dettrey and Schwindt-Bayer (2009) | Aggregate | Global | Yes | Yes | Yes |
| Franklin and Hobolt (2011) | Both | Europe | Yes | No | – |
| Quintelier *et al.* (2011) | Individual | Global | Yes | Yes | Yes |
| Singh (2011) | Individual | Global | Yes | Yes | Yes |
| Söderlund *et al.* (2011) | Individual | Europe | Yes | No | – |
| Rose and Borz (2013) | Individual | Europe | Yes | Yes | Yes |
| Smets and van Ham (2013)* | Individual | Global | Yes | No | – |
| Carreras and Castañeda-Angarita (2014) | Individual | Latin America | Yes | Yes | Yes |
| Gallego (2015) | Individual | Global | Yes | No | – |
| Singh (2015) | Individual | Global | Yes | Yes | Yes |
| Cancela and Geys (2016)* | Aggregate | Global | Yes | No | – |
| Martínez i Coma (2016) | Aggregate | Global | Mixed† | No | – |
| Dassonneville and Hooghe (2017) | Individual | Global | Yes | Yes | Yes |
| Kostelka (2017) | Aggregate | Global | Yes | Yes | Yes |
| Stockemer (2017)* | Aggregate | Global | Yes | Yes | Yes |
| Frank and Martínez i Coma (Forthcoming)* | Aggregate | Global | Yes | No | – |

The studies listed in this table are limited to English-language cross-national studies that have employed compulsory voting as a theoretical independent variable (rather than a control) and meta analyses. "Data level" can be individual (survey data) or aggregate (official turnout statistics). "Accounts for levels of CV?" refers to whether the study uses multiple categories to account for variation in the use of enforcement and sanctions. "Escalatory effect?" refers to whether the study found that CV's influence is stronger where sanctions and/or enforcement are steeper. *Meta-analysis. †Study finds a positive impact of CV in full democracies but not elsewhere.

HYPOTHESIS 1: Compulsory voting increases turnout, especially where there exist legally enforced sanctions for abstention.

Even in places with legally enforced sanctions for non-voting, there is variation in the extent to which an abstainer may worry about being penalized. While previous research has acknowledged

variation in enforcement probability, associated empirical tests typically rely on a subjective ordinal measurement scheme that conflates penalty severity and the likelihood of prosecution. We instead recognize that much of the variance in enforcement likelihood is due to differences in state capacity.

Where state capacity is weak, nominally enforced CV laws may fail to compel the less dutiful to the polls. Low-capacity states are often unable to routinely collect fines or enforce non-monetary penalties. With regard to executing legal sanctions for abstention, states with weak capacity may falter because the register of enfranchised citizens has gaps or because enforcing agencies are understaffed or overworked (see Malkopoulou, 2015 for a historical review).

Citizens who are disinclined to turn out will be aware of state impotence based on their prior interactions with the governing apparatus and may thus feel safe abstaining. Alternatively, where state capacity is strong, it is more likely that authorities will be able to find, contact, and punish abstainers. Here, the negative costs of voting are largest. Thus, for those who lack an intrinsic motivation to obey the legal requirement to vote, the palpable threat of being caught and sanctioned will serve to powerfully tip the result of the expected utility calculation toward participation. From this, we advance our second hypothesis:

HYPOTHESIS 2: Legally enforced sanctions for abstention will most sharply increase turnout where state capacity is robust.

Finally, we consider whether, as suggested by Lijphart (1997), CV can prevent the decades-long secular decline in turnout present throughout much of the democratic world. Lijphart implies that electoral compulsion may alter the logic of electoral participation. A legal requirement to vote increases the psychological and, potentially, material costs of electoral abstention independently of election context and voters' characteristics. Following Lijphart's intuition, whatever the causes of the global long-term decline in turnout, these should be less potent in countries with CV.

We are skeptical that CV without enforced sanctions can, simply by virtue of being law, induce in the public an enduring participatory norm. Using careful synthetic control and difference-in-differences designs, Bechtel *et al.* (2018), Ferwerda (2014), and Gaebler *et al.* (2020) find that CV had no enduring impact on societal turnout norms in Swiss cantons or Austrian states. Employing regression discontinuity models that leverage exogenous age-based eligibilities for CV in Brazil, Dunaiski (2021); Holbein and Rangel (2020) find no evidence that CV engenders civic engagement or a "habit" of voting. Numerous other studies (e.g., Irwin, 1974; Hirczy, 1994; Funk, 2007; Birch, 2009; Barnes and R, 2014; Dassonneville *et al.*, 2017) show that turnout drops sharply after the removal of CV. In Australia and Belgium, which both have deeply entrenched CV regimes, a sizeable portion of survey respondents report that they would stop voting if it were made optional (Hooghe and Pelleriaux, 1998; Mackerras and McAllister, 1999; Selb and Lachat, 2009), and many survey takers are antagonistic toward the voting requirement (Singh, 2021, chp. 4). This further suggests that obligatory voting does not instill a culture of participation. Thus, any initial boost in turnout created by CV is susceptible to deterioration with the passage of time.

There must be at least some threat of punishment for abstention if CV is to prevent turnout declines. Even if participatory norms deteriorate, the alteration to the utility calculation induced by enforced sanctions for non-voting should be enough to keep turnout high. That is, people will keep turning out whether or not they are intrinsically motivated to do so for fear of being penalized. In hypothesis form, our final expectation is:

HYPOTHESIS 3: Temporal declines in voter turnout are absent only where there exist legally enforced sanctions for abstention.

## Data and methods

We compiled an original data set of 1421 democratic national elections that were held between 1945 and 2017. This includes first-round presidential and legislative elections for country-years in which Polity IV $\geq 6$ (Marshall, 2017).[1] These are time-series cross-section data, and, unless stated otherwise, the following analyses thus apply country fixed effects and country-clustered standard errors.[2] The dependent variable in all our analyses is voter turnout, which is measured as percentage of registered voters that cast a ballot.[3]

The key independent variables for testing Hypothesis 1 are unsanctioned CV (*CV Unsanctioned*) and sanctioned CV (*CV Sanctioned*). These binary predictors were carefully coded using both primary (national legislation and constitutions) and secondary sources. The Electronic Appendix lists the sources and provides a brief discussion of major reforms in CV during the period under study. *CV Unsanctioned* takes a value of 1 when electoral law stipulates that voting is compulsory, but sanctions for non-compliance, should they exist, are never enforced.[4] *CV Sanctioned* is coded as 1 when two conditions are met. First, there are some legal sanctions for abstention. Second, the state has tried to enforce them (i.e., there are at least some documented cases where some individuals were sanctioned). *CV Unsanctioned* and *CV Sanctioned* are mutually exclusive: when one is coded 1, the other is 0. The only exceptions are Switzerland and Austria (until 2004) in which the election legislation varies sub-nationally (Bechtel *et al.*, 2018; Gaebler *et al.*, 2020). For these countries, *CV Unsanctioned* and *CV Sanctioned* indicate the share of the population living under the given voting regime.[5]

In addition to the FE regression analyses, which leverage within-country variance, we apply two additional methods to test Hypothesis 1 and gauge the effect of CV (and its enforcement) on participation. The first consists in inspecting the change in voter turnout between elections that immediately preceded and followed reforms in CV or its enforcement. The second is a two-step calculation of counterfactual voting rates for countries that use CV. In step one, we conduct a generalized least squares random-effects regression of voter turnout in countries that have never used CV.[6] In step two, we use the regression coefficients to make out-of-sample predictions of voter turnout in countries where voting is compulsory. The advantage of this approach is that, contrary to the fixed-effects models, the estimate is not exclusively driven by over-time change in those countries that adopted or ceased to use CV but draws on the entire universe of countries that use CV.[7]

[1]Polity IV excludes countries with population under 0.5 million and, therefore, elections from those countries are not included in our analyses. Our data set mostly draws on printed sources (Nohlen *et al.*, 1999, 2001; Nohlen, 2005; Nohlen and Stöver, 2010), which were complemented with on-line sources for the most recent elections: www.electionguide.org, www.ipu.org, http://africanelections.tripod.com, http://psephos.adam-carr.net, www.electproject.org (all accessed in July and August 2018).

[2]The Electronic Appendix reports the results of statistical tests underpinning these modeling choices.

[3]The United States here is an exception in that, following earlier studies (Franklin, 2004; Marshall and Fisher, 2015), we use voter turnout in terms of the voting-eligible population.

[4]When the national constitution simply stipulates that voting is a citizen duty, *CV Unsanctioned* is coded as 0.

[5]All the key findings in the following analyses are robust to the exclusion of these cases. We calculated the shares using information from Statistics Austria and the Swiss Federal Statistical Office.

[6]We replace country dummies with continent dummies and apply random effects instead of fixed effects since they allow for generalization. We use a logit transformation of the dependent variable to generate meaningful predictions between 0 and 100 (Baum, 2008): $y^* = log(\frac{y}{1-y})$.

[7]Our approach differs from a naive single-step OLS with dummies for countries with CV by modeling unit effects and by the fact that the regression coefficients in step one draw purely on countries that never used CV. Similarly, using an OLS regression in step 1 of our estimation would harm accuracy. In the Electronic Appendix, we describe and present a simulation that demonstrates that our approach (i.e., a comprehensive RE model) yields less biased out-of-sample estimates than naive OLS or less comprehensive RE models.

In order to test Hypothesis 2, we employ two measures of state capacity, a state's ability to perform its core functions. State capacity may be understood as a multidimensional concept, reflecting states' extractive, coercive, and administrative abilities, and Hanson and Sigman (2021) demonstrate that these dimensions are empirically intertwined. Hanson and Sigman create a new, general-purpose index that distills 21 individual indicators of the three dimensions. We use it as our first measure of state capacity, captured in the variable *State Capacity*.

As the Hanson and Sigman index is not available for some countries and years, we also employ *Neonatal Mortality* as a proxy measure of state capacity. This variable indicates neonatal infant mortality per 1000 live births as recorded by the World Bank (2018).[8] Earlier research finds that infant mortality "capture[s] a government's control over its territory and population, as well as its capacity to raise revenue and implement policies" (Bustikova and Corduneanu-Huci, 2017, 288). Hanson and Sigman (2021) find that state capacity is a strong predictor of infant mortality, and in our data set, the two variables are strongly negatively correlated ($r = -0.71$). If Hypothesis 2 is correct, strong state capacity (or, observably, low infant mortality rates) should thus be associated with higher turnout in countries with enforced CV sanctions but should be unrelated to turnout in other countries.

Our analyses also probe whether accounting for the severity of sanctions for abstaining affects the efficacy of CV. We collected country-year specific data on sanctions with a rigorous archival search of domestic legislation. Monetary sanctions may vary from as low as 1.05 Brazilian real (about 0.06 percent of the average monthly salary in Brazil in 2014) to 1000 euros (repeated abstentions in Luxembourg in 2018, about 18 percent of the average monthly salary). The variables *Fine* and *Max Fine* indicate the default and maximal monetary sanction for abstention,[9] standardized by the country's GDP per capita (in thousands of 2011 dollars).[10]

We also built a second version of this variable, which expresses the fine as percentage of an average monthly salary.[11] Finally, *Non-Monetary Sanctions* is a binary variable coded as 1 when there is a non-monetary sanction in addition to, or instead of, the monetary fine and if this sanction is not dropped with the payment of the monetary fine. These sanction variables are all coded as 0 for countries that do not enforce CV.

Hypothesis 3, which predicts that only enforced sanctions can prevent the decline in voter turnout, is tested with a variable that measures the number of *Years Since 1945*. This parsimonious operationalization of the negative trend in global voter turnout allows for a straightforward comparison across different voting regimes. In most other analyses, where the focus is not on such a comparison, we opt for decade dummies which allow for short-term non-linear time trends.

Our analyses control for several predictors of voter turnout identified by earlier research. As the processes of democratization and democratic consolidation may affect participation

[8]The rate corresponds to the number of neonates dying before reaching 28 days of age per 1000 live births in a given year. The variable was imported from Teorellc *et al.* (2020).

[9]If the default fine is a range, the variable *Fine* indicates the middle value. The variable *Max Fine* gives the maximal monetary sanction for abstention. If there is a range, it is the top of the range. When there are extra fines for abstaining more than once, it is the highest penalty one could get. The different amounts were converted from the original currencies into current dollars using historical exchange rates (mostly from the World Bank), and subsequently to 2011 dollars using inflation conversion factors (Sahr, 2021).

[10]For a country with compulsory voting $i$ and election $j$, the variables are calculated as follows:

$$\text{Fine}_{i_j} = \textit{Sanction}_{ij}/(\textit{GDP per capita}_{ij}/1000) \quad (1)$$

$$\text{Max Fine}_{i_j} = \textit{Max Sanction}_{ij}/(\textit{GDP per capita}_{ij}/1000) \quad (2)$$

[11]The data on salaries were collected from local statistical offices and international organizations such as the Organization for Economic Cooperation and Development (OECD) or the International Labour Office (ILO).

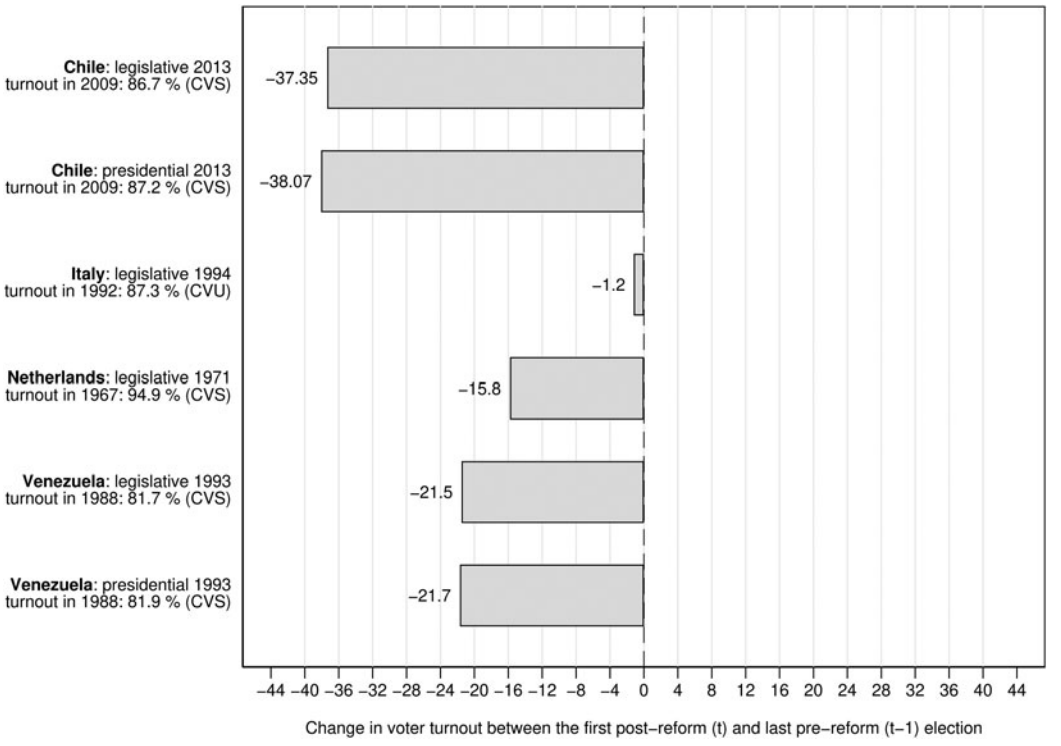


**Fig. 1.** Turnout change when compulsory voting is removed. Note: CVS and CVU stand for sanctioned and unsanctioned compulsory voting, respectively.

(Kostelka, 2017), we also include specific time trends for three groups of new democracies (pre-1974, post-1974, and post-communist).[12] All time-invariant factors are controlled with country-level FE.

## Results

### *Test of hypothesis 1*

We first inspect the immediate effects of CV reforms on citizen participation. We present three figures that respectively focus on the abolition of CV (Figure 1), the abandonment of enforced sanctions (Figure 2), and the adoption of CV (Figure 3). They display short-term changes in turnout for countries that adopted one of these reforms in between two democratic elections that were held up to five years (i.e., roughly one legislative term) apart.[13]

The figures strongly support Hypothesis 1. When voting was made voluntary or the enforcement of non-voting sanctions was ended, voter turnout in the subsequent election consistently

[12]Robustness checks in the Electronic Appendix (see Table EA1) also control for the level of economic development (the natural logarithm of GDP per capita in the 2011 prices, Bolt *et al.* (2018)). This variable is not available for all country-years and, when included, it is not statistically significant and it does not change the substantive findings.

[13]The figures thus do not include countries like Czechoslovakia where the pre- and post-reform elections were separated by a non-democratic period, and countries like Austria and Switzerland where, aside from the Swiss canton of Schaffhausen, CV was phased out gradually (Bechtel *et al.*, 2018; Gaebler *et al.*, 2020).

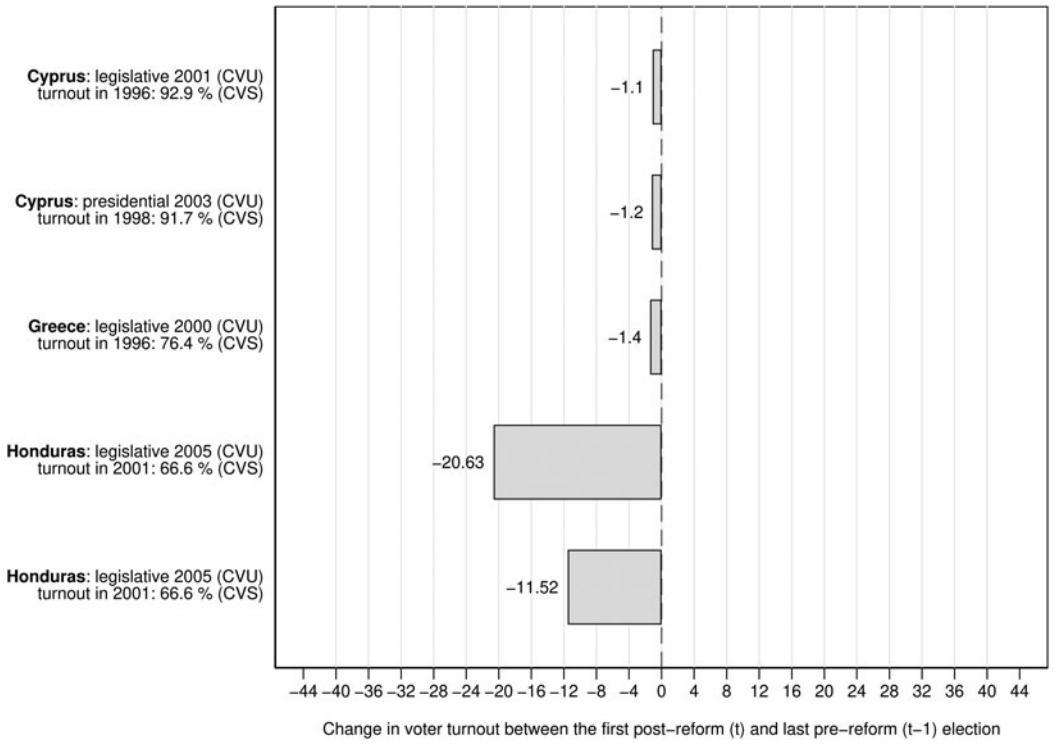


**Fig. 2.** Turnout change when compulsory voting ceases to be enforced. Note: CVS and CVU stand for sanctioned and unsanctioned compulsory voting, respectively.

drops. Conversely, when voting was made compulsory, this was always followed by an increase in the participation rate.

However, there is considerable variation in the magnitude of these boosts and drops, which largely reflects the distinction between enforcement and the lack of thereof.[14] Shifts in participation are generally strongest, reaching at least 10 percentage points, when enforced CV is abolished (Chile, the Netherlands, or Venezuela in Figure 1), or when it is adopted (Cyprus in Figure 3). Similarly, Honduras' 2005 election shows that abandoning enforced sanctions can result in double-digit drops in the voting rate (Figure 2). It is true that, in two other cases, removing enforced sanctions resulted in a very small turnout decline (see Cyprus and Greece in Figure 2). This suggests that, when voting remains formally compulsory, the government's signaling of the new, *de facto* voluntary, voting regime may remain, perhaps deliberately, muted, and citizens become fully aware of the change only gradually. Such an explanation is corroborated by our data: between the 1990s and 2017, voter turnout progressively dropped by 8.6 and 26.2 points in Cypriot presidential and legislative elections, and by 19.8 points in Greek legislative elections.[15] So, despite the limited short-term effect, giving up enforcement presumably did

[14]In addition, turnout-enhancing (adoption of CV) reforms exert on average weaker effects than turnout-depressing reforms (removal of CV). Besides potential ceiling effects (when CV is adopted in already high-turnout contexts, such as Cyprus in 1981), this asymmetry presumably reflects the general declining trend in voter turnout, which characterized most of the period under study and which largely reflected generational change (e.g., Tiberj, 2018; Kostelka and Blais, 2021). The trend may have amplified (removal of CV) or cross-pressured (adoption of CV) the reforms' effects.

[15]The reasons for this decline may be manifold, including a proliferation of elections in Greece, where four nationwide legislative contests were held between 2012 and 2015. However, had enforced CV been maintained, these declines may not have occurred, or may have been much smaller.

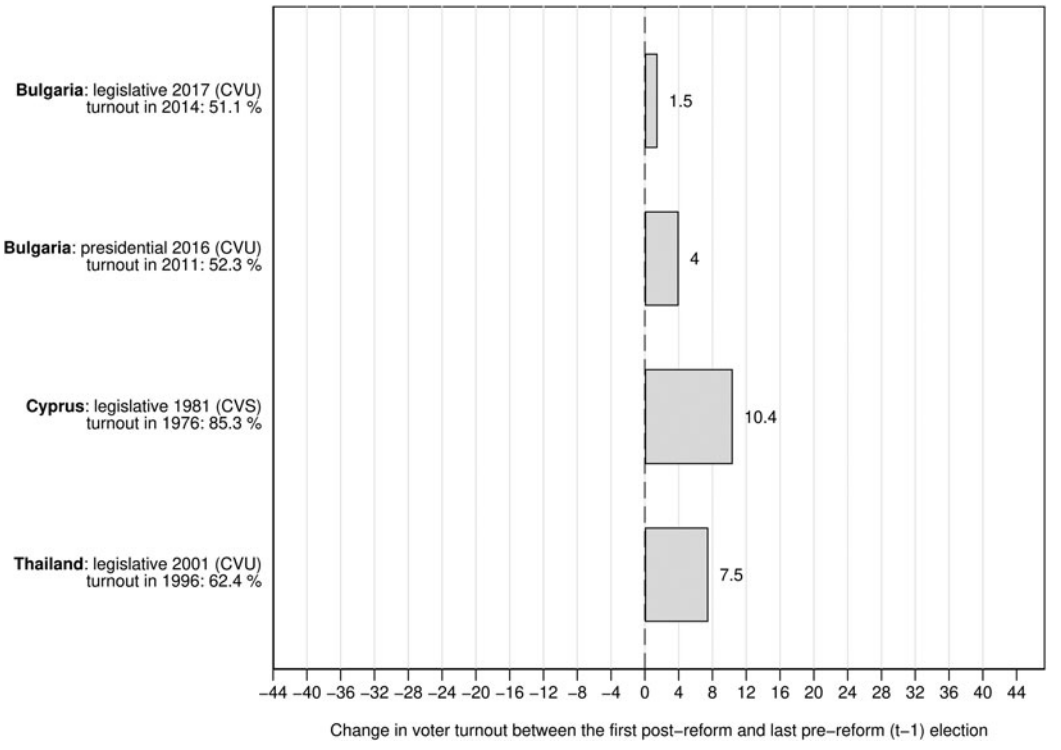


**Fig. 3.** Turnout change when compulsory voting is adopted. Note: CVS and CVU stand for sanctioned and unsanctioned compulsory voting, respectively.

matter a lot in the long term. By contrast, adopting (Bulgaria and Thailand in Figure 3) or dropping (Italy in Figure 1) unsanctioned electoral compulsion was followed by much smaller changes in participation, typically of a few percentage points.[16]

We display the results of our more rigorous tests of Hypothesis 1 in Table 2, which presents the fixed-effects regression models. These leverage all within-country variation—not only the short-term change—and introduce controls for the other predictors of voter turnout. The baseline analysis (Model 1) indicates that unsanctioned CV increases participation by 9.6 points and, when sanctions are enforced, by 22.7 points. The inclusion of time-variant controls slightly reduces these estimates, but they remain substantively large and retain the roughly 1:2 ratio, reaching 10.1 and 18.6 points respectively. These results provide strong support for Hypothesis 1.

Next, we proceed to the estimation of counterfactual voting rates. Table 2 displays the regression of logit-transformed voter turnout in countries that have never employed CV. The regression coefficients are largely in the expected direction, and we use them to estimate out-of-sample predictions of voter turnout in countries where voting is compulsory.

For countries with unsanctioned CV, predicted turnout is 67.1 percent,[17] which is 7.6 points lower than the observed average of 74.7 percent. In countries that enforce CV sanctions, predicted turnout (71.6 percent)[18] trails observed turnout (86 percent) by 14.4 points. These results, which

[16]Formal sanctions for abstention existed in Italy between 1957 and 1993, but they were not never systematically enforced according to available sources. We thus consider Italy as a case of unsanctioned voting. The robustness checks (Tables EA1 to EA3) show that our main substantive results hold even when Italy is coded as a case of sanctioned compulsory voting. See the Electronic Appendix for these results and more information on Italy's CV legislation.

[17]The 95 percent confidence interval ranges from 61.8 to 71.9 percent.

[18]The 95 percent confidence interval ranges from 67 to 75.8 percent.

**Table 2.** Time-series-cross-section analysis

| | (1) Baseline | (2) Full model |
|---|---|---|
| CV unsanctioned | 9.63 (2.42)*** | 10.13 (2.87)*** |
| CV sanctioned | 22.72 (3.45)*** | 18.62 (3.58)*** |
| Majority status | | −0.16 (0.06)** |
| Closeness | | −0.04 (0.03) |
| Concurrent election | | 7.01 (1.86)*** |
| El. system: majoritarian | | −3.39 (1.99)$^{+}$ |
| El. system: mixed | | −3.94 (1.82)* |
| El. system: other | | 2.03 (2.13) |
| Presidential election | | −1.49 (0.99) |
| Electorate size (ln) | | 0.84 (1.39) |
| Pre-1974 democratization | | 0.13 (0.16) |
| Post-1974 democratization | | −0.05 (0.11) |
| Post-communist democratization | | −0.30 (0.12)* |
| 1940s | | 5.81 (2.03)** |
| 1950s | | 7.51 (1.88)*** |
| 1960s | | 8.18 (1.56)*** |
| 1970s | | 6.64 (1.70)*** |
| 1980s | | 6.47 (1.40)*** |
| 1990s | | 4.56 (1.27)*** |
| 2000s | | 1.47 (0.76)$^{+}$ |
| Constant | 66.68 (0.72)*** | 63.78 (3.18)*** |
| Country FE | Yes | Yes |
| *N* | 1421 | 1421 |
| $R^2$ | 0.13 | 0.28 |

Note: Significance levels: $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$. Standard errors clustered by country in parentheses.

draw on the entire universe of elections with CV, are largely compatible with the results from Table 2, which leverage within-country changes in CV. Both analyses validate Hypothesis 1, showing that unsanctioned CV increases voter turnout by between 7.5 and 10 points, on average; the positive effect of CV with enforced sanctions, at 14.5–18.5 points, is almost twice as big.

### *Test of hypothesis 2*

We have found that the effect of enforced sanctions is powerful. However, its magnitude, Hypothesis 2 argues, depends on state capacity. Table 3 builds on Model 2 of Table 2 and tests the effects of state capacity, fines for abstention, and non-monetary sanctions. Fines and sanctions' regression coefficients are mostly in the wrong direction, they are never statistically significant, and these variables' inclusion does little to alter the estimated coefficient on the *CV sanctioned* dummy. There is hence no evidence that sanction severity itself affects turnout.

By contrast, there is support for the role of state capacity. For countries that sanction electoral abstention, state capacity's regression coefficient is positive (6.5) and statistically significant ($p < 0.05$).[19] For the proxy measure, *Neonatal Mortality*, the regression coefficient is expectedly negative (−0.42) and, again, statistically significant ($p < 0.02$).[20] Table EA2 in the Electronic Appendix shows that, when we restrict the analysis to elections with sanctioned CV ($N < 200$), the association between state capacity and turnout is even more robust ($p < 0.001$) and unaltered by controlling for GDP per capita.

Figure 4, which draws on Models 1 and 2 in Table 3, illustrates the effect of Sanctioned CV for different levels of state capacity and neonatal mortality. In very strong states, where state capacity

[19]The interaction means that the regression coefficient of *CV Sanctioned* x *State Capacity* (5.3) needs to be summed with the regression coefficient of *State Capacity* (1.2). The resulting p-value is 0.044.

[20]The regression coefficient of *CV Sanctioned* x *Neonatal Mortality* (−0.42) has to be summed with the regression coefficient of *Neonatal Mortality* (−0.00). The resulting p-value is 0.020.

**Table 3.** Regression model for out-of-sample predictions

| | (1) |
|---|---|
| Majority status | −0.005 (0.003) |
| Closeness | −0.002 (0.002) |
| Concurrent election | 0.361 (0.091)*** |
| El. system: majoritarian | −0.135 (0.109) |
| El. system: mixed | −0.300 (0.095)** |
| El. system: other | −0.061 (0.119) |
| Presidential election | −0.070 (0.063) |
| Electorate size (ln) | −0.069 (0.048) |
| Pre-1974 democratization | 0.014 (0.010) |
| Post-1974 democratization | −0.003 (0.008) |
| Post-communist democratization | −0.012 (0.006)* |
| 1940s | 0.335 (0.157)* |
| 1950s | 0.307 (0.110)** |
| 1960s | 0.388 (0.076)*** |
| 1970s | 0.305 (0.114)** |
| 1980s | 0.327 (0.095)*** |
| 1990s | 0.225 (0.072)** |
| 2000s | 0.038 (0.041) |
| E. Europe and C. Asia | −0.592 (0.167)*** |
| Latin America | −0.865 (0.210)*** |
| MENA | −0.274 (0.173) |
| Sub-Saharan Africa | −0.558 (0.222)* |
| East Asia | −0.119 (0.167) |
| South-East Asia | 0.109 (0.225) |
| South Asia | −0.438 (0.318) |
| The Pacific | −0.117 (0.275) |
| The Carribean | −0.350 (0.275) |
| Constant | 1.251 (0.188)*** |
| Country RE | Yes |
| *N* | 974 |
| $R^2$ | 0.23 |

Note: The dependent variable is voter turnout as a logit-transformed proportion. Significance levels: $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$. Standard errors clustered by country in parentheses.

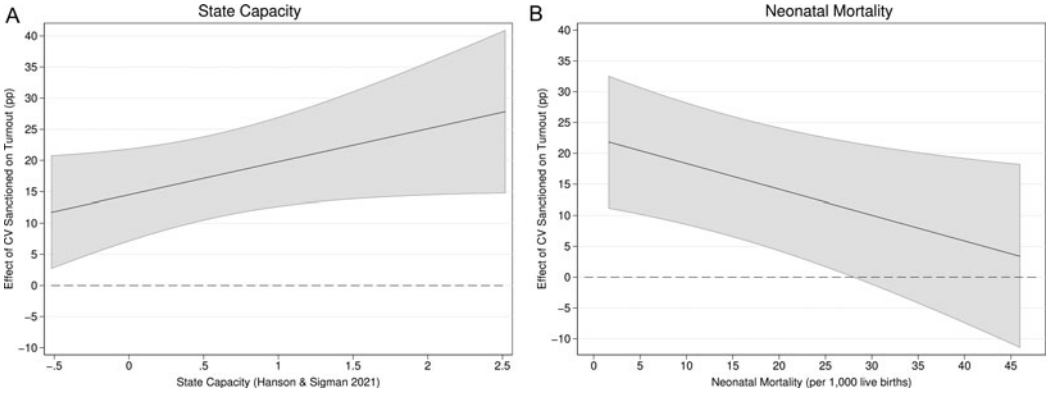


**Fig. 4.** Sanctioned compulsory voting and state capacity. Note: average marginal effects with 95 percent confidence intervals based on Models 1 and 2 from Table 4. The estimation is limited to the range of values observed in countries with enforced CV. State capacity, as estimated by Hanson and Sigman (2021), thus ranges from 0.52 (Bolivia in 1985) to 2.52 (Belgium in 2014). Neonatal mortality ranges from 1.6 (Luxembourg in 2013) to 46 (Bolivia in 1985).

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**Table 4.** Enforcement and turnout

| | State capacity | | Sanctions | | | | |
|---|---|---|---|---|---|---|---|
| | (1) State capacity | (2) Infant mortality | (3) Fine | (4) Fine | (5) Maximal fine | (6) Maximal fine | (7) Other sanctions |
| *Compulsory voting and sanctions* | | | | | | | |
| CV sanctioned | 14.49 (3.76)*** | 22.51 (5.59)*** | 21.30 (5.32)*** | 20.00 (4.78)*** | 19.83 (4.81)*** | 18.29 (4.80)*** | 19.29 (4.09)*** |
| CV unsanctioned | 10.49 (5.11)* | 8.56 (4.42)$^{+}$ | 10.59 (3.28)** | 9.82 (3.07)** | 9.81 (3.07)** | 9.95 (3.09)** | 10.28 (2.89)*** |
| CV sanctioned × state capacity | 5.30 (2.91)$^{+}$ | | | | | | |
| CV unsanctioned × state capacity | 1.08 (3.39) | | | | | | |
| State capacity | 1.20 (2.12) | | | | | | |
| CV sanctioned × neonatal mortality | | −0.42 (0.18)* | | | | | |
| CV unsanctioned × neonatal mortality | | 0.14 (0.16) | | | | | |
| Neonatal mortality | | −0.00 (0.13) | | | | | |
| Fine (share of monthly salary) | | | −0.21 (10.37) | | | | |
| Fine (share of GDP in $1000) | | | | −3.16 (3.35) | | | |
| Max fine (share of monthly salary) | | | | | −2.69 (3.57) | | |
| Max fine (share of GDP in $1000) | | | | | | 0.04 (0.05) | |
| Non-monetary sanction | | | | | | | −1.25 (2.79) |
| Constant | 61.98 (3.99)*** | 62.84 (4.10)*** | 63.32 (3.17)*** | 64.03 (3.16)*** | 64.05 (3.16)*** | 63.68 (3.05)*** | 63.34 (3.16)*** |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 1187 | 1193 | 1309 | 1330 | 1330 | 1357 | 1393 |
| $R^2$ | 0.23 | 0.18 | 0.15 | 0.16 | 0.16 | 0.15 | 0.17 |

Note: Significance levels: $^{+}$p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001. Standard errors clustered by country in parentheses. *N* varies depending on data availability. The same controls as in Tables 2 and 3. Full table displayed in the Electronic Appendix.

**Table 5.** Over-time change by voting regime

| | (1) No CV | (2) CV unsanctioned | (3) CV sanctioned |
|---|---|---|---|
| Year since 1945 | −0.19 (0.04)*** | −0.17 (0.08)$^{+}$ | 0.07 (0.04)$^{+}$ |
| Constant | 74.14 (3.21)*** | 80.80 (2.44)*** | 88.67 (4.61)*** |
| Controls | Yes | Yes | Yes |
| Country FE | Yes | Yes | Yes |
| *N* | 1044 | 130 | 214 |
| $R^2$ | 0.18 | 0.45 | 0.15 |

Note: Significance levels: $^{+}$p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001. Standard errors clustered by country in parentheses. The same controls as in Tables 2 and 3. Full table displayed in the Electronic Appendix.

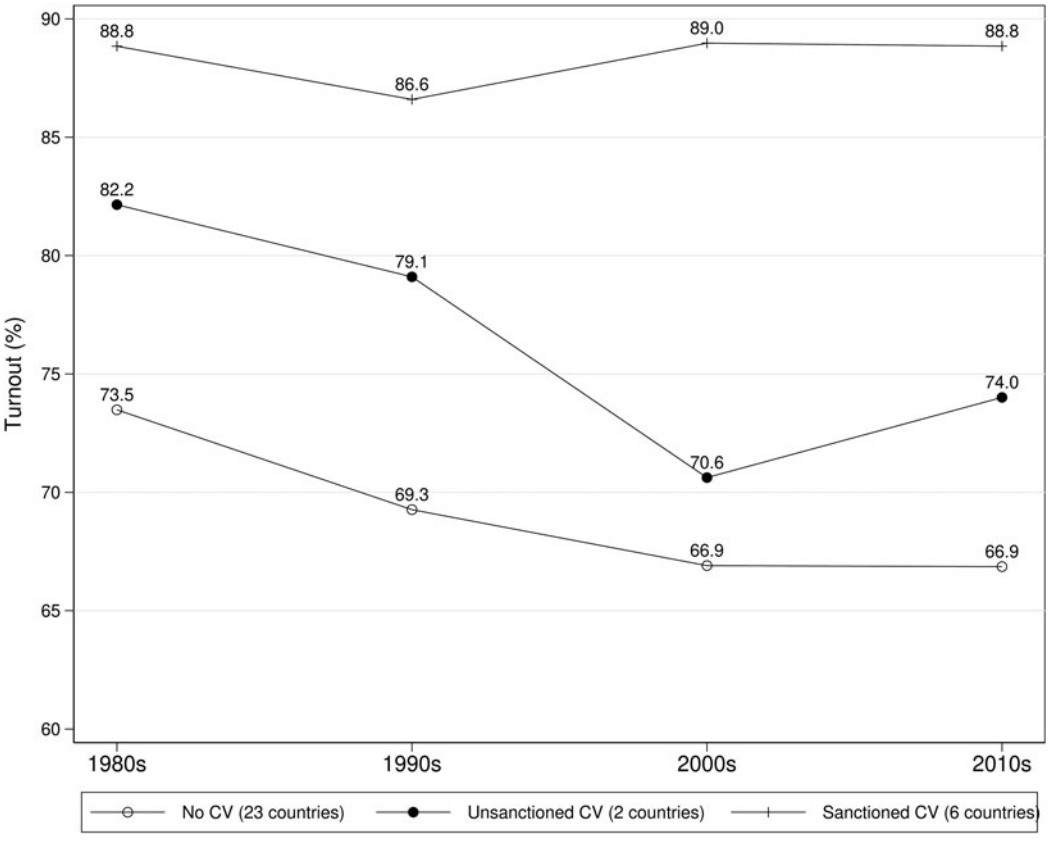


**Fig. 5.** Evolution of voter turnout by voting regime (average observed voting rates). The figure includes only those countries that held democratic elections continuously between 1985 and 2017 and excludes countries that did not remain in one of the three voting categories throughout this time period.

reaches 2.5 on Hanson and Sigman's latent measure and neonatal mortality is kept below two per thousand births, the estimated effect of sanctioned CV on the turnout rate is between 27 (Graph A) and 22 (Graph B) points. By contrast, in weak states, with state capacity of −0.52 and neonatal mortality exceeding 45, the effect of sanctioned CV lies between 11 (Graph A) and 4 (Graph B) points. Clearly, this analysis supports Hypothesis 2; the impact of CV depends on the state's capacity to predictably enforce non-voting penalties.

### Test of hypothesis 3

Hypothesis 3 argues that CV can prevent voter turnout from declining only when there are enforced sanctions for abstention. Table 4 presents tests of this hypothesis, displaying three regression models of voter turnout since 1945: for countries without CV, for countries with unsanctioned CV, and for countries with sanctioned CV respectively.[21] The regression coefficient on *Years Since 1945* shows that, in the first group (no CV), participation declined on average by 0.19 points per year since 1945 ($p < 0.001$). In the second group (unsanctioned CV), the regression coefficient is of similar magnitude (−0.17; $p = 0.052$). Finally, in the third group (sanctioned CV), the regression coefficient is not negative but slightly positive (0.07; $p = 0.09$). These results support Hypothesis 3, confirming that enforced CV prevents turnout declines, whereas sanctionless compulsion does not.

Table 5 includes all 1421 elections, and model results thus may be affected by over-time changes in the samples under study (i.e., democratic regimes' emergence and breakdown). In an additional analysis, we thus trace the evolution of voter turnout in those countries that held democratic elections continuously between 1985 and 2017. The trends displayed in Figure 5 again corroborate Hypothesis 3. Participation dropped by around seven or eight points in countries where CV was not used or did not have enforced sanctions. In countries with sanctioned CV, voter turnout remained strikingly stable and high.

## Conclusion

This study asked three questions. First, is the positive impact of CV on turnout bigger where there are enforced sanctions for abstention? Second, does the state's ability to act as a credible administrator that can execute penalties for abstention increase the effect of sanctioned CV on turnout? And, finally, is the long-term secular decline in voter turnout arrested by sanctioned CV? Our results indicate that the answer to all three questions is *yes*.

We estimate the effect of sanctioned CV to be larger than what has been found in prior comparative analyses. Our results show that, as a percentage of registered voters, CV with legally enforced sanctions for abstention generates a remarkable 14.5–18.5 points increase in voter turnout. Birch (2009, pp. 93–94) finds that countries with enforced CV have turnout rates among registered voters about 12 points higher than others (including those with unenforced CV). Panagopoulos (2008) finds that strict enforcement of sanctions is associated with about a 13-point increase in turnout among the total population.

Additionally, unlike most previous cross-national studies that have accounted for variation in the severity of CV, we also find that unenforced CV increases turnout. In contrast with Birch (2009, pp. 93–94), who finds no evidence that unenforced CV associates with turnout, and Panagopoulos (2008), who finds that turnout under unenforced or weakly enforced CV is no higher than that in voluntary systems, our analyses show that the mere requirement to vote boosts turnout by 7–10 points as a percentage of registered voters.

However, toothless CV will not keep participation high forever. Our findings also show that unenforced CV does not flatten or reverse ongoing declines in voter turnout. This suggests that CV cannot instill an enduring participatory culture into a country simply by virtue of being law. Instead, enforced penalties for abstention are needed to maintain robust levels of electoral participation.

We believe that our estimates of the effect of CV are credible. Admittedly, we cannot rule out the possibility that countries that adopted CV did so to legitimate or lock in an extant rise in the turnout rate. Nor can we rule out the possibility that CV was removed in countries experiencing a

[21]The separate analyses for each voting regime *inter alia* allow for subgroup-specific coefficients on the control variables. In the Electronic Appendix (Table EA3), we present a single-model analysis with interactions between voting regimes and *Years Since 1945*, which yields similar substantive findings.

decline in participation. Still, an examination of trends in turnout in pre-intervention periods in our data is not consistent with such patterns, and our review of the historical circumstances surrounding the adoption and abolition of CV did not suggest that turnout changes systematically precede a change to or from mandatory voting. We also cannot be sure that other reforms that took place concomitantly with the adoption or removal of CV did not drive changes in turnout, though, again, our review of the legislation introducing or removing CV does not suggest such a pattern. Finally, like any observational design, ours does not eliminate the threat of bias stemming from confounders. Nevertheless, our inclusion of country fixed effects eliminates bias from time-invariant sources, and we do measure and control for many time-variant sources of spuriousness, in addition to modeling time trends.

We also go beyond prior work with our in-depth review of contemporary and historical documents, legislation, and constitutions to create what we believe is the most accurate and extensive measure of CV to date. Our extensive data collection effort also allows us to, for the first time, test the impact of the amount of monetary fines (as adjusted by national economic conditions) on turnout across countries. We find that, while the existence of enforced sanctions matters greatly for turnout, the fine amount has no impact. Moreover, we for the first time identify state capacity as a moderator of the impact of enforced CV.

Democratic reformers seeking to reduce abstention often recommend CV (e.g., Dionne and Rapoport, 2022). Our finding that CV can boost voter turnout more than previously thought—and can prevent declines in participation—may make it an even more attractive instrument for electoral reformers interested in strengthening participatory democracy. On the flip side, some see drawbacks associated with elevated turnout. Brennan (2016), for example, argues that low propensity voters rarely choose wisely. If one accepts arguments that high turnout is detrimental, our finding that CV is highly efficacious implies that it could be an especially hazardous tool.

Beyond turnout, scholars have recently identified several downstream consequences of a voting requirement for individuals and parties. These include increased invalid balloting (e.g., Power and Garand, 2007; Uggla, 2008; Cohen, 2018; Singh, 2019a); election results that are less reflective of ideological preferences (e.g., Selb and Lachat, 2009; Singh, 2016; Dassonneville *et al.*, 2019; Freire and Turgeon, 2020; but see Singh (2022)); more and stronger psychological attachments to political parties (e.g., Dalton and Weldon, 2007; Singh and Thornton, 2013); and programmatic vote seeking (Singh, 2019b). In each case, the link between CV and the downstream outcome is thought to be, at least in part, mechanized by compelled voting among people who would normally stay home. Because CV may get more such people to the voting booth than previously thought, the putative consequences of CV beyond turnout are even more likely to come to the fore.

**Supplementary material.** The supplementary material for this article can be found at https://doi.org/10.1017/psrm.2022.57 and Replication data Replication Link https://doi.org/10.7910/DVN/7OB0YJ.

**Conflict of interest.** None.

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