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What is the cost of voting?

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ABSTRACT

Despite a wealth of literature on the determinants of electoral turnout, little is known about the cost of voting. Some studies suggest that facilitating voting slightly increases turnout, but what ultimately matters is people's subjective perceptions of how costly voting is. This paper offers a first comprehensive analysis of the *subjective* cost of voting and its impact on voter turnout. We use data from an original survey conducted in Canada and data from the Making Electoral Democracy Work project which covers 23 elections among 5 different countries. We distinguish direct and information/decision voting costs. That is, the direct costs that are related to the act of voting and the costs that are related to the efforts to make (an informed) choice. We find that the cost of voting is generally perceived to be very small but that those who find voting more difficult are indeed less prone to vote, controlling for a host of other considerations. That impact, however, is relatively small, and the direct cost matters more than the information/decision cost.

The voter turnout literature is one of the most voluminous in electoral research. Scholars have examined the impact of dozens of variables that affect individuals' propensity to vote (for literature reviews, see Blais, 2006; Smets and van Ham, 2013). Focusing only on the most prominent ones, the literature has studied the impact of variables that capture citizens' resources (e.g., education, income, race) (Brady et al., 1995), indicators of political mobilization (e.g., trade union membership, attendance of religious services, partisan mobilization) (Goldstein and Ridout, 2002), cognitive factors such as political information and political interest (Denny and Doyle, 2008), and a whole series of psychological attitudes such as a sense of civic duty, external and internal political efficacy, political trust, cynicism, psychosocial abilities, patience, personality traits, self-efficacy and self-esteem (Smets and van Ham, 2013). All the variables mentioned so far are factors that increase (or decrease) citizens' abilities and willingness to turn out to vote. The literature is remarkably silent, however, on the role of factors that hold citizens from voting, that is, the cost of voting.

The cost of voting (or the 'C' term) figures prominently in the rational choice model (Downs, 1957; Riker and Ordeshook, 1968). In this model, it is assumed that if the benefits of voting outweigh the costs, citizens will turn out to vote. The implication is that the higher the cost of voting, the less prone are people to vote. This may appear as a truism, but it is one with important policy consequences: rational choice theories have inspired policy-makers to reduce the costs of voting to combat declining turnout levels. From their side, scholars have explored how the rules that make it is easier or more difficult to vote affect the cost of voting and in this way voter turnout. It has been shown that distance to the polling station as well as changes in polling locations negatively affect the likelihood that citizens turn out to vote (Brady and McNulty, 2011; Haspel and Knotts, 2005). There is also some evidence suggesting that rainfall – another factor that makes turning out to vote costlier – negatively affects turnout (Fujiwara et al., 2016; but see Persson et al., 2014). Further, making it easier to vote by means of election day registration or preregistration have been found to slightly increase turnout (Braconnier et al., 2017; Holbein and Hillygus, 2016; Neiheisel and Burden, 2012). Reducing the costs of voting by allowing internet voting as well has been found to moderately increase turnout (Goodman and Stokes, forthcoming). Reforms or voting rules that are intended to increase the cost of voting such as strict voter identification requirements, on the other hand, are found to decrease turnout (Hajnal et al., 2017). Others, however, have casted some doubt on the impact of 'facilitating' rules. Studies of early voting in particular show nil, and in some cases even negative, effects (Burden et al., 2014; Gronke et al., 2007; Walker et al., forthcoming). Along these lines, Quinlan (2015) finds that facilitating voting by means of longer polling hours is not associated with higher turnout.

The studies mentioned above have all investigated the impact of how easy it is to vote by means of objective indicators. The mixed results from such work suggest that what matters for understanding individuals' behavior is not these objective costs but how citizens *perceive*

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the cost of voting. As an example, allowing for the possibility of early voting will not affect a person's likelihood of voting unless she personally finds it indeed easier to vote early. In this way, information about citizens' perceptions of the cost of voting may help us understand 'the paradox of voting' (Blais, 2000; Green and Shapiro, 1994). In particular, the paradox dissipates if people perceive the cost of voting to be nil (or extremely small) while it is exacerbated if that cost is viewed as high. Building on these insights, we argue that the cost of voting is a subjective call and that what matters is whether individual citizens *perceive* voting to be easy or difficult. In order to understand the role of the C term on individuals' turnout decision we should therefore study people's perceptions of how costly it is to vote. That is the main objective of our paper. We use original surveys that include questions tapping these subjective perceptions. These questions provide crucial information about how citizens themselves construe the cost of voting.

Our goal is two-fold. First, we describe how people evaluate the cost of voting. As we have argued, our understanding of the turnout decision hinges in good part on our appreciation of the magnitude of the cost of voting. To the best of our knowledge, only one study has previously examined the subjective cost of voting (Blais, 2000, chapter 4). The lack of attention to perceptions of the cost of voting in the literature is surprising, and it is in sharp contrast with the attention given to attitudes such as political interest, sense of civic duty, or political efficacy. Merely describing the extent to which people evaluate voting as easy or difficult fills a big gap in the literature. Second, we ascertain the impact of the cost of voting on an individual's decision to vote or abstain and estimate how much higher turnout would be if the cost of voting was perceived to be very small by everyone.

1. Information/decision and direct costs to voting

Downs (1957, 265) notes that the cost of voting is basically one of time: "time to register, to discover what parties are running, to deliberate, to go to the polls, and to mark the ballot." The last two are related to the act of voting as such, the very first one refers to what one needs to do in order to have the right to vote (cost of registration), and the two in the middle to the effort devoted to collecting the information and decide. For his part, Blais (2000, 83), in the very first paragraph of the chapter devoted to the cost of voting (chapter 4), argues that the cost of voting "corresponds, on the one hand, to the amount of time one feels she needs to spend assembling and digesting the information about candidates and parties in order to decide which party or candidate to vote for and, on the other hand, to the time spent going to the poll, voting, and returning."

Following these two authors we distinguish information/decision costs, which relate to the effort and time required to search for information about the parties and candidates and to make up one's mind about whom to vote for, and the direct costs, which are associated with the act of voting as such, i.e. going to the polling station and casting a ballot. We leave aside the cost of registration, since registration is the initiative of the state in all the countries examined here.

The direct cost of voting is *supposed* to be very low (Niemi, 1976), but there is very little empirical work on the perceived costs of voting. Within a US context, there is some attention for the length of time waiting to vote, and how this varies between states and subgroups of the electorate (Pettigrew, 2017; Stewart, 2012). Such work, that relies on self-reported measures of the time voters spend waiting in line, argues that longer waiting lines increase the cost of voting, and hence turnout. Apart from work that focuses on the rather specific question of how long voters spend waiting in line, however, we are only aware of a single study that has measured the perceived subjective costs of voting more generally. More specifically, Blais (2000: 85) leverages data from surveys conducted at the time of the 1995 Quebec referendum and the 1996 British Columbia. In those surveys, respondents were offered five options about the time it takes to vote: a quarter of an hour, half an hour, three-quarters of an hour, an hour, more than one hour. 87% of the respondents in both provinces chose one of the first two options, confirming that for most people voting does not take much time. We also know little about the information/decision cost. Again, Blais' (2000, 86) work is the only exception. He reports that this cost is also small, though somewhat higher than the direct cost. Still relying on the 1995 Quebec and 1996 British Columbia surveys, Blais used the following question to measure the information/decision cost: "Do you find it very easy, somewhat easy, somewhat difficult or very difficult to get information to decide how to vote?" In both provinces, about 80% of respondents indicated either very easy or somewhat easy. The conclusion is that this cost is slightly more important, although a clear majority of voters find it low.

Given how little we know about the perceived cost of voting, we present an original assessment of how easy or difficult citizens personally find it to vote and how much or little impact this has on their decision to vote or abstain. For doing so, we use two different and complementary datasets. The first dataset includes data from two Canadian provinces (British Columbia and Quebec) and allows us to examine the independent impact of the direct and information/decision costs. The second dataset includes a general item of the cost of voting that does not separate these two costs but has the advantage of being cross-national, allowing us to check whether the patterns observed in the first survey hold in different contexts. As we will see, these two studies produce similar findings.

2. Study 1: the direct and information/decision cost of voting in Canada

2.1. Data

For Study 1, we use an original dataset from Canada that is unique for its inclusion of survey-based measures of citizens' perceptions of the costs of voting. In particular, we draw on data from a two-wave Internet survey conducted by YouGov Polimetrix in the provinces of British Columbia and Quebec. The fieldwork for the first wave was conducted during the last week of the October 2008 Canadian federal election. The sample size was around 2000 respondents in each province. The second wave of this survey took place at the time of the subsequent provincial election, which occurred in December 2008 in the province of Quebec and in May 2009 in British Columbia. Respondents who participated to the first wave were contacted again for a second wave; slightly more than half of them responded to the second wave in each province. While the survey was conducted online, the sampling frame was designed to match the demographic make-up of the two provinces as well as the expected level of general political interest (as indicated by the Canadian Election Study). For all the analyses that are reported in this paper, we apply a demographic weight to correct for the under- and over-representation of certain groups in the sample.

The two central variables of interest are the direct voting cost and the decision/information voting cost. The questions that measure these two costs are simple and straightforward. Respondents were asked to rate on a 0 to 10 scale how easy or difficult (0 meaning 'very difficult' and 10 'very easy') it is for them personally to (1) go to the polling station and (2) to make up their mind about the parties and their leaders (see Appendix A for the exact question wordings).

We analyze two different dependent variables; respondent's intention to vote (measured in the pre-electoral wave) and their self-reported turnout in the post-electoral wave. During the first wave, respondents were asked how likely they were to vote using six categories: certain not to vote, very unlikely to vote, somewhat unlikely to vote, somewhat likely to vote, very likely to vote, certain to vote – or don't know. A majority of respondents (67%) indicated that they were certain to vote.[1] We use all the categories, where 'certain to vote' is coded as the

[1] This proportion is about 5 percentage points higher than the actual turnout,

maximum value. Those who already voted (in advance) are coded 'certain to vote'. Our second dependent variable is a self-reported turnout from the second wave. Respondents were asked if they voted in the last federal election. 87% said yes, which are coded as voters (1) versus non-voters (0) who said that they did not vote or did not remember.[2]

The survey also included a host of attitudes that have been shown to affect the turnout decision and that are included as control variables: political interest, sense of civic duty, party identification, political efficacy, the perceived impact of public policies, how much one cares about the outcome of the election and the intensity of respondents' party preferences (i.e., the difference between the like/dislike ratings of the most and the second most preferred party).[3] We also control for the impact of party mobilization, social pressure by one's spouse and friends, age, education, sex, and a dummy for the province of Quebec. Descriptive statistics for all variables are listed in Appendix B.

2.2. Results

We first assess how citizens perceive the cost of voting. We have recoded the original cost variables on a 0 to 1 scale, with 0 corresponding to maximally easy and 1 to maximally difficult. As evident from the left-side panel in Fig. 1,[4] the direct voting cost is perceived to be very small. 60% of the respondents are at 0 on the recoded scale, which means "very easy". Only 8% are at 0.6 or higher, indicating that only 8% of voters perceive voting to be at least somewhat difficult. The mean score is 0.14 (the standard deviation is 0.24), an indication that the perceived cost of going to the polling station is very low.

The right-hand panel in Fig. 1 presents the distribution of the perceived information/decision cost. That cost is also quite small, though it is somewhat higher than the direct cost of voting. The measure was constructed from two questions, one concerning the cost of making up one's mind about the parties and another about the party leaders.[5] The distributions of the answers to the two questions are very similar and the two items are strongly correlated (r = 0.85). We therefore created a combined information/decision cost variable corresponding to the mean of the two items. 27% gave the maximum easiness score to the two items (and therefore are coded 0) and only 32% have a score of 0.5 or higher, a sign that they find deciding how to vote difficult. The mean information/decision cost score is of 0.33 and the standard deviation is of 0.32.

We infer from this that the cost of going to the polls is perceived to be very small for most people, though it is meaningful for a small minority. When comparing the two types of cost, the information/decision cost is higher – though it remains small, with a median value of 0.25 on the 0 to 1 scale. The correlation between the two costs is modest (r = 0.25), suggesting that those who find it difficult to decide how to vote do not necessarily think that it is also difficult to go to the polling station.

Having established how costly citizens perceive voting to be, the next question is how much impact these costs have on the propensity to vote. Table 1 presents the results of two regression models in which we evaluate the impact of the perceived cost of voting on the intention to vote (Model 1) and reported turnout (Model 2). All the variables have the expected sign and most of them are statistically significant. Most importantly, the results indicate that even when controlling for the most powerful motivational factors and social pressure, cost considerations matter. Interestingly, the direct cost of going to the polling station has a bigger effect than the information/decision cost.

But how much impact does the cost of voting have exactly? There are different ways to ascertain the effect size of the perceived cost of voting. First, we can examine the predicted probability of being certain to vote as one goes from the minimal (0) to the maximal (1) value on the cost variable. For the direct cost (going to the polling station), that probability decreases by 21 percentage points (from 69% to 48%), which is a huge difference. We must keep in mind, however, that very few people perceive that cost to be high. In the case of information/decision cost, the equivalent difference is 5 percentage points (from 68% to 63%), a confirmation that the latter costs have a weaker effect. Another approach is to ascertain the effect of a change of one standard deviation in these two costs. That effect is 4.4 percentage points for the direct cost and 1.4 points for the information/decision cost. The effects are similar in the second model, in which we use reported turnout as the dependent variable. The predicted probability of turnout is 87% for a respondent for whom the direct cost is at its lowest, whereas it is 67% for one who perceives the direct cost to be at its highest. For the information/decision cost, the difference is 6 percentage points (86%–80%), which is consistent with the first model. The effect of a change of one standard deviation is 3.7 percentage points for the direct cost and of 1.7 percentage points for the information/decision cost.

2.3. Robustness of the results

The above analyses are based on a pooled data set that includes information on respondents from two different provinces, British Columbia and Quebec. We have examined the patterns in each province separately for the two models, and they are quite similar. The mean voting costs are almost identical in the two provinces: The mean direct cost is 0.15 in British Columbia and 0.13 in Quebec while the mean information/decision costs are 0.33 and 0.34 respectively. We checked whether the estimated impact of voting costs differs across the two provinces by interacting the two cost variables with the Quebec dummy for both models (see Appendix C). Three out of the four interaction coefficients are not significant. One interaction term reaches significance, suggesting that the information/decision cost displays a greater impact on reported turnout in British Columbia compared to Quebec.

Respondents were also asked the same questions at the time of the provincial elections—held a few months later in these two provinces.[6] The mean direct cost for the provincial elections was exactly the same as the federal election (0.14) and the mean information/decision cost was also similar in both levels (0.28 and 0.33). The estimated impact of the voting costs is larger for the provincial elections. For the direct cost, the predicted probability of being certain to vote is 69% for a respondent who perceives the cost to be at its lowest whereas it is of 42%

(*footnote continued*)
which was 63% in Quebec and 62% in British Columbia.

[2] Of course, in any political survey, the proportion of people who claim they will vote (Rogers and Aida, 2014), and the share of people who indicate to have voted (Selb and Munzert, 2013) lead to an overestimation of electoral turnout. While this is an important consideration, it is also appropriate to point out that this overestimation is unlikely to affect inferences regarding the correlates of turnout. This is evident from the work of Achen and Blais (2016, 206), who used ANES data that include a validated vote measure to demonstrate that "researchers will rarely be grossly misled by using any of these three sources [intention to vote, reported vote or validated vote]. The same variables tend to be influential in all three, and their relative proportions are usually (though not universally) unchanged." Note that our N is much smaller in the case of reported turnout since we lose almost half the respondents in the second wave. Furthermore, those who were certain to vote were more prone to respond to the second wave survey and as a consequence there is more variance in intention to vote than in reported turnout.

[3] Changing the operationalization of this variable by computing the difference between the most and the least preferred party does not substantially change the results.

[4] All figures in this paper were compiled in Stata using Bischof's (2017) plotplain scheme.

[5] On the importance of party leaders in Canadian elections, see Bittner (2018).

[6] Two months later in Quebec and six months later in British Columbia.

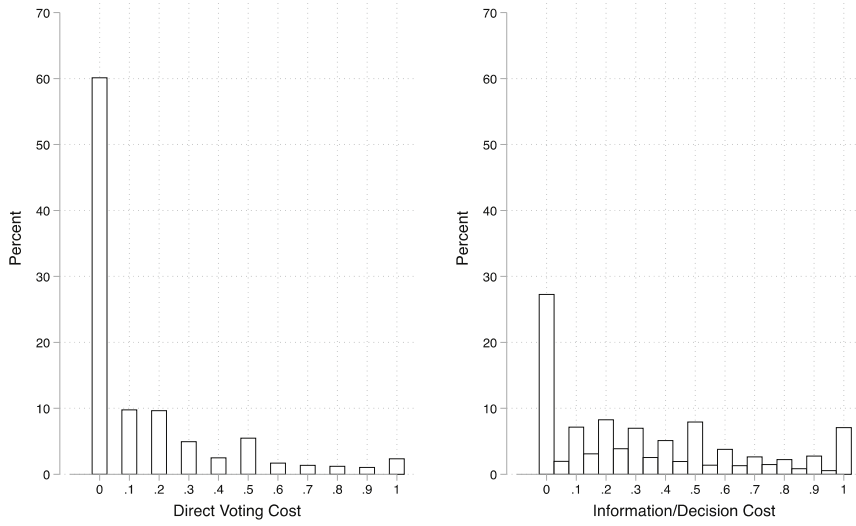

Fig. 1. The distribution of the direct (left panel) and information/decision (right panel) costs in Canada.

Table 1
The impact of two types of cost on electoral participation in Canada.

	Model 1		Model 2	
	DV = Vote intention		*DV = Reported turnout*	
	b	(se)	b	(se)
Direct voting cost	−1.58***	(0.18)	−1.86***	(0.37)
Information/decision cost	−0.39*	(0.18)	−0.67*	(0.32)
Age	0.82***	(0.24)	2.30***	(0.46)
Education	0.36	(0.23)	0.24	(0.46)
Sex (woman)	0.11	(0.10)	−0.04	(0.19)
Quebec	0.49***	(0.10)	0.43*	(0.20)
Political interest	1.48***	(0.23)	0.30	(0.40)
Duty	1.69***	(0.12)	1.32***	(0.24)
Party identification	0.05	(0.11)	0.14	(0.24)
Impact	0.45*	(0.22)	−0.04	(0.42)
Care	1.90***	(0.22)	1.99***	(0.38)
Contact	0.54**	(0.17)	0.29	(0.34)
Social pressure by friends	0.68***	(0.11)	0.62**	(0.19)
Social pressure by spouse	1.28***	(0.13)	0.98***	(0.27)
Intensity of party preferences	0.17	(0.27)	0.04	(0.45)
Political efficacy	0.46**	(0.18)	0.38	(0.32)
Constant			−1.75***	(0.51)
Cut 1	0.35	(0.30)		
Cut 2	1.16***	(0.29)		
Cut 3	1.82***	(0.29)		
Cut 4	2.87***	(0.29)		
Cut 5	4.32***	(0.30)		
Observations	3968		1988	
Pseudo R^2	0.291		0.380	

Note: Model 1 is an ordered logistic regression as the dependent variable has 6 categories and Model 2 is a logistic regression. Coefficients and standard errors (in parentheses) are reported. Data are weighted as described. Significance level, *p < 0.05, **p < 0.01, ***p < 0.001.

for a respondent who perceives the cost to be at its highest. For the information/decision cost, that probability decreases by 16 percentage points (from 70% to 54%). All in all, the effects are similar at the provincial level for the direct cost, as the impact of one standard deviation change is 5.3 points (compared to 4.4 points for the federal election). Information/decision costs appear to matter more at the provincial level, as the effect of one standard deviation change is 4.4 points (compared to 1.4 points at the federal level). However, in both elections the direct cost is more important than the information/decision one, and in both elections the impact of both costs is small compared to other considerations.

3. Study 2: the cost of voting in a comparative perspective

The data presented above pertain to two Canadian provinces, which raises the question whether the patterns observed in Canada are typical or not. We are not able to provide a definitive answer to that question, but we present findings based on four other democracies which suggest that Canada is *not* an outlier.

3.1. Data

For Study 2, we use data from the Making Electoral Democracy Work (MEDW) project. In the framework of this project, election surveys were conducted in five countries (Canada, France, Germany, Spain and Switzerland), with a focus on two different regions[7] in each country. All the surveys were in the field between 2011 and 2015 (Blais, 2010; Stephenson et al., 2017). In two of the five countries (France and Germany), three separate elections (European, national, and sub-national) are included. In the other countries (Canada, Spain and Switzerland), two elections are covered (national and sub-national). In all countries except France, the sub-national election is the regional one; in France it is the municipal election, which is usually considered to be more important (as indicated by a higher turnout rate). Overall, the MEDW dataset includes data from a total of 23 elections in 11 different regions. An overview of all elections included in our analyses is included in Appendix C.[8] With only two exceptions,[9] the MEDW surveys

[7] The Canadian surveys focus on the provinces of Ontario and Quebec but an additional province (British Columbia) was included for the 2015 Canadian election survey.

[8] Note that in the case of national and European elections the two elections that we examine are parts of the same election. We therefore have 17 'independent' elections. As the region is the unit of analysis, we refer to 23 elections.

[9] In the case of the 2015 Canadian election, larger samples were drawn from three provinces. About 1850, respondents from British Columbia, Ontario and Quebec took part of the pre-electoral survey and about 1250 responded to the post-electoral survey. In the case of Bavaria, a special six-wave panel was fielded, with the first two waves occurring just before and after the September 15 (2013) regional election, the third and fourth waves right before and after

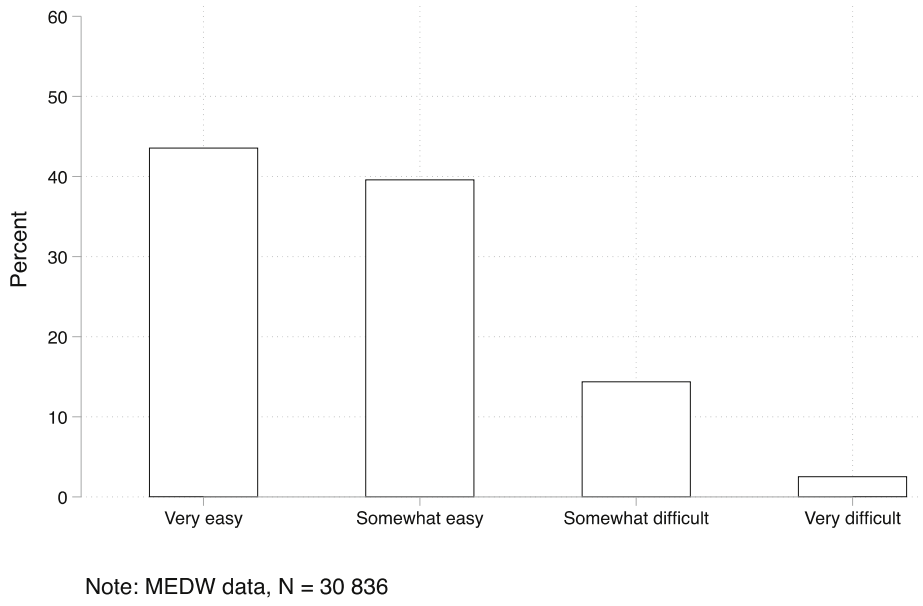

Fig. 2. Distribution of the cost of voting - MEDW dataset, aggregated level.

consisted of a pre-election wave with about 1000 respondents in the pre-election wave (usually in the field during the last 10 days of the campaign) and about 750 respondents (out of the initial 1000) in the post-election wave (usually in the field during the seven days following the election). The pre-election wave took about 20 min and the post-election wave about 10 min. As we did for Study 1, we apply a demographic weight.

In contrast to the surveys used for Study 1, the MEDW surveys included a single cost question. More specifically, the MEDW surveys included a general question about how easy or difficult it is for the person to vote (see Appendix A for question wording). A second difference between Study 1 and Study 2 relates to the response option. Instead of a 0 to 10 scale, the MEDW-measure comprised of four categories: very difficult, somewhat difficult, somewhat easy, very easy. It is therefore not possible to make precise comparisons with the findings reported in Study1, but—as we will see—the patterns are quite similar between the two studies, which strongly suggests that our results do not hinge on specific question wordings and do not hold only in Canada.

3.2. Results

Fig. 2 presents the overall distribution of responses in the pooled MEDW data set. We can see that 43.6% say that voting is very easy, 39.6% somewhat easy, 14.4% somewhat difficult, and 2.5% very difficult. The modal response is 'very easy' and few voters construe voting as difficult. In fact, when we recode the variable on a 0 (very easy) to 1 (very difficult) scale, the mean score is 0.25.

As an important advantage, the MEDW dataset allows us to determine if there are elections where the cost of voting is perceived to be higher and if the Canadian case—the focus of Study 1—is exceptional. Fig. 3 does so by displaying the mean of the cost of voting for each election (in addition, Appendix C lists the percentage of respondents saying that voting is 'very' or 'somewhat' difficult). From this graph, we can see that the perceived cost of voting is a little lower in Canada (the provinces of Ontario, British Columbia and Quebec) than it is elsewhere. The mean percentage of respondents in the five Canadian elections who indicate that voting is difficult is 13.7% (compared to 17% in the other elections) and the mean cost score in the Canadian elections is 0.21 (compared to .26 elsewhere). The most striking finding from Fig. 3, however, is that the mean cost score is remarkably similar across countries and types of elections. The mean score consistently varies between 0.2 and 0.3. The score is above 0.3 in only four instances, three of them occurring in Switzerland, which has a complex (panachage) voting system with multi-member districts and the possibility of casting as many votes as there are seats to be allocated. Furthermore, the cost of voting is perceived to be very similar for elections at different levels of government, that is, supra-national, national, and sub-national elections.[10]

What about the impact of the cost of voting on the turnout decision? As we did in Study 1, we perform two different regressions in which the dependent variables are the vote intention (Model 1) and turnout (Model 2). Both dependent variables are coded in the same way as we did in Study 1. Here as well, the voting cost is the main independent variable.[11] We add controls for the effect of age, sex, education, political interest, civic duty, party identification, how much one cares about the outcome of the election, the intensity of party preferences, and fixed effects for each election.[12] Descriptive statistics for all variables that are included in the analyses are reported in Appendix B.

The results of these analyses are listed in Table 2. As expected, the coefficient associated with the cost of voting is negative and statistically

(*footnote continued*)
the September 22 national election, and the last two waves just before and after the May 2014 European election. The European election waves could not be utilized because of missing data for some of the control variables. The sample size for the pre-election Bavarian surveys was 5182 (regional election) and 4098 (national election).

[10] The mean cost of voting is 0.23, 0.27 and 0.26 in national, European, and regional elections respectively.

[11] There was an experiment where half of the respondents were then simply asked: "Were you personally able to vote in this election?" with the response categories being: yes, no, and don't know and the other half were asked: "Which of the following best describes you?" with the response categories being: I did not vote in the election, I thought about voting but didn't this time, I voted in the election, and don't know. The latter question facilitates the admission of abstention and yields a lower reported turnout (Morin-Chassé et al., 2017). We have merged the two versions in all the analyses reported below but our conclusion stands whether we use one subsample or the other.

[12] In contrast to the analyses in Study 1 we do not include controls for party mobilization, political efficacy and social pressure because they were not systematically available in all 23 surveys. However, results are almost identical if we include the party contact variable available in 19 elections.

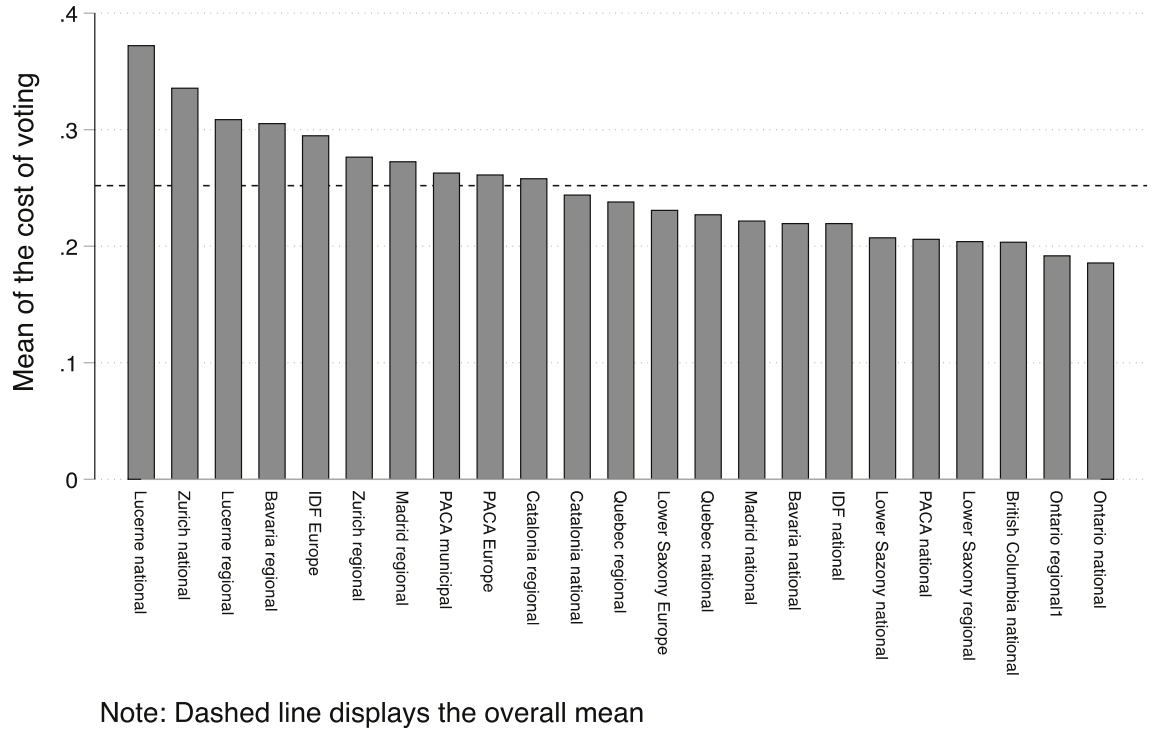

Fig. 3. Distribution of the cost of voting - MEDW dataset, 23 elections.

Table 2
Intention to vote: the impact of cost in a comparative perspective.

	Model 1		Model 2	
	DV = Vote intention		DV = Reported turnout	
	b	(se)	b	(se)
Cost of voting	−1.32***	(0.14)	−1.16***	(0.19)
Age	0.01***	(0.00)	0.02***	(0.00)
Sex (woman)	−0.08*	(0.04)	−0.17*	(0.07)
Education	0.07	(0.06)	0.29***	(0.07)
Political interest	1.21***	(0.15)	0.50**	(0.19)
Duty	2.62***	(0.08)	1.80***	(0.07)
Party identification	0.15*	(0.07)	0.22*	(0.11)
Care	2.16***	(0.15)	1.32***	(0.22)
Intensity of party preferences	0.64***	(0.16)	−0.04	(0.13)
Constant			−0.65***	(0.14)
Cut 1	−0.88***	(0.11)		
Cut 2	−0.24*	(0.10)		
Cut 3	0.37***	(0.09)		
Cut 4	1.24***	(0.10)		
Cut 5	2.26***	(0.11)		
Observations	30836		24586	
Pseudo R^2	0.219		0.213	

Note: Model 1 is an ordered logistic regression as the dependent variable has 6 categories and Model 2 is a logistic regression. Coefficients and robust standard errors clustered by election (in parentheses) are reported. Data are weighted as described. Significance level $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

significant at $p < 0.001$ in both models. Furthermore, the estimated magnitude of the effect is similar to that reported in the first study. Focusing on the estimates of Model 1 first, everything else being equal, the predicted probability of being certain to vote decreases by more than 15 percentage points, going from 0.83 to 0.67 when the voting cost shifts from its minimal (0) to its maximal (1) value. A one standard deviation change in the voting cost is associated with a four-point change in being certain to vote. Turning to the estimates of Model 2, in which reported voter turnout is the dependent variable, we also observe a negative and statistically significant (at $p < 0.001$) effect of the cost variable. In terms of predicted probabilities, the impact of the cost variable, as estimated in Model 2, is 11 points. That is, a respondent's probability to turn out changes from 0.81 when she says that voting is very difficult to 0.92 when she perceives voting to be very easy. Another way of gauging the effect size of the cost variable in Model 2 is to state that a one standard deviation increase in the perceived cost of voting decreases the probability of voting by three percentage points.

3.3. Robustness of the results

We performed the same analyses for each of the 23 elections that are included in the dataset. As we have 23 independent elections and two dependent variables (vote intention and reported turnout), we end up with a total of 46 coefficients. As expected, all of the coefficients were negatively signed. As evident from the coefficient plots in Appendix D, the variance of these coefficients is quite modest and most values are close to the mean (displayed by a dashed line). These additional analyses hence suggest that the effect of the perceived cost of voting on turnout does not vary much between countries and election levels.

4. Conclusion

Our paper constitutes the first comprehensive study of how costly citizens perceive voting to be. We have argued that what ultimately influences citizens' likelihood of voting is their *perceptions* of this cost. We find that citizens, in general, do not think that voting is costly. A majority of citizens perceive the direct cost of voting to be minimal. Distinguishing between the direct cost of voting and information/decision costs, we find that the latter are perceived to be somewhat more important.

While few citizens indicate that voting has a meaningful cost, these perceptions matter. Indeed, the perceived cost of voting is associated with turnout. While we consistently find an effect of the perceived cost of voting, that is robust to a number of additional tests and alternative specifications, we should acknowledge that its substantive impact is fairly small and comparatively less important than the effects of other determinants of turnout. While the effects are small, costs matter to

some extent, and the direct cost of voting more so than information/decision costs. We should point out, however, that we have confined ourselves to the perceived cost of voting among people who are eligible to vote. In some countries, the United States being the best-known example, people have to register in order to be eligible to vote (Massicotte et al., 2004). Quite a few studies have demonstrated the impact of registration laws on turnout (Burden and Neiheisel, 2013; Holbein and Hillygus, 2016; Wolfinger and Rosenstone, 1980). Our findings suggest that we need to consider not only the 'objective' content of the registration laws but also people's subjective perceptions of how easy or difficult it would be for them personally to get registered.

Our findings have important policy implications. Many governments and election bodies attempt to stop the decline of turnout by introducing measures that are intended to reduce the cost of voting. Our results suggest that the effects of such measures will likely be limited. First, we find that a huge majority of citizens do not think voting is costly. That is, the cost of voting is not what refrains many to turn out. Second, while variation in perceptions of the cost of voting is systematically correlated with turnout, the effect of the perceived cost is small compared to the impact of attitudinal variables such as political interest or civic duty. That being said, attempting to increase turnout by a few percentage points is a noble and worthy task.

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Appendix

Appendix A. Question wording and coding of variables

British Colombia and Quebec Survey

Vote Intention (Federal):
"How likely are you to vote in this [federal/provincial] election?"
- Certain to vote/I have already voted
- Very likely to vote
- Somewhat likely to vote
- Somewhat unlikely to vote
- Certain that will not vote

Variable coded from 1 to 6 where 1 = Certain that will not vote and 6 = Certain to vote/I have already voted

Direct Voting Cost:
"For you personally, on a scale from 0 to 10, where 0 means very difficult and 10 means very easy, how easy or difficult is it to go to the polling station?"
Variable coded from 0 to 1 where 0 = very easy and 1 = very difficult

Information Cost:
"For you personally, on a scale from 0 to 10, where 0 means very difficult and 10 means very easy, how easy or difficult is it to make up your mind about the parties?" And "For you personally, on a scale from 0 to 10, where 0 means very difficult and 10 means very easy, how easy or difficult is it to make up your mind about the party leaders?"
*Average of both questions.
Variable coded from 0 to 1 where 0 = very easy and 1 = very difficult

Age:
"In what year were you born?"
Variable rescaled to age instead of year of birth and then recoded in order to range from 0 to 1. where 0 = 18 years old and 1 = 90 years old.

Education:
"What is the highest level of education that you have completed?
- Some elementary school
- Completed elementary school
- Some Secondary/High School
- Completed Secondary/High School
- Some Technical/Community College/CEGEP
- Completed Technical/Community College/CEGEP
- Some University
- Completed BA
- Completed MA or PhD

Variable coded from 0 to 1 where 0 = some elementary school and 1 = Completed MA or PhD

Sex:
"Are you male or female?"
Dummy coded 0 = male and 1 = female

Québec:
Dummy coded 0 = British Colombia and 1 = Québec

Political Interest:
"In general, how interested are you in international politics/federal politics/provincial politics/local politics? Use a 0 to 10 scale where 0 means not interested at all and 10 means extremely interested."
*Average of the answers for the questions regarding interest in international, federal, provincial and local politics.

Variable coded from 0 to 1 where 0 = Not interested at all and 1 = Extremely interested

Duty:
"For you personally, is voting in a [federal/provincial] election first and foremost a duty or a choice?" Those who answered that voting was a duty were then asked the strength of their opinion. "How strongly do you feel personally that voting is a duty?"
- think that voting is a choice
- don't very strongly think that voting is a duty
- somewhat strongly think that voting is a duty
- very strongly think that voting is a duty

Variable coded from 0 to 1 where 0 = think that voting is a choice and 1 = very strongly think that voting is a duty

Party Identification:
"Generally speaking, do you feel close to one of the [federal/provincial] parties?"
Dummy coded 0 = Do not feel close to a party and 1 = Feel close to a party

Impact:
"In your view, how much impact do the policies of the [federal/provincial] government have on the well being of you and your family? Use a 0 to 10 scale where 0 means no impact at all and 10 means a huge impact."
Variable coded from 0 to 1 where 0 = No Impact at all and 1 = Huge Impact

Care:
"How much do you personally care which party will form the government after the election?"
- Do not care at all
- Care a little
- Somewhat care
- Care a lot

Variable coded from 0 to 1 where 0 = Do not care at all, and 1 = Care a lot

Contact:
"During this campaign, did a political party or candidate contact you in person?" And "During this campaign, did a political party or candidate contact you by email?"
- Yes
- No

Variable coded from 0 to 1 where 0 = Never Been contacted, 0.5 = Been contacted in person or by email, 1 = Been contacted in person and by email

Social Pressure by Friends/Family:
"Do you think that most of your friends and relatives will or will not vote in this election?"
- Most of them will vote
- Most of them will not vote

Dummy coded 0 = Friends and relatives will not vote and 1 = Friends and relatives will vote

Social Pressure by Spouse:
"Do you have a partner or spouse?"
- Yes
- No

"Do you know whether your partner/spouse will vote in this election?"
- He/she will certainly vote
- He/she will probably vote
- He/she will probably not vote
- He/she will certainly not vote

Dummy coded 0 = if he/she does not have a spouse or if his/her spouse will certainly not vote and 1 = Spouse will certainly vote

Intensity of Party Preferences:
"Could you indicate how you feel about the following parties, on a scale from 0 to 10, where 0 means you really dislike the party and 10 means you really like the party?"
*This variable measures the difference in scores between the respondents' two favourite parties.
Variable coded 0 to 10 (rescaled 0 to 1) for each party and we then subtracted the score given to the second party from that given to the preferred party.

Political Efficacy:
"Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with the following statement: People like me don't have any say about what the government does?"
Variable coded from 0 to 1 where 0 = strongly agree and 1 = strongly disagree.
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Vote Intention:
"Have you already voted?"
- Yes
- No

"How likely are you to vote in this election?"
- Certain to vote

- Very likely to vote
- Somewhat likely to vote
- Somewhat unlikely to vote
- Very unlikely to vote
- Certain not to vote

Variable coded from 1 to 6 where 1 = Certain not to vote and 6 = Certain to vote or have already voted

Turnout:
Treatment A. Did you vote on election day or at an advance poll or by special measures?

- Yes
- No
- Don't know/prefer not to answer

Treatment B. In each election we find that a lot of people were not able to vote because they were not registered, they were sick, or they did not have time. Which of the following statements best describes you?

- I did not vote in the election
- I thought about voting this time but didn't
- I usually vote but didn't this time
- I am sure I voted in the election
- Don't know/prefer not to answer

Dummy coded 1 if respondent answered Yes/I am sure I voted in the election and, 0 otherwise.

Cost of Voting:
"For some people voting is a simple and easy thing to do. For others, it is difficult or inconvenient. For you personally, how easy or difficult is it to vote?"

- Very difficult
- Somewhat difficult
- Somewhat easy
- Very easy
- I don't know

Variable coded from 0 to 1 where 0 = Very easy and 1 = Very difficult

Duty:
"If you didn't vote in the election, how guilty would you feel?"

- Not guilty at all
- Not very guilty
- Somewhat guilty
- Very guilty

Variable coded from 0 to 1 where 0 = Not guilty at all and 1 = Very guilty

Intensity of Preferences:
"Please rate each of the following political parties in [REGION or COUNTRY]"
Variable coded 0 to 10 (rescaled 0 to 1) for each party and we then subtracted the score given to the second party from that given to the preferred party.

Political Interest:
"On a scale from 0 to 10, where 0 means 'no interest at all' and 10 means 'a great deal of interest', how interested are you in politics in general?"
Variable coded from 0 to 1 where 0 = No interest at all and 1 = A great deal of interest.

Education:
"What is the highest level of education that you have completed?"

- No schooling
- Some elementary school
- Completed elementary school
- Some secondary/high school
- Completed secondary/high school
- Some technical/community
- Completed technical/community
- Some university
- Bachelor's degree
- Master's degree
- Professional degree or doctorate

Variable coded from 0 to 1 where 0 = No schooling and 1 = Professional degree or doctorate

Care:
"On a scale from 0 to 10, where 0 means that you 'don't care at all' and 10 means that you 'care a lot', how much do you care who wins in your local district?"

Variable coded from 0 to 1 where 0 = don't care at all and 1 = care a lot

Party Identification:
"Do you usually think yourself as close to any particular [election-level] party?"
Dummy coded 0 = No and 1 = Yes

Age:
"In what year were you born?"
Variable rescaled to age instead of year of birth and then recoded in order to range from 0 to 1. where 0 = 18 years old and 1 = 89 years old

Sex:
"Are you male or female?"
Dummy coded 0 = male and 1 = female.

Appendix B. Descriptive statistics

Study 1, vote intention sample.

	Vote intention sample N = 3968			
	Mean	Std. dev.	Min	Max
Vote intention	5.24	1.37	1.00	6.00
Direct voting cost	0.14	0.24	0.00	1.00
Information/decision cost	0.33	0.32	0.00	1.00
Age	0.40	0.21	0.00	1.00
Education	0.60	0.24	0.00	1.00
Sex (woman)	0.50	0.50	0.00	1.00
Quebec	0.49	0.50	0.00	1.00
Political interest	0.53	0.29	0.00	1.00
Duty	0.59	0.44	0.00	1.00
Party identification	0.43	0.49	0.00	1.00
Impact	0.68	0.25	0.00	1.00
Care	0.73	0.31	0.00	1.00
Contact	0.20	0.30	0.00	1.00
Social pressure by friends	0.76	0.43	0.00	1.00
Social pressure by spouse	0.40	0.49	0.00	1.00
Intensity of party preferences	0.19	0.22	0.00	1.00
Political efficacy	0.58	0.31	0.00	1.00

Study 1, reported turnout sample.

	Reported turnout sample N = 1988			
	Mean	Std. dev.	Min	Max
Voted	0.84	0.37	0.00	1.00
Direct voting cost	0.14	0.24	0.00	1.00
Information/decision cost	0.32	0.32	0.00	1.00
Age	0.41	0.21	0.00	1.00
Education	0.60	0.23	0.00	1.00
Female (woman)	0.49	0.50	0.00	1.00
Quebec	0.52	0.50	0.00	1.00
Political interest	0.52	0.30	0.00	1.00
Duty	0.60	0.43	0.00	1.00
Party identification	0.44	0.50	0.00	1.00
Impact	0.69	0.25	0.00	1.00
Care	0.72	0.32	0.00	1.00
Contact	0.20	0.31	0.00	1.00
Social pressure by friends	0.76	0.42	0.00	1.00
Social pressure by spouse	0.40	0.49	0.00	1.00
Intensity of party preferences	0.19	0.22	0.00	1.00
Political efficacy	0.58	0.31	0.00	1.00

Study 2, vote intention sample.

	Vote intention sample N = 30836			
	Mean	Std. dev.	Min	Max
Vote intention	5.54	1.09	1.00	6.00
Cost of voting	0.25	0.26	0.00	1.00
Age	0.42	0.21	0.00	1.00
Sex (woman)	0.50	0.50	0.00	1.00
Education	0.42	0.49	0.00	1.00
Political interest	0.67	0.25	0.00	1.00
Duty	0.58	0.35	0.00	1.00
Party identification	0.45	0.50	0.00	1.00
Care	0.76	0.24	0.00	1.00
Intensity of party preferences	0.18	0.19	0.00	1.00

Study 2, reported turnout sample.

	Reported turnout sample N = 24586			
	Mean	Std. dev.	Min	Max
Reported turnout	0.89	0.31	0.00	1.00
Cost of voting	0.25	0.26	0.00	1.00
Age	0.43	0.21	0.00	1.00
Sex (woman)	0.49	0.50	0.00	1.00
Education	0.42	0.49	0.00	1.00
Political interest	0.68	0.25	0.00	1.00
Duty	0.58	0.35	0.00	1.00
Party identification	0.45	0.50	0.00	1.00
Care	0.77	0.24	0.00	1.00
Intensity of party preferences	0.18	0.19	0.00	1.00

Appendix C. Interaction between Quebec and the two cost variables

	Model 1		Model 2	
	DV = Vote intention		DV = Voter turnout	
	b	(se)	b	(se)
Direct voting cost	−1.40***	(0.26)	−1.97***	(0.51)
Information/decision cost	−0.56*	(0.22)	−1.55***	(0.41)
Age	0.82***	(0.24)	2.28***	(0.47)
Education	0.36	(0.23)	0.32	(0.46)
Sex (woman)	0.10	(0.10)	−0.05	(0.19)
Quebec	0.41*	(0.17)	−0.37	(0.36)
Political interest	1.48***	(0.23)	0.35	(0.40)
Duty	1.69***	(0.12)	1.34***	(0.24)
Party identification	0.06	(0.11)	0.14	(0.24)
Impact	0.45*	(0.22)	−0.02	(0.41)
Care	1.91***	(0.22)	2.02***	(0.37)
Contact	0.53**	(0.17)	0.26	(0.35)
Social pressure by friends	0.69***	(0.11)	0.58**	(0.19)
Social pressure by spouse	1.28***	(0.13)	0.98***	(0.27)
Intensity of party preferences	0.15	(0.27)	0.02	(0.45)
Political efficacy	0.46**	(0.18)	0.37	(0.32)
Quebec × direct voting cost	−0.39	(0.36)	0.20	(0.72)
Quebec × information cost	0.38	(0.30)	1.67**	(0.56)
Constant			−1.39*	(0.54)
Cut 1	0.32	(0.31)		
Cut 2	1.13***	(0.30)		
Cut 3	1.80***	(0.30)		
Cut 4	2.85***	(0.30)		
Cut 5	4.30***	(0.31)		
Observations	3968		1988	
Pseudo R^2	0.291		0.387	

Note: Model 1 is an ordered logistic regression as the dependent variable has 6 categories and Model 2 is a logistic regression. Coefficients and standard errors (in parentheses) are reported. Data are weighted as described. Significance level, *p < 0.05, **p < 0.01, ***p < 0.001.

Appendix D. Making Electoral Democracy Work pre-election samples

Elections	N	% of 'somewhat' or 'very' difficult	Mean cost of voting
Switzerland			
Lucerne national	1024	30	.37
Lucerne regional	1084	21	.31
Zurich national	987	27	.34
Zurich regional	1078	20	.28
France			
Paris national	864	15	.22
PACA national	890	14	.21
PACA Europe	918	21	.26
Paris Europe	837	23	.29
Marseille municipal	655	21	.26
Spain			
Catalonia national	881	18	.24
Catalonia regional	921	20	.26
Madrid national	912	15	.22
Madrid regional	860	20	.27
Germany			
Lower Saxony national	885	12	.21
Lower Saxony regional	871	12	.20
Lower Saxony Europe	876	14	.23
Bavaria national	4098	11	.22
Bavaria regional	5182	20	.30
Canada			
Ontario national	1673	13	.19
Ontario regional	1174	14	.19
Quebec national	1631	15	.23
Quebec regional	894	16	.23
BC national	1641	13	.20
Total	30836	17	.25

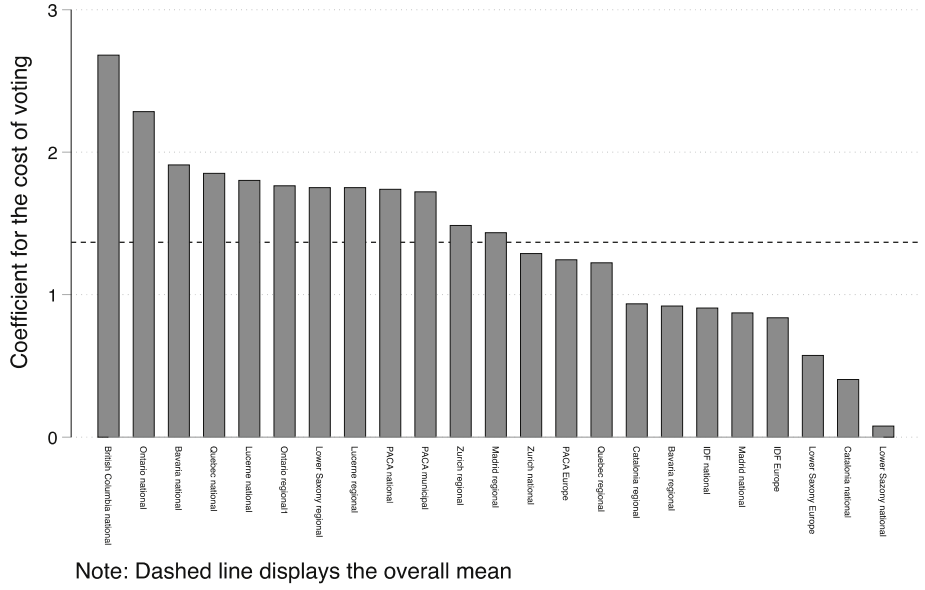

Fig. D1. Distribution of the coefficient of Cost on vote intention.

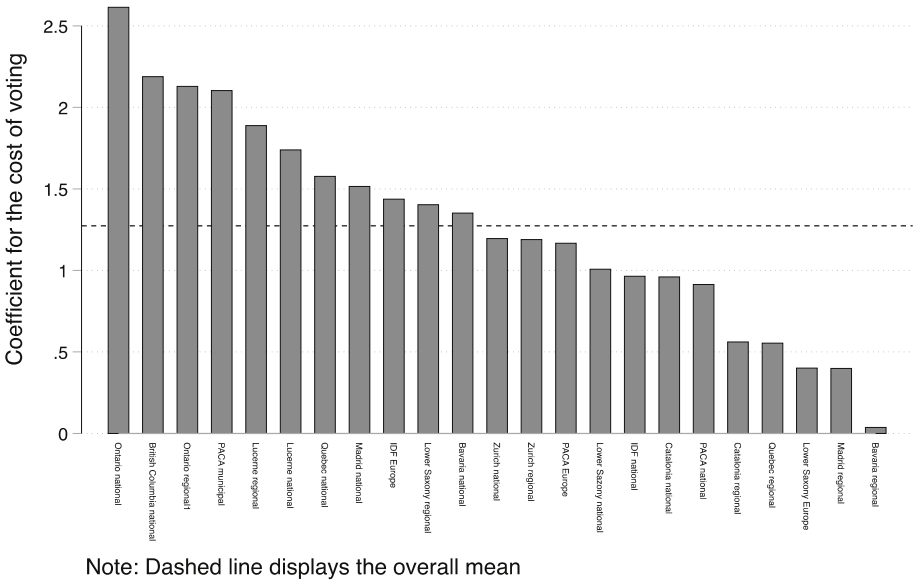

Fig. D2. Distribution of the coefficient of Cost on reported turnout.2

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