Electoral Studies 29 (2010) 239–248

Contents lists available at ScienceDirect

Electoral Studies

journal homepage: www.elsevier.com/locate/electstud

Understanding unequal turnout: Education and voting in comparative perspective

Aina Gallego*

Universitat Pompeu Fabra, Departament de Ciències Polítiques i Socials, Edifici Jaume I (Campus de la Ciutadella), Ramon Trias Fargas, 25-27, 08005 Barcelona, Spain

ARTICLE INFO

Article history:
Received 4 June 2009
Received in revised form
29 November 2009
Accepted 30 November 2009

Keywords:
Voter turnout
Elections
Political inequality
Education

ABSTRACT

Well-educated citizens vote more frequently than the poorly educated in some countries, including the USA. However, in many countries, no such differences are observed. One classical explanation of the presence or absence of this inequality in voting is that the strength of left-wing forces sharpens or reduces it. An alternative explanation is that some institutional arrangements and contextual features disproportionately affect the voter participation of some individuals depending on their resources, thus shaping turnout inequality. These theories are tested using multilevel modeling with data from 28 advanced industrial democracies. Compulsory voting reduces inequalities because under this system quasi-universal turnout is achieved. In addition, the poorly educated vote more frequently when the voting procedure is easy and when there are few political parties, thus reducing turnout inequality. However, strong left-wing parties and trade unions are not associated with more equal turnout.

1. Introduction

Socially privileged citizens vote more often than the disadvantaged. This pattern is known as unequal turnout (Lijphart, 1997) and demonstrates a well-established empirical regularity in the United States (Verba and Nie, 1972; Milbrath and Goel, 1977; Wolfinger and Rosenstone, 1980; Verba et al., 1995). From a normative point of view, unequal turnout is a relevant phenomenon. If the disadvantaged disproportionately fail to vote, governments and legislators have fewer incentives to consider their points of view in policy-making (Verba, 2004; Griffin and Newman, 2005). The impact of electoral participation rates on the design and implementation of public policies is not negligible. When lower-class citizens vote frequently, the welfare policies are more generous, and the redistributive performance of the state is greater (Hill et al., 1995; Hicks and Swank, 1992; Mahler, 2008). In addition, unequal turnout can affect partisan outcomes under certain circumstances. Assuming that disadvantaged citizens have different preferences than middle-class voters, election results could even change if everyone voted in close races (Citrin et al., 2003; Gomez et al., 2007).

However, inequality in election turnout is not universal. According to records, in many countries, particularly European democracies, education and income are not associated with voter turnout (Verba et al., 1978, 120; Topf, 1995, 48; Lijphart, 1997; Norris, 2002, 93; Parry et al., 1992, 76; Pierce, 1995, 119–121; Teorell et al., 2007, 404–409). As Nevitte et al. (2009) state in a recent analysis "There are significant differences in the extent to which SES [socio-economic status] explains the variance in non-voting (…). Education also has a consistent and significant effect on non-voting in 19 out of the 33 elections" (2009, 91). These findings suggest that unequal turnout is context dependent and contingent on the presence or absence of other factors. Despite the normative and empirical importance of unequal participation, few attempts have been made to

* Tel.: +34 677580025.
E-mail address: aina.gallego@upf.edu

0261-3794/$ – see front matter © 2009 Elsevier Ltd. All rights reserved.
doi:10.1016/j.electstud.2009.11.002

measure and explain this phenomenon cross-nationally. This paper contributes to the knowledge on unequal turnout by assessing current levels of unequal participation due to education in advanced industrial democracies and by proposing and testing explanations of turnout inequality.

Why is voter turnout more unequal in some countries than in others? The first section presents two different theories predicting different levels of unequal turnout across countries. The initial expectation is that a substantial gap exists between the voting rates of the socially advantaged and disadvantaged because the latter are less informed about politics, feel more alienated from the political system, and are not the main target of mobilization efforts by political parties (Verba et al., 1995; Rosenstone and Hansen, 1993). However, certain factors may reduce or enhance the typical participatory bias. According to one theory, turnout inequality is reduced when there are strong left-wing political organizations that mobilize resource-poor citizens to vote. The main constituency of left-wing parties and trade unions has traditionally been the socially disadvantaged and if they are sufficiently powerful their actions can help to overcome the participatory biases. The institutional theory states that some contextual characteristics disproportionately depress or foster the participation of the resource-poor because they are less able to bear certain costs of voting, and are less likely to perceive its benefits. Where voting is easy and rewarding, many citizens with few resources vote, and no inequalities are observed in voter turnout. Finally, compulsory voting introduces a cost for not voting, which should be sufficient to close the turnout gap.

In the second section of the paper unequal turnout is described while focusing on the impact of education on the vote. Education is the socio-economic characteristic that is most closely associated with political participation (Wolfinger and Rosenstone, 1980; Blais, 2000) and it is also one core predictor of social position and earnings (Card, 2001; Trostel et al., 2001). Educational measures can be better compared across countries than other factors, such as income. Unequal turnout is operationalized as the relationship between education and the probability to vote. The theories are tested in the third section with data gathered from the European Social Survey and the Comparative Study of Electoral Systems in 28 advanced industrial democracies using hierarchical models.

2. The power of the left reduces inequality

Variation in the strength of left-wing organizations across countries is a classic reason provided to explain the varying degree of influence of socio-economic factors on voter turnout. In their comparative study of inequalities in political involvement within seven countries, Verba et al. (1978) argued that a baseline difference exists in political participation; i.e., people who have a higher socio-economic resource level participate more frequently. However, lower status citizens can participate at roughly the same rates as their fellow socially privileged citizens if certain organizations mobilize them to vote. A lack of individual resources can be compensated by group resources. Lower status groups 'need a group-based process of political mobilization if they are to catch up to the upper-status groups in terms of political activity. They need a self-conscious ideology as motivation and need organization as a resource' (Verba et al., 1978, 14). If organizations actively work to bring the disadvantaged to the polls, their task will offset or even reverse the typical participatory biases.

It is well-known that in some countries, such as the USA, political parties mostly mobilize upper-class individuals (Rosenstone and Hansen, 1993; Abramson and Claggett, 2001; Brady et al., 1999; Wielhouwer, 2003). However, this is not necessarily a pervasive pattern. In a recent comparative study, Karp et al. (2008, 224) found that well-educated people are not more likely to be contacted by parties during campaigns than poorly educated people in established democracies.

In advanced industrial democracies, the key factor that explains the massive electoral participation of disadvantaged social groups throughout most of the 20th century is class-based mobilization. The efforts of the working-class movement have been essential in the mobilization of the working-class electorate (Alford, 1963; Burnham, 1982; Bartolini, 2000) and to understand the high turnout rates in some countries, presumably because they promote the participation of lower status citizens who would otherwise abstain from voting (Gray and Caul, 2000; Pacek and Radcliff, 1995; but see Fisher, 2007).[1]

For most of the 20th century, many countries had large social-democratic, socialist, communist, and agrarian political parties that explicitly focused on representing the interests of lower-class citizens (Lipset and Rokkan, 1967), and helped to overcome biases in participation. According to Alford 'where workers have a party clearly appealing to their interests, their participation and sense of efficacy is as great as middle-class persons' (1963, 302). The size and power of left-wing parties varies widely across countries. In countries with large left-wing parties, the biases in participation should be small or non-existent. Secondly, trade unions have been a pivotal organization in the defense of the interests of the working class during the 19th and the 20th centuries. They increase voter participation rates both of their members and the general electorate (Gray and Caul, 2000; Freeman, 2003; Radcliff and Davis, 2000). They do so either directly by performing mobilization activities or indirectly by influencing the policy positions of left-wing parties to more closely align them to the interests of their members (Radcliff and Davis, 2000). Moreover, trade unions have been found to disproportionately enhance the turnout rate of the middle class and socially disadvantaged groups (Leighley and Nagler, 2007). The strength of trade unions and its mobilization capacity varies across countries. This should shape also turnout inequality.

[1] Theoretically, the relationship between voter turnout and share of the left-wing vote could be endogenous. However, Fisher (2007) has found that, while there is a correlation between these two factors, changes in turnout do not produce changes in the share of vote for left-wing parties, with very few exceptions.

The power of the left theory mostly applies to explain the electoral mobilization or demobilization of the working-class individuals. Members of the working class are on average less educated than higher status individuals, because education is precisely one of the sorting mechanisms that determine the occupation of the workers. If the mechanism works, i.e. if left-wing parties and trade unions mostly target lower status individuals in their mobilization effort, their action should not only result in higher overall turnout, but also in lower turnout inequalities, since it is the poorly educated, low-status individuals who are disproportionately mobilized to vote.

3. The contextually determined difficulty and rewards of voting

As Downs (1957, 273–274) argued, the costs and benefits of voting are central to understanding why the socially disadvantaged often fail to vote; they face more difficulties gathering information about politics and voting, and they are typically less interested and knowledgeable about politics, thereby often producing participation gaps. Voting is more difficult and less rewarding in some contexts than in others. This argument has been proposed as an explanation for changing participation levels across countries (cf. Jackman, 1987; Jackman and Miller, 1995). However, it is unlikely that contextual features affect the propensity to vote of all kinds of citizens in the same way. Some costs and rewards of voting, such as the physical fatigue of going to the polls, are homogenously distributed among citizens of all social groups, whereas other costs and benefits of voting are relatively higher or lower conditional on the resources of the individual. For example, the cognitive costs of registration, deciding for whom to vote or to deal with the voting procedure are easy to bear for individuals with many cognitive resources. On the contrary, even a small increase in this kind of costs can discourage resource-poor individuals of voting. The contextual characteristics that shape these heterogeneously distributed costs and benefits of voting should strongly affect turnout inequality.

Many institutional and contextual features affect the difficulty and the rewards of voting, but this does not necessarily have an impact on turnout inequality. An institution that on average increases voter turnout of all kinds of individuals by a few percent points should not have a strong effect on turnout gaps. On the contrary, contextual characteristics which disproportionately depress or foster the propensity to vote of resource-poor individuals are expected to strongly shape voter turnout inequality, even if they have only a modest impact on turnout rates.

Firstly, the burdensome American registration system has often been considered as one of the main causes for the large class gaps observed in voting in the USA because the registration cost is assigned to the citizen and this makes the process of voting more difficult (Campbell et al., 1960, Chapter 11; Wolfinger and Rosenstone, 1980; Powell, 1986). Among the four criteria identified by Lopez-Pintor and Gratschew (2002, 25) to classify voter registration systems, the following two affect turnout inequality: whether registration is voluntary or compulsory and whether it is state- or citizen-initiated. The costs of registration are transferred to the state in state-initiated registration. In addition, registration that is self-initiated and compulsory makes the voting procedure more difficult, but this system is less likely to result in turnout inequality. Thus, if registration is self-initiated and voluntary, turnout inequality is expected to be larger.

Secondly, the voting procedure varies greatly across countries and might shape turnout inequality. Voting is more cognitively difficult if citizens are confronted with many different choices. Ordinal or categorical ballot papers, such as those used in closed-list party ballots or in uninominal districts, only allow making one choice among a few options. In other systems, the voter can decide among several candidates of the same party, weight the vote, or assign a rank to the preferences. In a comparative study of voting, Anduiza (2002) found that the opportunity to express preferences depresses turnout among citizens with less resources and motivation while enhancing the turnout of the more economically advantaged and politically interested citizens. This finding suggests that the benefits of voting are higher for well-educated citizens when they can transmit more nuanced messages to the political system, whereas some individuals with fewer cognitive resources refrain from voting because the costs of voting rise if they are confronted with many options. It is hypothesized that open ballots foster turnout inequality.

The number of political parties involved in the election process affects the difficulty of staying informed and making a decision for whom to vote (Brockington, 2004). Controversy surrounds the effect of the number of parties on electoral turnout. Although some authors predict that it increases turnout, others claim that it depresses it; thus far, the findings are inconclusive (see Blais, 2006; Geys, 2006). One possible reason for this division in thinking is that the effective number of parties involved in the voting process has different effects on resource-poor citizens than resource-rich citizens. Jusko and Shively (2005) note that among high information citizens, turnout is positively affected by a larger number of parties, whereas low-information people are less likely to vote when a large number of parties are involved. One interpretation of this finding is that well-educated citizens may prefer having a larger pool of choices and they are more likely to find a political party that better represents their individual point of view when many options are available, whereas poorly educated citizens find the process of obtaining information about the positions of many different political parties and deciding which one is preferred burdensome. Thus, I expect that as the number of political parties that are involved increases, the level of inequality will increase.

Compulsory voting is a strong, institutionally determined modification of the cost and benefit structure of voting. It is the most influential institution in terms of shaping turnout rates (Blais and Dobrzynska, 1998; Franklin, 2001; Franklin et al., 1996; Jackman, 1987; Jackman and Miller, 1995; Powell, 1986). In countries where

compulsory voting is enforced, abstainers run the risk of incurring fines, having to justify their absence at the ballot box, or receiving other sanctions (Gratschew, 2004). Even if it is not strictly enforced, this institution increases social pressure to vote. The poor and lesser educated may not be very motivated to participate, but they will vote in large numbers in order to avoid receiving a sanction. In compulsory voting systems with monetary fines for not voting, we can expect the underprivileged to be even more sensitive to the possibility of being fined because they have fewer financial resources; thus, the relative cost of not voting is higher for them. Further, as Jackman (2001) _suggested, the government in a compulsory voting country tends to provide all kinds of facilities to make voting easier, thus reducing the costs associated with voting to the voter. In the presence of compulsory voting, abstainers are more likely to represent a random selection of the population; therefore, education will likely become irrelevant in terms of affecting voter turnout.

4. Where is turnout unequal? Measuring turnout inequality across countries

The scope of this analysis has been limited to advanced industrial democracies in order to achieve a certain degree of homogeneity across the units.[2] Advanced industrial democracies are defined as free democracies according to Freedom House with an annual GDP per capita that is higher than 20,000 dollars.[3] The European Social Survey (ESS) and the Comparative Study of Electoral Systems (CSES) are two optimal sources of data for the comparative study of electoral behavior. Currently, two editions of the CSES and three of the ESS are available for public use.[4] One survey has been selected for each country with prioritization given to the most recent available and the ESS due to its strong emphasis on comparability (see the details of the surveys selected in the appendix). A pooled dataset that contains survey data for 52,371 individuals in 28 countries has been created for which comparable survey data is available.

The concept of unequal turnout is frequently referenced in the literature, but few attempts have been made to measure and compare this phenomenon across countries. The approach used by Verba et al. (1978) was simply to compare the correlation between individual characteristics and political participation across countries. An important decision to make is related to which dimension of inequality should be the focus of investigation because many characteristics, including gender, race, income, social class, and education, can arguably produce inequalities in voter turnout. In this paper, I chose to focus on the impact of education on voter turnout. Education is a good predictor of social position, and it is empirically better than social class or income at predicting whether a person votes (Blais, 2000).

In order to assess the levels of unequal participation it is necessary to create a summary measure of inequality that can be estimated and compared across countries. Unequal turnout can be operationalized as the empirical relationship between education and voting. In countries where this relationship is strong, large inequalities can be observed in voter participation. On the contrary, in countries where no relationship exists, the probability of voting for people with different education levels is identical and thus creating no turnout inequality. We have n individuals (i) nested within m countries (j). The strength of the relationship between education measured in years[5] and the vote is captured by each country's coefficientβ_1 resulting from the following logistic regression:

$$Logit(vote_{ij}) = \beta_{0j} + \beta_{1j} education_{ij} + \beta_{2j} age_{ij} + \beta_{3j} agesquared_{ij}$$

Other controls are not added because if we are interested in the relationship between two elements, we will not control for intermediary mechanisms. Additionally, factors that are in part a consequence of the variable of interest should not be controlled (King et al., 1994, 173–174). Education positively impacts the vote through many intermediary variables; it enhances political interest, the income of the respondent, network centrality, political knowledge, etc. (Nie et al., 1996). The logit coefficient should not be interpreted as the net causal relationship between education and voter participation but as a summary measure of the empirical link. A logit removes the ceiling effects derived from the fact that voter turnout has an upper limit of 100%. Thus, this coefficient summarizes the relationship between education and voter participation while disregarding the age of the respondent and the mean level of turnout in a country (see Jusko and Shively, 2005). Graph 1 displays the logit coefficients of education resulting from running the described logistic regression plotted against the official turnout rates in each country.

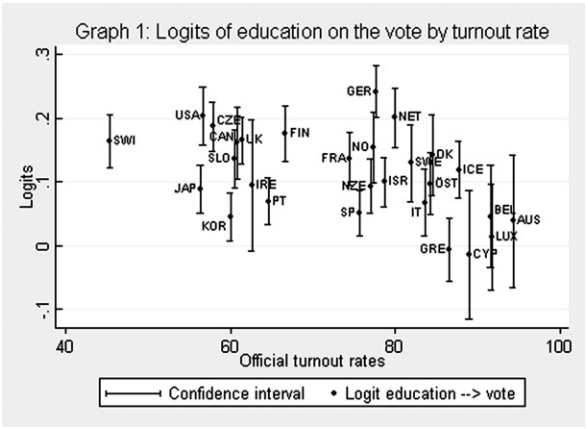
This approach shows that the relationship between education and voting is weakest in compulsory voting countries, such as Cyprus, Greece, Belgium, Luxembourg, and Australia, but it is also weak in countries like Spain and

[2] Otherwise, we would need to include controls for such relevant characteristics as the level of economic development or the degree of democratization. Further, Norris (2004) has shown that many contextual level factors operate differently in developed versus developing countries.

[3] Data from Freedom House http://www.freedomhouse.org and the World Economic Outlook Database of the International Monetary Fund in http://www.imf.org/external/ns/cs.aspx?id=28. Both were visited on September 2007.

[4] The CSES documentation and data is accessible at http://www.cses.org. The ESS is archived and distributed by the Norwegian Social Science Data Services (see http://ess.nsd.uib.no).

[5] Education measured in years is frequently used in comparative studies, even if this measure is not exempt from problems. Since the ESS and the CSES ask about education in different ways, there are problems in applying other measures of education. The only option would be the collapse the education variable in three categories (No qualification or only primary completed, upper secondary completed or tertiary completed) which would represent a loss of information compared to the current operationalization.



Graph 1. Logits of education on the vote by turnout rate.

South Korea which do not have particularly high turnout rates. On the contrary, the largest effects of education on voting are found in Germany, the USA, the Netherlands, and the Czech Republic.

5. Explaining variation in turnout inequality across countries

Turnout inequality is operationalized as the strength of the relationship between education and voting. Thus, factors that sharpen or reduce inequality are those that make the link between education and voting more or less intense. I test the predictions of the theories with a multilevel model that includes cross-level interactions between education and contextual characteristics that vary across countries. In that way the slopes of education are allowed to vary depending on the contextual characteristics of the country.

Standard regression models rely on the assumption of no serial correlation between the errors because the observations are sampled independently. This assumption is violated in the case of nested data; individuals, i.e., first level units, living in the same country, i.e., second-level units, are more similar to one another in their behavior than citizens from other countries. Multilevel modeling is used in order to avoid underestimating the standard errors and producing type I errors or false positives. In addition, in this research, distinguishing between the impact of contextual characteristics on the voter participation and on turnout inequality is necessary. Multilevel models are well suited for that purpose because they allow distinguishing between the impact of the contextual explanatory variables on the intercept (β_0) and on the coefficient or slope (β_{1j}) (see for example Raudenbush and Bryk, 2002, 16–37).

As in conventional equations, the individual level outcome is predicted by level 1 variables in multilevel models. In addition, the groups' (level 2) intercepts and slopes can be predicted by one or more contextual variables. Random effects may be included in each of the equations at level 2. The equations are as follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} context_j + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} context_j + u_{1j}$$

In the first equation, the first level intercept, β_{0j}, is modeled as a function of both fixed and random effects; γ_{00} and γ_{01} are level 2 coefficients or fixed effects, and u_{0j} is the second-level random effect. The same applies to the second equation that models the slope of education β_{1j}, as a function of fixed and random effects. With this approach, we can determine whether the impact of education on voter participation varies depending on the presence or absence of contextual characteristics. By substitution in the original regression equation, we get the following equation[6]:

$$\begin{aligned} Logit(vote_{ij}) = {} & \gamma_{00} + \gamma_{10} edu_{ij} + \gamma_{01} context_j \\ & + \gamma_{11} context_j^{*} edu_{ij} + \beta_2 age_{ij} \\ & + \beta_3 agesquared_{ij} + u_{0j} + u_{1j} edu_{ij} \end{aligned}$$

This model allows us to distinguish between a) the effect of contextual characteristics on the overall or baseline probability to vote and b) the conditional effect of contextual characteristics on the probability to vote depending on education. This is particularly useful for testing the theories on the determinants of turnout inequality because most of the explanatory factors should have an effect both on turnout and on turnout inequality. For example, strong left-wing parties have been found to raise turnout rates (Gray and Caul, 2000), but we want to know if they disproportionately foster the participation of poorly educated citizens and reduce turnout inequality.

An initial analysis of the variance components confirms that a significant part of the variance of the intercepts and the education slopes can be attributed to the second level. However, there is not sufficient power to fit a random intercepts random slopes model, because even if the group sizes are large, the number of groups is very small (only 28 countries). Requirements for the size of datasets are often large in order to detect significant interactions; therefore, we would need a larger dataset to estimate a random coefficients model. Thus, the multilevel model is a random intercept, fixed slopes model[7] with individual and contextual predictors of the vote and

[6] Note that no first level random effect is included because the dependent variable (i.e., voting) is binary, and thus the variance of the level 1 errors is fixed in order to identify the rest of the parameters.

[7] Theoretically, it would be better to include a random term, but an N at the second level of 28 cases is too low to do that. Allowing the slope of education to vary depending on the presence of contextual variables allows testing for conditional impacts of education on the vote. This is what conventional interaction models do (Kam and Franzese, 2007), and it is enough to assess if the conditional relationships predicted by the theory exist. Analyses with random slopes reveal that even if the coefficients often fail to reach statistically significant levels, the direction of the coefficients is very stable.

cross-level interactions between education and level 2 variables:

$$Logit(vote_{ij}) = \gamma_{00} + \gamma_{10} edu_{ij} + \gamma_{01} context_j + \gamma_{11} context_j^* edu_{ij} + \beta_2 age_{ij} + \beta_3 agesquared_{ij} + u_{0j}$$

The contextual factors are measured as follows:

The strength of the left is operationalized as the share of the vote for left-wing parties and union density. The share of the vote for left-wing parties is the percentage of votes cast for social-democratic, socialist, and communist parties. The data is from Armingeon et al. (2008) or self calculated. The strength of unions is measured as the percentage of union members in the sample as calculated from survey data.[8]

The following three factors affect the difficulty of voting:

- The type of ballot: Voting is more difficult in a preferential vote system as compared to a categorical system with closed lists or uninominal districts. The categorical vote system is used in Greece, South Korea, Spain, Portugal, Japan, New Zealand, Israel, France, Canada, the USA, and Germany.
- The type of registration system: Registration is self-initiated and voluntary in the USA, and self-initiated and compulsory in France and New Zealand. All other countries were assigned a 0, while France and New Zealand were assigned a 0.5; the USA is coded as 1.
- The effective number of electoral parties: This measures the number of political options available to the citizens, and it is calculated as proposed by Laakso and Taagepera (1979).[9]

Compulsory voting is coded as 1 where it is currently in force (i.e., Australia, Belgium, and Luxemburg). It is coded as 0.5 in the countries where it is not in force (i.e., Greece, Italy, and Cyprus) (see Gratschew, 2004).

The values of the continuous variables (i.e., the share of left-wing party vote, unionization, and number of electoral parties) were recoded so that the minimum value is 0, and the maximum is 1. In this way, all coefficients can be roughly compared.

6. Unequal voter turnout in advanced industrial democracies

Table 1 reports the results of a random intercepts fixed slopes hierarchical model with individual characteristics, contextual factors, and cross-level interactions as predictors of voter turnout.[10] Several exploratory analyses have been conducted while adding fewer variables to the model because of concerns about the stability of the results due to the small number of level 2 units. The direction of the coefficients and the standard errors were similar[11]; thus, only the results of the complete model are reported. In addition, the models were run while excluding compulsory voting countries; nevertheless, similar patterns emerged, and an approach to keep the number of level 2 units as large as possible was prioritized.

A large share of the vote for left-wing parties is associated with a larger impact of education on voter participation rather than the smaller effect that was hypothesized. Thus, the strong presence of this kind of party is seemingly not an equalizing agent. In addition, the share of union members in the population is not associated with the impact of education on voter participation. Strong trade unions do not foster equality in electoral participation. This result is puzzling because the existence of strong trade unions has often been considered a very relevant factor in the electoral mobilization of the poor. One possible explanation for this result is that while trade unions might have been equalizing institutions in the past, they no longer perform this role. These organizations have been losing affiliates over the last few decades in many advanced industrial societies (Ebbinghaus and Visser, 2000; Scruggs and Lange, 2002; Visser, 2006). The profile of unionized people has also changed dramatically; for example, white-collar workers currently outnumber blue-collar workers as members in unions (Leighley and Nagler, 2007, 430; Norris, 2002, 183).

[8] Union density is an alternative way to operationalize the power of trade unions and is calculated as the percentage of wage and salary earners that are members within the employment pool. The data was collected from Cohen et al. (2003), Visser (2006); and http://eurofound.europa.eu. The two methods result in very different estimates of trade union strength. However, the results of the analysis led to the same conclusion; i.e., unionization is related to the probability to vote but no significant interaction is observed between union strength and the impact of education on voter participation.

[9] The data is from Gallagher and Mitchell (2005) or self calculated. Belgium is an outlier with 8.84 effective parties. In order to reflect the fact that this country has two party systems (Walloon and Flanders), this number is divided by 2. For France, a method to calculate the effective number of parties in Presidential elections is unclear. In the first round, the number of electoral parties in the 2002 election was 8.4. Moreover, 3 elections (i.e., one parliamentarian and the two rounds of the presidential elections) were held in a three-month time span, each with a different number of electoral parties occurring. The value of this variable is set to the mean in the French case.

[10] It is well-known that voter participation is overreported in surveys due to several reasons. This fact biases descriptive inference and can bias causal inference if there is a systematic relationship between over-reporting and independent variables of interest (Bernstein, Chadha, and Montjoy, 2001). In the present research there are no reasons to suspect that the well educated overreport more frequently in countries with weak left-wing parties and trade unions, open ballots, burdensome registration or a large number of parties. One frequent correction is to weight for actual turnout rates. However, the focus of interest in this paper is the conditional impact of education on voting rather than voting per se. In the absence of information about the relationship between education and overreporting in each of the countries, effective corrections are not doable. Thus this kind of weighting is not applied.

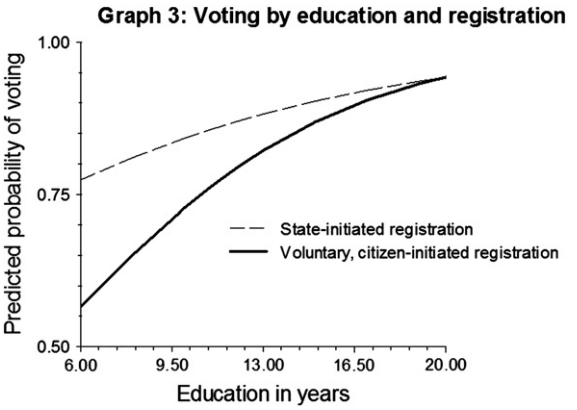
[11] The main differences are that the interaction between left-wing party share of the vote and education is not significant when excluding the difficulty of voting variables, and the interaction between registration and education is not significant when excluding the other variables.

Table 1
Determinants of voter turnout and turnout inequality.

	Coef.	Std. Error	Sig.
Fixed effects			
First level			
Years of education	0.055	0.018	0.002
Age	0.106	0.004	0.000
Age squared	−0.001	0.000	0.000
Intercept	−1.231	0.122	0.000
Second level			
Share vote left-wing parties	−0.408	0.450	0.375
Unionization	2010	0.442	0.000
Open ballot	−1023	0.248	0.001
Registration	−1390	0.538	0.018
Eff. number electoral parties	−1224	0.473	0.017
Compulsory voting	2173	0.360	0.000
Cross-level interactions			
Share vote left-wing parties * education	0.040	0.018	0.027
Unionization * education	−0.009	0.021	0.653
Preferential ballot * education	0.036	0.010	0.001
Registration * education	0.068	0.022	0.002
Eff. number electoral Parties * education	0.037	0.019	0.058
Compulsory voting * education	−0.033	0.020	0.105
Random effects			
Standard deviation intercept	0.352	0.051	
Log likelihood[a]	−18,970		
N first level	28		
N second level	52,371		

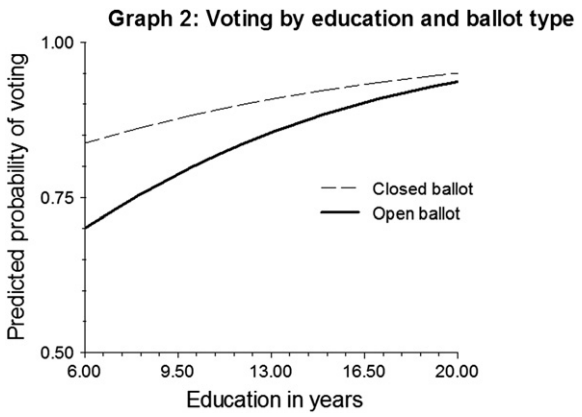
[a] Log likelihood baseline model: −20,381; Prob > chi^2: 0.000.

In preferential voting systems, the impact of education on voter participation is larger than in voting systems with categorical ballots. The same holds true in the case of the registration system. Where registration is voluntary and citizen-initiated, the impact of education on voter participation is larger. However, this result is highly dominated by the American case. The effective number of electoral parties is also linked to turnout inequality as expected: as the number of parties increases, the logit of education also increases. Compulsory voting is of course a strong predictor of voter participation, but it affects the propensity to vote of highly and poorly educated citizens equally. The impact of compulsory voting on turnout inequality is only indirect: inequalities virtually disappear at quasi-universal turnout rates.

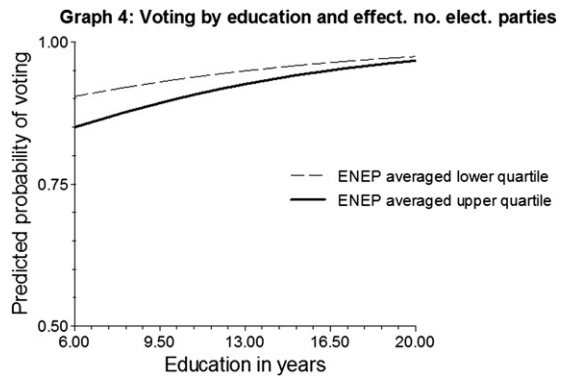


Graph 3. Voting by education and registration.

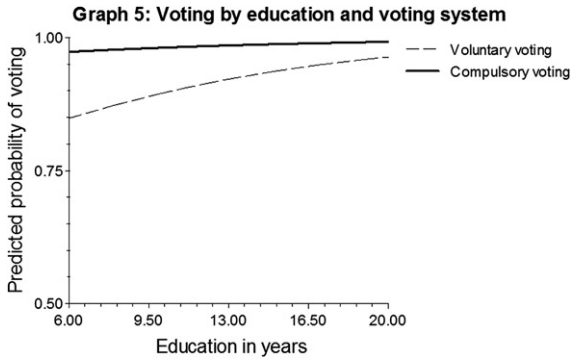
The results of a multilevel logistic regression are not directly interpretable in substantive terms; thus, the results must be transformed into predicted probabilities in order to clarify the magnitude of the impact. Graphs 2–5 present the predicted probabilities of voting plotted against the level of education in different contexts. The lines display these probabilities for different values of the contextual variables. With exception of the compulsory voting figure, all other graphs report the predicted probability to vote under voluntary voting systems. The values of the contextual variables are straightforward in the case of the type of ballot, registration, and compulsory voting. The lines represent the predicted probability of voting by education status with open or closed ballots, compulsory or voluntary voting systems, or different registration systems. For the effective number of electoral parties, the lines display the predicted probability of voting when the number of parties is set at the averaged upper and lower quartiles.



Graph 2. Voting by education and ballot type.



Graph 4. Voting by education and effect. no. elect. parties.



Graph 5. Voting by education and voting system.

The graphs clearly illustrate interaction effects between contextual variables and the gradient of the link between education and voter participation. The scale of the voting probability has been set to range between 0.5 and 1. The differences are sizable and as expected. In voluntary voting countries, the relationship between education and the probability to vote is less pronounced when registration is state initiated, when closed ballots are used, and when the number of effective parties is small. Compulsory voting is a special case. When voting is compulsory, turnout rates are high, thereby rendering inequality in voter turnout impossible.

7. Conclusions and discussion

This paper has examined the levels of unequal turnout across advanced industrial democracies and the factors that account for variation in unequal turnout. Empirically, the paper has focused on the impact of education on the vote as a proxy for the theoretical concept of unequal turnout. Variation does indeed exist in the relationship between education and voter participation; in some countries, such as the USA, the Czech Republic, and Germany, this relationship is particularly large, thereby leading to large gaps in the turnout rates of the highly educated group as compared to the poorly educated group of the population. On the contrary, people from different social groups vote at very similar rates in other countries. This difference in the levels of inequality in voter turnout is relevant because it implies that the normatively important phenomenon of unequal participation is not a pervasive and natural feature of democratic political systems; rather, it is context dependent and contingent on other factors. Once this variation is acknowledged, we can better understand why turnout is unequal in some contexts but not in others.

Neither the existence of strong left-wing parties nor of trade unions seems to disproportionately foster the electoral mobilization of the poor. The results suggest that parallel to these changes in the composition of trade union membership, the ability of these associations to mobilize working-class people electorally has eroded. Left-wing parties and trade unions are not the equality-enhancing organizations as depicted by the literature and the idea that they focus their mobilization efforts on the economically disadvantaged should be re-examined instead of taken for granted.

Compulsory voting has a very strong positive effect on turnout rates. This institution does not disproportionately foster the participation of the socially disadvantaged, but its strong impact makes turnout rates approach 100 percent of citizen participation. Logically, when almost everyone votes, little room is allowed for inequalities to emerge; thus, raising overall turnout rates is an effective way of reducing inequalities in voter participation.

The most novel finding of this article is that voter turnout is more equal where voting is easy. This new theory of unequal turnout has been advanced and tested, and the results show that education is less related to the probability to vote where the ballots are simple, where registration is state initiated, and where the number of electoral parties is small. Unequal turnout is thus partly determined by institutions and the electoral context and in particular, it seems to be affected by the cognitive abilities required in the act of voting.

Importantly, this finding suggests that gaps in the turnout rates of different groups can be reduced by making the electoral procedure very easy or by introducing compulsory voting. Some political scientists, such as Lijphart (1997) and Wattenberg (2006), have argued that the most promising option to solve the turnout inequality problem is to implement compulsory voting. Obviously, compulsory voting is the most effective means of approaching near-universal rates in voter turnout, thereby eliminating turnout inequality. However, proposals to introduce this measure will likely encounter resistance and will be highly unpopular in most advanced industrial democracies. This work hints at an alternative direction for proposals of electoral reform; i.e., some minor interventions that reduce the difficulty of voting, such as the introduction of closed ballots, could potentially reduce turnout biases. Minor changes are less unpopular and can possibly contribute to the goal of reducing turnout inequality.

Acknowledgements

I thank Eva Anduiza, André Blais, Karen Jusko, Miki Kittilson, Araceli Mateos, and Gábor Tóka for their comments on earlier versions of this paper. The comments of the anonymous reviewers were particularly useful to improve the arguments and the presentation of the results.

Appendix.

Survey data used

	Survey	Round	Date of election		Survey	Round	Date of election
Australia	CSES	2	October 2004	Italy	CSES	2	April 2006
Austria	ESS	2	November 2002	Japan	CSES	2	July 2004
Belgium	ESS	3	May 2003	Luxembourg	ESS	2	June 2004
Canada	CSES	2	June 2004	Netherlands	ESS	2	January 2003
Cyprus	ESS	3	May 2006	New Zealand	CSES	2	July 2002
Czech Rep.	ESS	2	June 2002	Norway	ESS	3	September 2005
Denmark	ESS	3	February 2005	Portugal	ESS	3	February 2005
Finland	ESS	2	March 2003	Slovenia	ESS	2	October 2004
France	ESS	3	April 2002	South Korea	CSES	2	April 2004
Germany	ESS	3	September 2005	Spain	ESS	3	March 2004
Greece	ESS	2	March 2004	Sweden	ESS	3	September 2006
Iceland	ESS	2	May 2003	Switzerland	ESS	3	October 2003
Ireland	ESS	2	May 2002	UK	ESS	3	May 2005
Israel	ESS	1	January 2003	USA	CSES	2	November 2004

ESS: European Social Survey, CSES: Comparative Study of Electoral Systems.

References

Abramson, P.R., Claggett, W., 2001. Recruitment and political participation. Political Research Quarterly 54 (4), 905–916.

Alford, R.R., 1963. Party and Society: The Anglo-American Democracies. Rand McNally, Chicago.

Anduiza, E., 2002. Individual characteristics, institutional incentives and electoral abstention in western Europe. European Journal of Political Research 41 (5), 643–673.

Armingeon, K., et al., 2008. Comparative Political Dataset 1960–2005. Institute of Political Science, University of Berne. Available at: http://www.ipw.unibe.ch/content/team/klaus_armingeon/comparative_political_data_sets/index_ger.html (accessed March 2008).

Bartolini, S., 2000. The Political Mobilization of the European Left, 1860–1980: The Class Cleavage. Cambridge University Press, New York, Cambridge, Eng.

Bernstein, R., Chadha, A., Montjoy, R., 2001. Overreporting voting: why it happens and why it matters. Public Opinion Quarterly 65 (1), 22–44.

Blais, A., 2000. To Vote or Not to Vote?: The Merits and Limits of Rational Choice Theory. University of Pittsburgh Press, Pittsburgh.

Blais, A., 2006. What affects voter turnout? Annual Review of Political Science 9, 111–125.

Blais, A., Dobrzynska, A., 1998. Turnout in electoral democracies. European Journal of Political Research 33 (2), 239–262.

Brady, H.E., Schlozman, K.L., Verba, S., 1999. Prospecting for participants: rational expectations and the recruitment of political activists. The American Political Science Review 93 (1), 153–168.

Brockington, D., 2004. The paradox of proportional representation: the effect of party systems and coalitions on individuals' electoral participation. Political Studies 52 (3), 469–490.

Burnham, W.D., 1982. The Current Crisis in American Politics. Oxford University Press, New York, Oxford.

Campbell, A., et al., 1960. The American Voter. Wiley, New York.

Card, D., 2001. Estimating the return to schooling: progress on some persistent econometric problems. Econometrica 69 (5), 1127–1160.

Citrin, J., Schickler, E., Sides, J., 2003. What if everyone voted? Simulating the impact of increased turnout in senate elections. American Journal of Political Science 47 (1), 75–90.

Cohen, Y., et al., 2003. Unpacking union density: membership and coverage in the transformation of the Israeli IR system. Industrial Relations 42 (4), 692–711.

Downs, A., 1957. An Economic Theory of Democracy. Harper and Row, New York.

Ebbinghaus, B., Visser, J., 2000. Trade Unions in Western Europe Since 1945. Grove's Dictionaries, New York.

Fisher, S.D., 2007. (Change in) turnout and (Change in) the left-share of the vote. Electoral Studies 26 (3), 598–611.

Franklin, M.N., 2001. How structural factors cause turnout variations at European parliament elections. European Union Politics 2 (3), 309–328.

Franklin, M.N., van der Eijk, C., Oppenhuis, E., 1996. The institutional context: turnout. In: Van Der Eijk, C., Franklin, M.N. (Eds.), Choosing Europe?: The European Electorate and National Politics in the Face of Union. University of Michigan Press, Ann Arbor, pp. 306–331.

Freeman, R.B., 2003. What Do Unions Do. To Voting? NBER Working Paper Series National Bureau of Economic Research, Cambridge. Available at:. http://www.nber.org/papers/w9992.

Gallagher, M., Mitchell, P., 2005. The Politics of Electoral Systems. Oxford University Press, Oxford.

Geys, B., 2006. Explaining voter turnout: a review of aggregate-level research. Electoral Studies 25 (4), 637–663.

Gomez, B.T., Hansford, T.G., Krause, G.A., 2007. The republicans should pray for rain: weather, turnout and voting in U.S. presidential elections. The Journal of Politics 69 (3), 649–663.

Gratschew, M., 2004. Compulsory voting. In: López Pintor, R., Gratschew, M. (Eds.), Voter Turnout in Western Europe Since 1945. International Institute for Democracy and Electoral Assistance, Stockholm, pp. 25–31.

Gray, M., Caul, M., 2000. Declining voter turnout in advanced industrial democracies, 1950 to 1997: the effects of declining group mobilization. Comparative Political Studies 33 (9), 1091–1122.

Griffin, J.D., Newman, B., 2005. Are voters better represented? The Journal of Politics 67 (4), 1206–1227.

Hicks, A., Swank, D.H., 1992. Politics, institutions, and welfare spending in industrialized democracies, 1960–82. American Political Science Review 86 (3), 658–674.

Hill, K.Q., Leighley, J.E., Hinton-Anderson, A., 1995. Lower-class mobilization and policy linkage in the US states. American Journal of Political Science 39 (1), 75–86.

Jackman, R.W., 1987. Political institutions and voter turnout in the industrial democracies. The American Political Science Review 81 (2), 405–424.

Jackman, R.W., Miller, R.A., 1995. Voter turnout in the industrial democracies during the 1980s. Comparative Political Studies 27 (4), 467–492.

Jackman, S., 2001. Compulsory Voting. International Encyclopaedia of the Social and Behavioural Sciences. Elsevier, Amsterdam.

Jusko, K.L., Shively, W.P., 2005. Applying a two-step strategy to the analysis of cross-national public opinion data. Political Analysis 13 (4), 327–344.

Kam, C.D., Franzese Jr., R.J., 2007. Modeling and Interpreting Interaction Hypotheses in Regression Analysis. University of Michigan Press, Ann Arbor.

Karp, J.A., Banducci, S.A., Bowler, S., 2008. Getting out the vote: party mobilization in a comparative perspective. British Journal of Political Science 38 (1), 91–112.

King, G., Keohane, R.O., Verba, S., 1994. Designing Social Inquiry: Scientific Inference in Qualitative Research. Princeton University Press, Princeton, N.J.

Laakso, M., Taagepera, R., 1979. Effective number of parties: a measure with application to west Europe. Comparative Political Studies 12 (1), 3–27.

Leighley, J.E., Nagler, J., 2007. Unions, voter turnout, and class bias in the US electorate, 1964–2004. The Journal of Politics 69 (2), 430–441.

Lijphart, A., 1997. Unequal participation: democracy's unresolved dilemma. The American Political Science Review 91 (1), 1–14.

Lipset, S.M., Rokkan, S., 1967. Party Systems and Voter Alignments: Cross-national Perspectives. Free Press, New York.

Lopez-Pintor, R., Gratschew, M., 2002. Voter registration. In: Lopez-Pintor, R., Gratschew, M. (Eds.), Voter Turnout Since 1945: A Global

Report. International Institute for Democracy and Electoral Assistance, Stockholm, pp. 21–73.
Mahler, V.A., 2008. Electoral turnout and income redistribution by the state: a cross-national analysis of the developed democracies. European Journal of Political Research 47 (2), 161–183.
Milbrath, L.W., Goel, M.L., 1977. Political Participation. How and Why Do People Engage in Politics? Rand McNally College, Chicago.
Nie, N.H., Junn, J., Stehlik-Barry, K., 1996. Education and Democratic Citizenship in America. University of Chicago Press, Chicago.
Nevitte, N., Blais, A., Gidengil, E., Nadeau, R., 2009. Socio-economic status and non-voting. In: Klingemann, H.D. (Ed.), The Comparative Study of Electoral Systems. Oxford University Press, Oxford, pp. 85–108.
Norris, P., 2004. Electoral Engineering: Voting Rules and Political Behavior. Cambridge University Press, Cambridge.
Norris, P., 2002. Democratic Phoenix: Reinventing Political Activism. Cambridge University Press, Cambridge, Eng.
Pacek, A., Radcliff, B., 1995. Turnout and the vote for left-of-centre parties: a cross-national analysis. British Journal of Political Science 25 (1), 137–143.
Parry, G., Moyser, G., Day, N., 1992. Political Participation and Democracy in Britain. Cambridge University Press, Cambridge, New York.
Pierce, R., 1995. Choosing the Chief: Presidential Elections in France and the United States. University of Michigan Press, Ann Arbor, MI.
Powell Jr., G.B., 1986. American voter turnout in comparative perspective. The American Political Science Review 80 (1), 17–43.
Radcliff, B., Davis, P., 2000. Labor organization and electoral participation in industrial democracies. American Journal of Political Science 44 (1), 132–141.
Raudenbush, D.S.W., Bryk, D.A.S., 2002. Hierarchical Linear Models: Applications and Data Analysis Methods. Sage Publications, Thousand Oaks.
Rosenstone, S.J., Hansen, J.M., 1993. Mobilization, Participation, and Democracy in America. Maxwell Macmillan, New York.
Scruggs, L., Lange, P., 2002. Where have all the members gone? globalization, institutions, and union density. The Journal of Politics 64 (1), 126–153.
Teorell, J., Sum, P., Tobiasen, M., 2007. Participation and political equality: an assessment of large-scale democracy. In: van Deth, J., Montero, J.R., Westholm, A. (Eds.), Citizenship and Involvement in European Democracies: a Comparative Perspective. Routledge, London, pp. 384–414.
Trostel, P., Walker, I., Woolley, P., 2001. Estimates of the economic return to schooling for 28 countries. Labour Economics 9 (1), 1–16.
Topf, R., 1995. Electoral participation. In: Klingemann, H.D., Fuchs, D. (Eds.), Citizens and the State. Oxford University Press, Oxford, pp. 27–51.
Verba, S., 2004. Would the dream of political equality turn out to be a nightmare? Perspectives on Politics 1 (4), 663–679.
Verba, S., Nie, N.H., 1972. Participation in America: Political Democracy and Social Equality. Harper and Row, New York.
Verba, S., Nie, N.H., Kim, J., 1978. Participation and Political Equality: a Seven-Nation Comparison. Cambridge University Press, Cambridge, Eng., New York.
Verba, S., Schlozman, K.L., Brady, H.E., 1995. Voice and Equality: Civic Voluntarism in American Politics. Harvard University Press, Cambridge, Mass.
Visser, J., 2006. Union membership statistics in 24 countries. Monthly Labor Review 129 (1), 38–49.
Wattenberg, M.P., 2006. Is Voting for Young People? Longman, New York.
Wielhouwer, P.W., 2003. In search of Lincoln's perfect list: targeting in grassroots campaigns. American Politics Research 31 (6), 632–669.
Wolfinger, R.E., Rosenstone, S.J., 1980. Who Votes? Yale University Press, New Haven.