The effect of social interaction and cultural consumption on voting turnout

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Abstract

Theory of rational voting states that, with positive voting costs, people would vote only when they are pivotal. This hypothesis is contradicted by the frequent observation of relatively high rates of electoral turnout. In the last decades several solutions to the paradox have been investigated. Within a behavioral approach, studies suggest that dynamics emerging in a group may induce its members to conform to cooperative or ethical behavior and consequently encourage voting participation. Such dynamics remind the source of social capital defined by Bourdieu (1986) as "the nature of the social obligations, connections, and networks available to you". In this paper we investigate the influence of social interaction and cultural consumption on voting turnout using data from British Household Panel Surve. The analysis highlights the role of hierarchical groups on electoral participation as well as the effect of residential mobility in weakining social connections.

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1. Introduction

Fully rational behavior implies that, with strictly positive voting costs, people would vote only when they are pivotal. In fact, from Downs (1957), each voter preferring a candidate, votes if and only if expected utility from victory of the preferred candidate is higher than voting costs. But if individuals are rational and voting is purely instrumental to obtain the preferred electoral outcome, voting turnout in large elections should be very low, because the probability of being pivotal approximates zero as the number of potential voters increases. However, this hypothesis is rejected by the frequent observation that voting is definitely more common than abstaining in democratic systems. A substantial literature has provided several potential solutions to the voting paradox. Some approaches abandon the assumption of fully rational forward looking voters and assume bounded rationality. Other models keep rationality but associate a benefit to the *act* of voting itself (expressive voting approach).[1] A different group of models, the group-based models, operate within the realm of full rationality and focus on the probability for a voter of being pivotal when he or she belongs to a group adopting a common behavior in voting.[2] Within the latter category of models we find This study, represing a work in progress, is an exploratory attempt to improve our understanding of the environment where group-based voting particiaption is more likely to emerge. The paper is organized as follows. Section 2 discusses the relevance of group-based behavior. Section 3 shows the data used in the regression. Section 4 explains the estimated model. Section 5 presents some preliminary results. Section 6 concludes the paper with few comments about the analysis that has been conducted.

2. Group-based models of voting and social capital

One of the most interesting and promising attempt to solve the paradox is based on the analysis of individual behavior within formal as well as informal groups. Starting from Uhlaner (1989), group-based models represent a path explored to reconcile the theory with

[1] The main limit of this approach is its tautological evidence, as individuals end up voting when they feel they should vote. other solutions, within the fully rational framework, predicting a positive levels of turnout include the game-theoretical models (Palfrey and Rosenthal, 1983; 1985), info-based models (Larcinese, 2006) and group-based models (Ulhaner, 1989; Feddersen 2004; Feddersen and Sandroni, 2006; Fowler, 2005).

[2] Surveys of rational solutions are provided, among others, by Blais (2000), Mueller (2003) and Geys (2006).

observed voting patterns. In Uhlaner (1989), groups are large enough to be pivotal and candidates do not share the same position in the political dimension. Morton (1991) develops the group-based approach by examining turnout equilibria in a strategic model with risk adverse voters. Voting as a strategic participation game incorporating groups is also analyzed by Schram and van Winden (1991) and Schram and Sonnemans (1996ab), which divide group members in opinion leaders and pressure consumers and consider both inter-groups and intra-groups correlations. As in former models, the basic intuition refers to the ability of groups to be pivotal in elections. Evidences of higher turnout rates associated with group membership and intra-group communication are provided in a laboratory experiment (Schram and Sonnemans, 1996ab). Feddersen (2004) distinguishes between "group-based voting models of mobilization" and "group-based ethical voter models". Mobilization models highlight the relations within a group, especially between leaders and followers, to explain how leaders' efforts may determine high turnout levels among group's members. Group-based ethical models assume instead that individuals are motivated to participate in elections by a sense of civic duty or ethical obligations (see also Feddersen and Sandroni, 2006) and by evaluations at aggregate level, as in traditional ethical models. Nevertheless, group membership effect might hide the infulence of social interactions. For example, Fowler (2005) assumes that a single act of voting affects a number of individuals that are linked together by social connections (turnout cascade effect) and shows that ideological homogeneity amplifies the turnout cascade effect.

Group-based collective action is also addressed by Bourdieu (1986) in the definition of social capital as "the nature of the social obligations, connections, and networks available to you". Networks of relationships are the result of individual investments transforming occasional into relationship implying durable obligations. Such obligations may include cooperating in activities that affect group welfare, such as voting.

This paper aims at contributing to the previous literature by investigating the forms of social activities and interactions able to reinforce intra-group communication and sense of obligation that may ultimately lead to some cooperative behavior, voting in this case. In order to do so, we consider the impact on voting participation of various forms of group memberships. They require different intensities of obligations and individual 'investments' to stay in the group, which help to reinforce social relationships. We would expect that

social interaction per se would not be significant for collective action. In other words, the mere participation to a group that is low-demanding, with no specific ethical, political or cultural connotation (e.g. sport clubs) would not contribute to accumulate social capital in the same way as membership in a religious or political group. Moreover, latter groups have a hierarchical structure (leader and followers) that, according to models of group mobilization, may spur collective action in a group. Results confirm this hypothesis. Social interaction has no significant impact on voting participation unlikely groups characterized by some deep bond, such as political or religious faith.

We also verify whether cultural expenditure has an impact of voting. The reasons for this examination are twofold. First, cultural consumption may favor social interaction and even group membership. Second, several studies already include education as a voting predictor (see Mueller, 2003). Therefore, we expect that cultural consumption related to education will have a positive impact on voting. Again, results confirm the hypothesis. Moreover we find that *not any* kind of cultural expenditure is influent. Theater attendance has a significant impact while going to see a movie does not. We suggest that such a result can be further understood by referring to the concept of cultural capital in its "embodied state", as a process of accumulation that "implies a labor of inculcation and assimilation, costs time, time which must be invested personally by the investor" (Bourdieu 1986). Theatre attendance, in this sense, represents in our opinion a better proxy for such a voluntary accumulation process than cinema attendance, since the latter can be included within the concept of mass consumption.

Finally, we consider the effect of residential mobility. Moving to a different residence can weaken your bonds and participation to a specific group, at least in the short run. In the medium-long run old (or new) links to old (or new) groups of equal or different kinds are likely to form again. Results confirm this hypothesis showing that changing residence affects voting participation within the first year but not later.[3]

[3] Moving may imply registration delays. In the UK, voting offices make a yearly check about residence. This means that you may not be listed as a voter if you moved recently without informing the public office.

3. Data description

Data for the analysis are from the British Household Panel Survey (BHPS). This is a longitudinal study of persons living in Great Britain based on household units. It includes more than 9000 individuals and household for eighteen waves (1991-2008). The BHPS does not provide much information about political attitudes that are usually include in Political datasets. We use the subsample of those who are eligible to vote in the electoral cycle 1997-2001. BHPS includes only individuals who live in households while those who live in institutions are excluded and this can be considered the first possible source of bias.

According to Uhrig (2008), attrition occurs mainly between the first two waves while it is negligible in the rest of the panel set. However, as our research question refers to elections according to in-time characteristics there are no reasons for using information belonging to the first wave. In the following table we present variables description and summary statistics.

Table1. Summary statistics and variable descriptions

Variable	Obs	Mean	Std. Dev.	Min	Max	
Turn	15889	0.739946	0.438678	0	1	Dummy variable taking value 1 if respondent voted at last election and 0 otherwise
Lagturn	15889	0.763295	0.425073	0	1	The lag of variable turnout
Sportclub	15889	0.166971	0.372962	0	1	Dummy variable taking value 1 if respondent is a member of a sport club
Religroup	15889	0.146705	0.353823	0	1	Dummy variable taking value 1 if respondent is a member of religious group
Union m.	15889	0.167663	0.373579	0	1	Dummy variable taking value 1 if respondent is a member of a trade or labor union
Moved	15889	0.072314	0.259016	0	1	
Theatre	15889	0.359494	0.479867	0	1	Dummy taking value 1 if respondent declared to attend theatrical representation several times a year
Cinema	15889	0.115363	0.319469	0	1	Dummy taking value 1 if respondent declared to attend cinema several times a year
Voluntary activity	15889	0.160866	0.367419	0	1	Dummy taking value 1 if respondent declared to attend voluntary not paid activities several times a year
Eat out	15889	0.555415	0.496935	0	1	Dummy taking value 1 if responded declared to eat out several times a year.
Education	15889	2.06923	0.59717	1	3	A set of three dummies: *high education* (ISCED 5-6), *intermediate* (ISCED 3-4), *low education* (ISCED 0-2).
Marital status	15889	2.103971	1.748295	1	6	Set of dummies indicating marital status
Female	15889	0.549689	0.497541	0	1	Gender

job status	15889	2.659135	1.164251	1	5	Set of dummy variables indicating respondent job status: self employed, in paid employ, unemployed, retired, other
Region	15889	11.01573	6.406731	1	19	Set of dummies
Ethnic group	15889	1.052426	0.355801	1	4	Set of dummies
Age	15889	48.95733	15.27802	22	70	A set of three class of age dummies (age<30; 30<age<65; age>65)
Interest in politics	15889	2.276544	0.888017	1	4	Set of dummies indicating respondent's self reported leve of interest in politics

4. Model specification

Consider the following generic logit model:

$$y_{it}^{*}=\beta_1 y_{t-1}+\beta_2 x_i+\beta_3 D_{it}+\varepsilon_{it} \quad (1)$$

where y_{it}^{*} is individual latent pseudo-propensity to vote; y_{t-1} is the lagged dependent variable (i.e. the observed voter behaviour at time t-1); x_{it} is a set of individual characteristics; D_{it} is a set of dummies indicating groups' membership and leisure activities; and ε_{it} is the random component. An individual votes if her pseudo propensity is positive: $y_i = 1$ if $y_i^{*}>0$. We estimate the models as a pooled logit and allow for observations to be correlated within households.

In order to determine the impact of group membership and activity we estimate a set of 4 models. In model 1 we estimate a null model that does not include any D variable. In model 2 we add three variables indicating group membership. We consider religious groups and trade unions as hierarchical groups, and sport clubs as informal group. In model 3 we include a set of dummies indicating individual leisure activities. We consider the attendance to theatrical representation, voluntary unpaid activities, the attendance to cinema, and a dummy indicating whether respondents frequently get out with friends for dinner. Finally in model 4, we aim at considering the effect of residential mobility on turnout. In order to do so we add two other variables: *moved* is a dummy taking value 1 if respondent moved to the present address in the last year. The second variable *l-moved* indicates if respondent had moved to the present address at t-1.

As controls, we use educational level dummies, job status (6 dummies), region (3 dummies), marital status (6 dummies), gender, class of age and self reported interest in politics (see table 1 for variable description).

We perform the usual link test for specification and the Hosmer-Lemenshow goodness-of-fit test. We also Perform a Box-Tidwell estimation in order to check if any predictor transformations is needed. A test on the random effects estimation confirm the assumption of no correlation across observations for each individual.[4] Finally we reastimate the models by using survey weights in order to check if results hold.

5. Results

We discuss the outcomes in terms of group membership effect and leisure activity effect. Model 1 is the baseline model[5]. In model 2 we add groups membership in the model specification, finding that only religious group and union membership are statistically significant. On the contrary, being a member of a sport club does not affect turnout propensity. We interpret such a result by considering the higher intensity of obligation related to hierarchical groups than informal groups. As we expected, low-demanding groups do not affect cooperative attitudes nor political participation. Religious groups and unions are characterized by political and cultural connotation as well as a hierarchical structure that strenghten social interactions and favor mobilization.

The same logic applies to model 3. In this case we consider leisure activities also. Once again, if the hypothesis of social interactions holds we would expect all the leisure variables to have an effect on voting propensity. Here only attendance to theatre and voluntary unpaid activities have a positive and statistically significant effect on turnout probability. Our interpretation on these results is twofold: on the one side, we suggest that the positive and significant effect of voluntary activities highlights the role of prosocial behavior that is a coherent with cooperative attitudes. On the other side, the positive effect of attendance to theatre underlines the existance of both social capital and cultural capital as a result of a process of accumulation and embodiment that cannot be reducted to the level of education.

[4] Models 2, 3 and 4 pass specification and goodness of fit test. Test outcomes, Box-Tidwell estimations, correlation matrix, weighted and subsample estimations can be provided upon request.

[5] Note that the model is correctly specified, according to the link test, but it suffers from a poor goodness of fit according to the Hosmer- Lemenshow test.

Table 2. Estimation outcomes

VARIABLES	(1) turn	(2) turn	(3) turn	(4) turn
Sport club		0.0822	0.0561	0.0548
		(0.0638)	(0.0641)	(0.0644)
Religious group		0.346***	0.297***	0.299***
		(0.0774)	(0.0797)	(0.0803)
Union membership		0.255***	0.248***	0.232***
		(0.0656)	(0.0658)	(0.0658)
Moved				-0.747***
				(0.0903)
Moved at t-1				0.0167
				(0.0773)
Eat out			-0.0528	-0.0533
			(0.0779)	(0.0783)
Theatre			0.222***	0.230***
			(0.0532)	(0.0534)
Cinema			0.0520	0.0676
			(0.0525)	(0.0527)
Voluntary activities			0.120*	0.125*
			(0.0708)	(0.0714)
High educated	0.310***	0.264***	0.209***	0.249***
	(0.0742)	(0.0748)	(0.0752)	(0.0768)
Low educated	-0.0857	-0.0427	0.000502	0.00869
	(0.0605)	(0.0611)	(0.0627)	(0.0626)
Age<30	-0.468***	-0.449***	-0.441***	-0.386***
	(0.0557)	(0.0561)	(0.0568)	(0.0582)
Age>65	0.417***	0.412***	0.411***	0.405***
	(0.105)	(0.106)	(0.107)	(0.107)
Lag turnout	1.905***	1.893***	1.893***	1.896***
	(0.0492)	(0.0494)	(0.0496)	(0.0506)
Constant	0.305	0.199	0.136	0.168
	(0.294)	(0.298)	(0.300)	(0.306)
Other controls (see table 1)	Yes	Yes	Yes	Yes
Observations	15,889	15,889	15,889	15,889
r2_p	0.264	0.267	0.268	0.273
chi2	3129	3149	3147	3130
Link test	Yes	Yes	Yes	Yes
Hosmer Lemenshow	No	Yes	Yes	Yes

Clustered (by households) standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The attendance to theatre, in our opinion shows the individual investment in such a process. One may argue that going to watch a movie has a monetary cost as well as going to theatre. Neverthless the former represents a type of mass consumption that cannot be included in that "work of acquisition [that] is work on oneself (self-improvement), an effort that presupposes a personal cost (*on paie de sa personne*, as we say in French), an investment, above all of time" (Bourdieu, 1986).

Finally, in model 4 we study the effect of residential mobility on turnout probability. Results confirm our expectations: if a voter moves to a new house during an election year her probability to vote is lower. This effect disappears after one year. We would interpret this result by arguing that residential mobility weakens social interactions and so affects cooperative behavior. However, the cost of voting includes now the cost (also in terms of time) of registration on the electoral rolls. In United Kindom, local electoral offices deliver registration forms each year (between May and November) to every house in order to mantain electoral registry. Election takes place generally in May so it is technically possible that a voter moves in an election year and, as a result, she is not registered on the roll.

6. Concluding comments

Our study should be interpreted as an exploratory analysis of the impact of social capital and cultural capital on a specific collective action, namely participation to vote. Preliminary results however encourage further analysis, in our view. In particular we find clear evidence that social capital built through investments in group activities has an impact on participation especially when this groups have an estabilished hierarchical structure. This result supports confirms the hypothesis derived by group mobilization models and is also consistent with definition of social capital by Bourdieu (1986). Also his definition of cultural capital offers an insightful interpretation of the observed difference in voting participation between theater and movie attendances. Our further efforts will be devoted to better define the behavioral dynamics within the group in order to reach more precise and testable hypotheses.

Data source.

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