Voting, Civic Duty and Transaction Costs in Transition Countries

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ABSTRACT

This paper examines the determinants of electoral participation. We analyze attitudes to both referenda and voting in national elections. Sample survey data are obtained from the Eurobarometer survey of transition countries in Central and Eastern Europe. The empirical results suggest that electoral participation increases with age, income and education. But attitudinal variables, associated with civic duty, are also important and in particular confidence in the free market economy and satisfaction with the general development of the country impact positively on electoral participation.

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1. Introduction

The probability that a single person's vote can alter the outcome of an election is miniscule. Given that there are positive costs to voting - involving both the act of voting itself and the acquisition of information prior to voting - the rational strategy for individuals would appear to be to abstain from voting (Downs, 1957). It is surprising therefore that in western democracies voter turnout is generally high (Aldrich, 1993). This has been explained by the proposition that individuals gain utility from the act of voting. Both Downs (1957) and Riker and Ordeshook (1968) argue that that individuals vote to fulfil 'a civic duty', partly out of a fear that democracy will collapse without such participation. Fiorina (1976) argued that the utility from voting also depends upon the act of expressing a preference akin to applauding a fine symphony performance or cheering the success of a home team (Aldrich, 1997). This argument is also consistent with recent developments in cognitive psychology that 'intrinsic motivation leads individuals to undertake activities for their own sake (Deci, 1971). Intrinsic motivation is based on moral and ethical considerations but is also affected by external intervention (e.g., Deci and Ryan, 1980, Jones and Hudson, 2000). For example tax compliance depends, in part, on 'civic duty' (Orviska and Hudson, Forthcoming). Intrinsic motivation, or civic duty, depends upon the nature of the political constitution within which decisions are made, for this may signal the extent to which intrinsic motivation is acknowledged (Frey 1997).

It is also possible that the costs of voting are reduced by institutional developments which facilitate electoral participation. For example, Jones and Hudson (2000) argue that the costs

of electoral participation are significantly reduced by the existence of political parties with coherent and well known policy positions who also 'vet' individual candidates. Voters can therefore use political parties as a signal in evaluating individual candidates.

Transition countries offer a unique opportunity to analyze electoral participation in the early years of democratic development. These countries can be regarded as 'new democracies', with few people having actual memories of voting in democratic elections and thus experience of choosing between candidates from competing political parties. Many of the parties themselves are also new and have had relatively little time to establish a voter awareness to enable them to be used as an effective signal. There are also a larger number of political parties than is typically the case in western democracies. Hence there are reasons to suppose that the transactions costs of electoral participation are high relative to those of established democracies. But as against this the recent memory of a non-democratic past may enhance civic duty. Reinforcing this possibility is the fact that several of these countries are also relatively new nations, e.g. Slovenia and Slovakia.

In this paper we shall test the significance of the external impact on civic duty within the context of the decision of whether or not to vote in elections in the transition countries. A study by Fidrmuc (2000) has found a strong influence of economic factors on the decision of *whom to vote for* in transition countries. But, relatively little work has been done on electoral participation per se, i.e. on *whether to vote*, in these countries. The basis for our analysis will be Eurobarometer data. The specific countries we will be analysing are listed in Table 1. In the next section we will formally discuss the electoral participation decision. We shall then turn to presenting and analyzing the data on electoral participation. The analysis will take into account the influence of socio-economic, attitudinal and macro-economic

variables and we will attempt to evaluate the impact of self-interest, civic duty and

transactions costs on electoral participation in both a general election and referenda on

joining the EU or NATO. Finally we will conclude the paper.

2. Theory

2.1 Electoral Participation

We assume political activity to be a continuous variable E. The individual will engage in

'political activity' up to the point (E*) at which the marginal costs equate to the marginal

benefits. If $E^* \geq E'$, then the individual will vote. If $E^* \geq E''$ then the individual will become

sufficiently actively engaged as to join a political party[1]. When $E^* < E'$ the individual will not

vote, but that does not mean that they will take no interest in the outcome of the election and

indeed they may even have a preferred outcome. To model E* we assume an individual's

utility function to be a function of E and all other activities X. For simplicity we assume a

Cobb-Douglas function:

$$U = AE^{\alpha/(1+\gamma\psi)}X^{\beta} \tag{1}$$

which the individual maximises subject to the constraint:

$$pX + tE = W \tag{2}$$

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[1] E* is the optimal level of electoral participation, E′ and E″ are exogenously determined by institutional factors.

In our analysis W is wealth. p is the cost of X and t the 'cost' of political participation. –
primarily a transactions cost related to the acquiring of information, but also a monetarized
time cost relating to the act of voting itself. t will vary between individuals on the basis of
their cognitive ability, it may also vary according to location, being higher in remote
communities. Expected utility theory also suggests that the benefits of electoral participation
will decline with the level of voter uncertainty relating to the policy positions and characters
of the candidates. Jones and Hudson (2000) confirm the impact of uncertainty on electoral
participation within the UK. Johnston and Pattie (1997) using survey data conclude that
13.3% of those who deliberately did not vote in the 1992 British general election did not do
so because of uncertainty about whom to vote for[2]. Thus the parameter relating to E is a
declining function of the uncertainty (ψ) with which electoral candidates, their policies and
positions, are evaluated. Maximizing (2) with respect to (3) yields:

$$E^* = W\alpha'/(t(\beta+\alpha')) \qquad\qquad (3)$$

Where $\alpha' = \alpha/(1+\gamma\psi)$. We can regard α as the underlying preference parameter, i.e. the
parameter when there is complete certainty. It will depend upon factors such as civic duty,
the closeness of the election, and the importance of the outcome to the individual. As we
have already said, the individual will vote if $E^*>E'$, the probability of which will increase with
the relative importance of voting ($\alpha/(\alpha+\beta)$) and W[3], and decline with voter uncertainty (ψ)

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[2] They also found that 33.6% did not do so because they were "not bothered/not interested", reflecting
a lack of civic duty, and 14.3% because their vote would not affect who won.
[3] t, in as much as it includes time costs, may also be a function of W. However, as long as these are not
the only costs of electoral participation the overall impact of W will still be to increase electoral
participation.

and the transactions cost of voting. It will also depend upon the institutional environment
which governs E'.

This is a more general case[4] of the approach used by Aldridge (1997) and Jones and
Hudson (2000) who argue that ignoring any psychic gains from voting, people will vote if the
net expected utility of voting:

$$pB - c \qquad\qquad\qquad\qquad\qquad (4)$$

is positive. p is the probability of an individual vote altering the outcome of an election. B is
the benefit from the party of the voter's choice winning rather than the most likely alternative
(in our model this is reflected in α). c represents the transactions costs of participation (in
our model = tE'). Superficially it seems likely, as we have already suggested that $pB - c < 0$,
i.e. $E^* < E'$, and thus there would be little reason to expect people to vote. However, this
may not be so for several reasons. Firstly, the existence of political parties may act to
significantly reduce c, the transactions cost of voting (Jones and Hudson, 2000). Political
parties provide information on candidates' policy positions. Thus provided the party is
reasonably homogenous in terms of policy, once a voter knows the position of the party on
an issue he/she also has an accurate signal of the candidate's position. A Party which is non-
homogenous will not provide such a clear policy signal and voters will be faced with greater
transactions costs in evaluating that party's candidates and because of this may decide not to
do so. In most mature democracies such as the United States and the UK, this process is

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[4] More general because it explains more than the decision on whether to vote or not, e.g., joining a
political party. It also emphasizes the role of the institutional structure in determining electoral
participation.

still further simplified by the existence of only two or three major parties whose policy positions are well known. This may not be the case in the newly emerging democracies of the transition countries where there are a considerable number of parties most of whom are still quite young. Hence for voters in these countries the transactions costs of voting may be considerably higher than in countries like Denmark. Secondly, there is a further potential factor to add to equation (4) and that is the civic duty element (d), which we have already discussed. Thus the expected benefit from voting now becomes:

$$pB - c + d \tag{5}$$

Within the context of equation (3) the probability (π) that an individual will vote is $\pi(E^* > E')$. If we linearize (3), we get:

$$\pi = \pi(\beta_0 + \beta_1 W + \beta_2 t + \beta_3 \alpha + \beta_4 \psi - E' > -\varepsilon) \tag{6}$$

where $\varepsilon \sim N(0, \sigma^2_\varepsilon)$ is a white noise additive error term. This emphasizes that the probability of an individual voting not only reflects their own personal circumstances, such as wealth or income, proxying W, and their level of education or knowledge impacting on t, but also the characteristics of the election such as its probable closeness which impacts on α, the benefit from voting. In addition there are the characteristics of the electoral system which determine E', the level of electoral participation required to vote. A complex voting system with a high E' will tend to deter people from voting.

2.1 Electoral Uncertainty

In order to evaluate both whom to vote for and the expected benefits of voting, the voter will need to rely on signals/information about the candidates with respect to both their policies and characters. It has been argued Wittman (1989) and Jones and Hudson (2000) that voters rely to a considerable extent on party affiliation to signal both policy position and characteristics. This considerably lessens the transactions costs of electoral participation. With proportional representation which is common in Central and Eastern Europe (CEE) this is further emphasized as to differing extents people vote for parties, and candidates are then selected from party lists. However, parties typically emit not one but a number of signals, in terms of speeches, newspaper interviews, etc, by different representatives of the party.

A suitable starting point for analyzing how voters combine these signals to evaluate character or even policies of political parties and leaders is Winkler's (1981) paper which sought to develop a Bayesian consensus model for combining point forecasts from independent sources of information. Within the context of evaluating multiple signals, the voter must make use of a prior in the form of a density function defined over an unbounded random variable θ about which he/she is uncertain. In the present context, θ represents the position of the party on a policy issue or, perhaps equally important, the qualities of leadership of the party's leaders. He/she must also provide an assessment of the accuracy of each signal via a likelihood function given θ.

If $g_1,....,g_k$ are densities over **R** which represent the signals about θ, then the mean signal is given by:

$$\mu_i = \int \theta g_i \, (\theta) d\theta \qquad (7)$$

The signalling error vector is defined by $u_i = \mu_i - \theta$. In Winkler's consensus model the assumption is made that the signal errors are based on an additive noise model, hence knowledge of θ does not change the voter's beliefs about the likelihood of assessment errors. Let f denote a voter's density of $\mathbf{u}=(u_i,....,u_k)$. The assumption is made that f is a member of the family of k-variate normal densities with mean $(0,......,0)'$ and a positive definite variance covariance matrix **S**. Given f, the information from the k signals can be used to revise the voter's distribution for θ. With an improper flat prior density, the consensus distribution is:

$$h(\theta|g_1,....,g_k, f) \propto f \, (u_1,...,u_k) \qquad (8)$$

and the posterior density for θ is:

$$h(\theta|\mathbf{m}) \propto \phi[(\theta - m^*)/\sigma^*] \qquad (9)$$

where ϕ is the standard normal density function and

$$m^* = \mathbf{e}'\mathbf{S}^{-1}\mathbf{m}/\mathbf{e}'\mathbf{S}^{-1}\mathbf{e} \qquad (10)$$

$$\sigma^* = (\mathbf{e}'\mathbf{S}^{-1}\mathbf{e})^{-1} \tag{11}$$

where $\mathbf{e}$ is the unit vector and $\mathbf{m}$ the vector of k signals. m* then forms the mean evaluation of the party's candidates and σ^* the variance, inversely related to certainty, with which this evaluation is made.

One of the differences between this analysis and that of Winkler's is that not all signals will be used by voters. They will do so only until the marginal cost of an additional signal (MC_k) equates to the marginal benefit, where the latter consists of the increase in accuracy combined with the value (V) the voter places on that increased accuracy. To illustrate this we take the case where all signals have a common variance (σ) and all signalling covariances are zero. The voter will then use k signals up to the point at which the following inequality is satisfied:

$$MC_k < V[\sigma/\{k(k-1))] \tag{12}$$

Where $\sigma/\{k(k-1))$ is the reduction in uncertainty from using an additional, k'th signal. The solution to this will determine the number of signals used and hence Ψ in equation (6). Party affiliation is a low cost signal and thus likely to be included in the optimal signalling set provided it has sufficient informational content and clarity.

Equation (10) indicates that as people obtain more signals, from for example greater experience and knowledge of the parties and politicians, uncertainty will decline. We can approach this more directly from the perspective of where previous experience (elections as

well as other events) have provided the individual with prior information concerning

politicians' characteristics, where the voter's prior probability based on this restricted

information set is:

$$(\theta | I_s) \sim N(m, \Gamma) \tag{13}$$

We assume that the prior evaluation error is independent of the signal errors. The posterior

distribution of θ will then be univariate normal with mean:

$$m^* = \frac{Wm}{W + \Gamma} + \frac{\Gamma}{W + \Gamma} \frac{\mathbf{e'S}^{-1}\mathbf{m}}{\mathbf{e'S}^{-1}\mathbf{e}} \tag{14}$$

and variance:

$$\sigma^* = \Gamma W/(\Gamma+W) \tag{15}$$

where $W = (\mathbf{e'S}^{-1}\mathbf{e})^{-1}$ \hfill (16)

This being a straightforward application of Bayes' theorem. Equation (14) is equivalent to

equation (10) where the latter's `signals' include prior information and that prior information

is independent of the other signals[5]. Again the important point is that as voters gain

experience Γ, the variance of the prior, declines and hence so does the variance in (15) and

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[5] An in depth analysis of stochastic signalling can be found in Hudson (2000)

also Ψ in (6). Two implications follow from this: (i) electoral participation should increase with age and (ii) it should also, certainly once the initial surge in civic duty has declined, be lower in the transition countries compared to the more established countries. The plethora of potential parties in all the transition countries will further add to transaction costs and hence exacerbate this effect. However, in the longer term electoral participation should increase as voters learn about political parties.

2.3 Summary

On the basis of this analysis we expect electoral participation to be a function of (i) W, which we shall proxy by household income, the transactions costs of voting (t) and civic duty (d). The transactions costs of voting will be related to cognitive ability, which we will proxy by the level of education, and also by age as our previous analysis suggests that people accumulate informational signals over time which will reduce the variance on prior beliefs regarding individual politicians and parties. Of course the relative newness of many political parties in CEE impacts on this process, but many of the personalities involved have been in public life for a considerable number of years and hence prior knowledge may still play a role. In the regression analysis which follows we will proxy civic duty by two attitudinal variables which relate to the general development of the country and the freemarket. The hypothesis is that people who disagree with either of these will have a reduced sense of civic duty, of involvement or commitment to the country and be less likely to incur the costs of voting. We will also be including current GNP per capita and GNP per capita in 1991 at the start of the transition process. We expect that the better a country is doing in transition the greater will be civic duty.

3. Empirical Analysis

The data is part of that collected under the Central and Eastern Eurobarometer surveys carried out in October-November 1992, November 1995, November, 1996 and November 1997[6]. Surveys were carried out in other years, but a lack of consistency in the questions effectively limited the analysis to these four years. Nonetheless, these years offer the opportunity to analyse how opinions have evolved throughout much of the transition period. The 1992 study was carried out by Gallup UK and the participating Eastern European Institutes. The remaining studies were carried out by GFK Europe and the participating Eastern European Institutes. The countries interviewed in the 1997 survey are shown in Table 1, other countries, for example Georgia, Albania and Belarus, were also interviewed in the earlier studies but in order to retain continuity of data the analysis was restricted to the countries available in 1997.

At least 100 sampling points were selected in each of the countries we are analysing. These were selected in the first instance via a division into major socio-economic areas. Within each of these areas smaller electoral or administrative districts were randomly chosen. Individuals were chosen via one of four main methods, these being: (i) contacted randomly from a list of the electorate, (ii) random selection of addresses from published or specially commissioned lists, with individuals being selected via a Kish matrix or other random method, (iii) random route from a selected starting point with individuals being selected via a Kish matrix or other random method and (iv) double clustered random

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[6] This being the final year the survey was carried out.

address sample plus next birthday in the household. The maximum number of interviews in

any one household was one. All interviews were conducted face to face in people's homes.

Insert Table 1 about here.

Table 1 shows the proportion of those indicating that they would note vote in an election.

Respondents are asked which party or block they would vote for or might be inclined to

vote for. We classify not voting as those who answer either "would vote blank/spoil vote" or

"would not vote". It should be noted that there are a number of constants, in particular

Bulgaria and Romania are always high on the last and Hungary always towards the bottom.

Table 1 also shows the proportion not voting in the most recent elections to the time of the

1997 survey. The correlation between these percentages and those for the 1997 survey is

only 16%. If however, we take the correlation between those who indicate either that they

would not vote or that they are uncertain for whom they would vote for the correlation rises

to 60%. The numbers indicating that they would not vote in a general election are in general

less than those who actually fail to vote, as Table 1 also illustrates. In part this reflects

unexpected events which prevent people from voting. But in part it will probably reflect the

possibility that a considerable proportion of those who indicate uncertainty as to whom to

vote for will also fail to vote. These proportions are shown in Table 2.

Insert Table 2 about here.

Table 3 provides information on two other 'elections' which in fact relate to referenda on membership of the European Union and Nato. Those who answer "would not vote" are classified as not voting. Details on all these variables and the exogenous ones are given in an appendix. Data on the referenda were only available in the three most recent years: 1995-7. The fact that when we move to the two referenda issues intended electoral participation increases considerably is at first slightly surprising as the probability of one voter affecting the outcome of a referendum is even smaller than in a constituency election. This therefore tends to confirm the importance of civic duty in determining electoral participation and also suggests that the low turn out in general elections is due to high transactions costs rather than low civic duty. In a referenda there is just one issue and no individual personalities to evaluate compared to a general election where there are many issues as well as candidates.

Insert Table 3 about here.

The explanatory variables in the regressions include both socio-economic and attitudinal variables. The socio-economic variables include gender, income, age, level of education, employment status and locality. The attitudinal variables relate to attitudes to the free market and the way democracy is developing. They are intended to proxy civic duty in a very general sense. Those who feel alienated from the general development of the country in these key areas which are fundamental to the development of society can be expected to have a reduced sense of civic duty and to be less likely to incur the costs of electoral participation. Table 4 summarizes the survey data on the attitudinal variables. There is no obvious trend with respect to attitudes to the general development of the country. The low

figure for Bulgaria in 1996 can readily be explained by the fall in GNP of 7.6% in that year

coupled with inflation in excess of 100%. Attitudes to the free market, however, have

become steadily less favorable.

Insert Table 4 about here.

The results of the regressions are shown in Table 5. The dependent variables are defined

in an appendix and relate to electoral participation defined along a continuum from voting to

not voting. The first two columns relate to electoral participation in a general election.

Column 1 reports the results of using only socio-economic variables together with time and

country dummy variables. Electoral participation increases with the respondent's income,

age and education. It is also greater for students and men and less for the unemployed. All

of these are significant at the 1% level of significance. Those who live in villages are also

significantly, at the 5% level, more likely to vote. None of the other socio-economic

variables are significant at the 5% level. These relate to the self employed, farmworkers and

other locational variables. We shall return to an interpretation of these results later. In

column 2 we add the two attitudinal variables - relating to attitudes to the free market and

the general direction of development of the country. These are both significant at the 1%

level, indicating that those who tend to be dissatisfied with either of these aspects of the way

the country is developing are less likely to vote. Despite the addition of the attitudinal

variables the socio-economic variables remain significant with the sign of their coefficient

unchanged. The time dummy variables are also all significant at the 1% level and suggest

electoral participation has been declining throughout the 1990s, given the level of other

variables. To an extent this is surprising as one would expect the passage of time to increase

knowledge and reduce uncertainty. Clearly the political systems in CEE are still in a state of

considerable flux. Many of the country specific dummy variables are also significant. These

will capture a number of effects. Firstly, differences in civic duty between countries not

otherwise captured by the attitudinal variables. Secondly, differences in the transactions

costs of voting due to differences in the complexity of the voting procedures and the clarity

of the signals of the diverse political parties.

Insert Table 5 about here.

   The next four columns relate to intended electoral participation in EU and NATO

referendums. By and large the results are consistent with those already discussed. There are

several differences however and we shall now focus on these. Firstly, age is no longer as

significant a factor in determining electoral participation in the referenda, particularly with

respect to the EU. As the impact of civic duty on electoral participation it its various guises

should be relatively constant, this suggests that age is more related to the transactions costs

of voting than civic duty. Secondly, the self-employed have a higher level of electoral

participation for the EU referendum, something which may perhaps reflect self-interest.

Thirdly, other things being equal, women have a much lower level of electoral participation

relative to men in referenda than national elections. The only variable which is signifcantly

different in the nature of its impact relates to those living in villages. This is associated with

higher electoral participation in general elections, but significantly lower, at the 1% level,

participation in the two referenda[7]. However, as we have emphasized most of the variables remain unchanged in the nature of their impact and significant. In particular, the attitudinal variables retain their earlier pattern of significance.

Finally, we turn to examine the impact of including two potentially key macroeconomic variables, current GNP per capita and GNP per capita in 1991 at the start of the transition process. The expectation is that countries which have done 'well' during the transition period are likely to have a higher sense of civic duty than countries who have not done well. As a consequence we expect current GNP per capita to have a positive impact on electoral participation and historical GNP per capita to have a negative impact. The results are shown in Table 6. In general they conform with a priori expectations. Both impacts are as expected and significant at the 1% level for all three type of election, although current GNP is much less important relative to historical GNP in the general election equation. Finally we should note that the equations in Table 5 are significantly better than those in table 6, suggesting that relative living standards are far from being a complete explanation of inter-country differences[8]. The coefficients on these country variables fluctuate from election to election. For example, other things being equal, the lowest electoral participation in a national election is for Hungary, but for both referenda it has the third best participation. This

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[7] The latter effect was more expected due to possible higher transactions costs of those living in rural communities, particularly perhaps with respect to international issues. The former may reflect a greater group identity effect in small communities which is sufficient to ensure a positive impact on electoral participation (Schram and Sonnemans ,1996).

[8] The fundamental nature of these results is unchanged in binomial probit regressions based on a voting-non voting dichotomy. In particular the coefficients relating to the attitudinal variables, income and education are all unchanged both in significance and sign. This is also in general the case for the macroeconomic variables, although GNPPC becomes insignificant in the national election equation. Age also becomes less significant in the referenda equations.

is possibly a reflection of the complexity of Hungary's electoral system[9] which Fowler (1998) describes as "notoriously complex" and Rose et al. (1998) as "a complicated mixture of majority and proportional representation systems". However, there are some constants and Romania and Bulgaria, other things being equal, would appear to have a consistently high level of electoral participation in all forms of election.

Insert Table 6 about here.

These results can be contrasted with the relatively small volume of literature which has been done in western countries on electoral participation. For Germany Opp (2001) found that electoral participation increased with age and education, results which are consistent with ours, but that income was insignificant, a result which differed to ours. He also found that *'disaffection'* reduced voting, a result which closely matches our result that those who disapprove of either the general direction in which the country is moving in or more specifically the free market, are less likely to vote. In the UK Jones and Hudson (2000) found a significant role for variables which potentially impact on civic duty such as the perceived integrity of politicians and again this is consistent with out results.

4. Conclusions and Policy Implications

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[9] Hungary has 1 chamber, electors have two votes, one for a candidate in a single member district (elections can take two stages) and one in one of 20 multi-member proportional representation districts. For the latter if turnout is not 50% a second ballot must be held with a 25% turnout required to distribute seats. To win seats, a party must have a full quota, any seats not allotted are added to the national pool,

The results tend to confirm the theoretical analysis in that variables reflecting civic duty, transactions costs and self interest all impact on the voting decision. The most clear link with self interest is via income. Our theoretical analysis suggested that electoral participation would increase with income and this was strongly borne out by the results. The significance of the education variable suggests that transactions costs are a factor in the voting decision with those most cognitively able to process the data relating to the voting decision more likely to vote. The same may be true for age. The significance of the attitudinal variables unambiguously indicates the significance of civic duty in the voting decision. It provides very strong evidence that civic duty can be adversely affected by a sense of alienation from the political system, caused by disaffection with the way the system is evolving or works and that this then impacts on the electoral participation decision. The two attitudinal variables reflect individual differences in civic duty but only partially and both the time specific dummy variables and the country specific dummy variables will also capture further differences in civic duty, as well as in factors which affect E', e.g. the complexity of the voting system.

Of course the research has thrown up some potential anomalies, the most important of which is the insignificance or reduced significance of age in the two referendum decisions compared with the general election equations A crucial factor in explaining this is the differences between a single issue referendum and voting in a general election. In Central and Eastern Europe the latter requires knowledge on numerous political parties, their candidates, leaders and policy positions on a diverse range of issues. To compound the

which has 58 seats. Votes used for national-level allocation comprise all wasted votes in single member districts and wasted multi-member district votes.

transactions costs involved in this calculus the political parties themselves are relatively new and people will still be learning about them. Single issue referenda are conceptually much simpler. There is only one issue, it may be a complex issue, but nonetheless still a single issue in which evaluation of personalities is secondary to the decision, as it is not in the case with a general election. For this reason we would expect transaction costs to be lower and electoral participation to be higher than for a general election and this is borne out by the data in Tables 1 and 3. With respect to the two referenda, that relating to the EU is of greater impact, it is less reversible, has more impact on the daily lives of the people and arguably ties the country more tightly to the West than does membership of NATO. This suggests that the importance on self-interest of the EU decision is greater than the NATO[10] decision and helps explain the higher participation rate in the former decision compared to the latter one.

A further difference between referenda, probably most referenda, but clearly on these issues, and voting at a general election is the value of accumulated knowledge. Even though many, even most, of the political parties are relatively new, voters will have known at least some of their leaders in the pre-transition days and the accumulated information of older voters will be of use to them in choosing between alternatives. Hence the transactions costs of older voters will be less than those for younger voters and this helps explain the significance of age in the regressions on electoral participation in a general election. This is much less likely to be the case for the two referenda issues, the possibility of joining the EU and NATO are relatively new, no older than the transition process itself. Information on the advantages and disadvantages of these options will not have been accumulated over time

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[10] Because of this probably greater importance of the EU decision the civic duty element may also be

and the old will have much less of an advantage over younger people in this respect. Hence, this explains why we do not see such a strong age effect in the two referenda equations. In passing we might note that although this study is very issue specific, it might well have greater relevance, in that arguably many referenda issues are relatively new ones for which past experience offers little guidance. These results may also indicate that the general significance of age in explaining electoral participation in Western Europe may at least in part be also due to a similar transactions cost effect. On the policy side this does suggest a little discussed advantage of referenda over elections in widening participation. This may be particularly important in emerging democracies with a plethora of relatively new political parties. The results also suggest that the complexity of the electoral system has an impact on electoral participation and that this too is a factor which needs to be taken into account when analysing optimal voting systems.

more important in this electoral participation decision.

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Data Appendix: Variable Definitions
Dependent Variables

General   Coded 0 for those who indicated for whom they would vote in if an election were held
Election   'tomorrow', 1 if they were uncertain as for whom to vote and 2 if they would not
        vote.

EU/NATO Coded 0 for those who indicated how they would vote if a referendum (on
     EU/NATO) were held 'tomorrow', 1 if they were uncertain as to how they would vote
     and 2 if they would not vote.

Independent Variables

SEX   Takes a 1 if the respondent is female, otherwise 0.

EDUCN   The highest level of education achieved, ranges from a 1 (up to elementary) to 4
     (higher education).

LAGE   Log of Age in years

LINCOME   Log of household income prior to tax and deductions using an increasing scale of 1 to
        16

UNEMP   Takes a 1 if the respondent is unemployed, otherwise 0.

SELFE   Takes a 1 if the respondent is self-employed, otherwise 0.

CITY   Takes a 1 if the respondent lives in a non-capital city, otherwise 0.

CAPITAL   Takes a 1 if the respondent lives in a capital city, otherwise 0.

TOWN   Takes a 1 if the respondent lives in a town, otherwise 0.

VILLAGE   Takes a 1 if the respondent lives in a town, otherwise 0.

FARM   Takes a 1 if the respondent is a farmer, otherwise 0.

STUDENT   Takes a 1 if the respondent is a student, otherwise 0.

FREEMKT   Responses to a question which asked "Do you personally feel that the creation of a
        free market economy, that is one largely free from state control, is right or wrong for
     (OUR COUNTRY'S) future?". Those who answered "right" were coded 0 The
     alternative includes 'dont knows', but not those who declined to answer.

GENDEV   Responses to a question which asked "In general do you feel things in (OUR
        COUNTRY) are going in the right or in the wrong direction?" Those who answered
        "right" ("wrong") were coded 0 (1)

DUM9X,   Dummy variables operative if the questionnaire was carried out in 199X.

GNPPC   GNP per capita (constant 1995 US$) in the year current to the survey time

GNPPC91   GNP per capita (constant 1995 US$) in 1991 at the beginning of the transition
        process[11].

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[11] Except for Slovenia were data was not available for 1991 and 1992 was used instead.

Table 1: Proportions not Voting in general elections

	% note voting in: general election									Non-voting in act-ual elections[a]
	1992		1995		1996		1997			
Bulgaria	**10.8%**	**[4]**	**19.9%**	**[7]**	**16.8%**	**[6]**	**20.5%**	**[6]**		**37.1% [1997, 8]**
Czech Republic	12.2%	[5]	12.2%	[5]	17.2%	[7]	20.9%	[8]		24.2% [1996,2]
Slovakia	**14.4%**	**[6]**	**19.4%**	**[6]**	**18.3%**	**[8]**	**12.4%**	**[3]**		**15.8% [1998,1]**
Estonia	25.4%	[8]	14.4%	[4]	12.9%	[2]	17.0%	[5]		31.1% [1995, 6]
Hungary	**27.3%**	**[9]**	**21.8%**	**[8]**	**20.7%**	**[9]**	**22.3%**	**[10]**		**43.8% [1998, 10]**
Latvia	22.6%	[7]	12.2%	[3]	21.9%	[10]	20.7%	[7]		29.0% [1998, 4]
Lithuania	**8.2%**	**[1]**	**24.8%**	**[9]**	**14.8%**	**[5]**	**10.1%**	**[1]**		**28.5% [1997P, 3]**
Poland	35.1%	[10]	10.1%	[2]	14.1%	[3]	15.2%	[4]		39.0% [2000P, 9]
Romania	**10.6%**	**[3]**	**8.3%**	**[1]**	**10.2%**	**[1]**	**10.7%**	**[2]**		**34.7% [2000P, 7]**
Slovenia	9.5%	[2]	28.4%	[10]	14.5%	[4]	21.7%	[9]		30.7% [1996, 5]
All countries	**17.3%**		**17.1%**		**15.6%**		**16.9%**			

Notes: Sources: Eurobarometer surveys in the years specified, a: Rose et al (1998), [.] denotes a ranking with [1] indicating the highest electoral participation

Table 2: Proportions uncertain about Voting in national elections

	% uncertain voting in: general election							
	1992		1995		1996		1997	
Bulgaria	**10.1%**	**[5]**	**11.7%**	**[1]**	**14.0%**	**[5]**	**14.9%**	**[4]**
Czech Republic	8.9%	[4]	21.0%	[9]	9.9%	[4]	16.5%	[5]
Slovakia	**7.5%**	**[3]**	**16.1%**	**[7]**	**22.7%**	**[8]**	**13.6%**	**[2]**
Estonia	15.4%	[6]	13.1%	[3]	9.0%	[3]	14.2%	[3]
Hungary	**20.7%**	**[7]**	**21.5%**	**[10]**	**25.7%**	**[10]**	**36.5%**	**[10]**
Latvia	27.3%	[9]	13.0%	[2]	34.0%	[10]	29.7%	[9]
Lithuania	**5.3%**	**[2]**	**14.1%**	**[4]**	**15.3%**	**[6]**	**20.9%**	**[8]**
Poland	23.9%	[8]	16.7%	[5]	22.4%	[7]	12.8%	[1]
Romania	**4.8%**	**[1]**	**15.8%**	**[6]**	**2.6%**	**[1]**	**17.6%**	**[6]**
Slovenia	32.5%	[10]	20.9%	[8]	7.4%	[2]	17.9%	[7]
All countries	**15.7%**		**17.1%**		**15.7%**		**19.4%**	

Notes: Sources: Eurobarometer surveys in the years specified. [.] denotes a ranking with [1] indicating the least uncertainty

Table 3: Proportions not Voting in Referenda

| | Number % note voting in Referenda on joining: | | | | | | | | | | | |
| | 1995 | | | | 1996 | | | | 1997 | | | |
	NATO		EU		NATO		EU		NATO		EU	
Bulgaria	**6.6%**	**[3]**	**4.7%**	**[3]**	**10.0%**	**[3]**	**7.6%**	**[3]**	**10.5%**	**[6]**	**7.4%**	**[5]**
Czech Republic	12.0%	[9]	12.6%	[9]	16.5%	[9]	13.7%	[7]	12.3%	[7]	11.5%	[9]
Slovakia	**15.9%**	**[10]**	**14.9%**	**[10]**	**16.3%**	**[8]**	**14.6%**	**[8]**	**12.9%**	**[9]**	**11.2%**	**[8]**
Estonia	9.2%	[4]	9.1%	[5]	17.6%	[10]	15.5%	[9]	16.2%	[10]	12.9%	[10]
Hungary	**11.1%**	**[7]**	**10.9%**	**[7]**	**11.7%**	**[5]**	**8.3%**	**[4]**	**9.2%**	**[5]**	**8.2%**	**[6]**
Latvia	10.1%	[5]	9.0%	[4]	12.6.%	[6]	9.8%	[6]	12.4%	[8]	10.9%	[7]
Lithuania	**11.1%**	**[7]**	**11.9%**	**[8]**	**14.4%**	**[7]**	**15.5%**	**[9]**	**8.6%**	**[4]**	**7.2%**	**[4]**
Poland	4.6%	[2]	3.6%	[2]	5.2%	[2]	3.4%	[2]	7.6%	[3]	6.8%	[3]
Romania	**3.4%**	**[1]**	**3.1%**	**[1]**	**2.7%**	**[1]**	**2.7%**	**[1]**	**3.7%**	**[1]**	**3.3%**	**[1]**
Slovenia	10.4%	[6]	9.5%	[6]	11.5%	[4]	8.8%	[5]	7.0%	[2]	5.9%	[2]
All countries	**9.5%**		**8.9%**		**11.7%**		**9.9%**		**10.0%**		**8.5%**	

Notes: Sources: Eurobarometer surveys in the years specified. [.] denotes a ranking with [1] indicating the highest electoral participation

Table 4: Attitudes to the Transition Process

	Number % note favoring Developments with respect to::							
	1992		1995		1996		1997	
	FREEMKT	GENDEV	FREEMKT	GENDEV	FREEMKT	GENDEV	FREEM	GENDEV
Bulgaria	**56.3% [4]**	**41.3% [6]**	**40.3% [8]**	**34.5% [7]**	**45.8% [5]**	**11.0% [10]**	**52.3% [4]**	**52.1% [3]**
Czech Republic	55.1% [7]	58.1% [2]	43.7% [6]	56.7% [2]	44.9% [6]	50.9% [4]	29.8% [10]	28.3% [9]
Slovakia	**50.5% [8]**	**47.0% [3]**	**39.8% [10]**	**31.2% [8]**	**42.4% [8]**	**26.2% [8]**	**34.7% [9]**	**25.3% [10]**
Estonia	49.7% [9]	41.6% [5]	56.0% [3]	58.0% [1]	57.0% [3]	59.7% [2]	55.6% [3]	58.5% [1]
Hungary	**55.6% [6]**	**20.2% [10]**	**40.3% [8]**	**12.4% [10]**	**38.6% [10]**	**15.4% [9]**	**37.8% [8]**	**30.3% [8]**
Latvia	39.5% [10]	32.9% [7]	43.4.% [7]	37.6% [6]	44.7% [7]	36.4% [6]	47.5% [6]	46.1% [6]
Lithuania	**65.8% [2]**	**25.5% [9]**	**49.6% [4]**	**19.7% [9]**	**40.8% [9]**	**29.0% [7]**	**50.3% [5]**	**42.1% [7]**
Poland	55.7% [5]	27.8% [8]	64.2% [2]	42.0% [5]	63.4% [2]	41.8% [5]	66.3% [2]	51.8% [4]
Romania	**65.6% [3]**	**42.8% [4]**	**71.5% [1]**	**43.5% [4]**	**80.3% [1]**	**75.6% [1]**	**69.1% [1]**	**54.5% [2]**
Slovenia	66.0% [1]	66.3% [1]	46.4% [5]	50.7% [3]	46.0% [4]	53.0% [3]	46.6% [7]	48.7% [5]
All countries	**56.2%**	**40.2%**	**49.5%**	**38.8%**	**50.8%**	**40.6%**	**48.8%**	**43.5%**
Variance								

Notes: Sources: Eurobarometer surveys in the years specified, [.] denotes a ranking with [1] indicating the highest level of approval .

Table 5: Ordered Probit Regression Results

Dependent Variable: Electoral Participation

	General Election	General Election	Join EU	Join EU	Join NATO	Join NATO
Constant	1.419	1.676	0.168	0.335	0.400	0.496
	(11.35)	(13.25)	(1.24)	(2.44)	(3.01)	(3.71)
SEX	0.0948	0.0749	0.198	0.187	0.267	0.261
	(5.48)	(4.30)	(10.57)	(9.94)	(14.61)	(14.25)
EDUCN	-0.120	-0.0980	-0.194	-0.181	-0.129	-0.121
	(11.68)	(9.48)	(12.97)	(16.17)	(11.96)	(11.19)
LAGE	-0.386	-0.412	-0.0612	-0.0744	-0.136	-0.143
	(14.81)	(15.67)	(2.19)	(2.64)	(4.96)	(5.22)
LINCOME	-0.098	-0.0650	-0.157	-0.136	-0.166	-0.155
	(5.91)	(3.87)	(8.36)	(7.19)	(9.15)	(8.48)
SELFE	0.00761	-0.0252	-0.125	-0.110	-0.0655	-0.0574
	(0.19)	(0.62)	(2.69)	(2.38)	(1.49)	(1.30)
CITY	0.0234	0.0158	-0.0300	-0.0336	0.0116	0.00933
	(0.93)	(0.62)	(1.12)	(1.25)	(0.45)	(0.36)
CAPITAL	0.0391	0.0374	-0.0596	-0.0667	-0.0621	-0.0651
	(1.42)	(1.35)	(1.97)	(2.20)	(2.12)	(2.22)
VILLAGE	-0.0493	-0.0560	0.0725	0.0745	0.0748	0.0752
	(2.22)	(2.51)	(2.93)	(3.04)	(3.09)	(3.10)
DUM92	-0.131	-0.131				
	(5.36)	(5.32)				
DUM95	-0.0296	-0.0459	0.00715	0.0112	-0.0782	-0.0605
	(1.20)	(1.85)	(0.32)	(0.49)	(3.54)	(2.72)
DUM96	-0.0760	-0.0879	0.115	0.140	0.114	0.135
	(3.06)	(3.52)	(5.06)	(6.11)	(5.18)	(6.07)
BULGAR	-0.281	-0.313	-0.0492	-0.0731	0.0966	0.0852
	(6.91)	(7.64)	(1.03)	(1.52)	(2.11)	(1.86)
CZECH	-0.223	-0.258	0.311	0.305	0.286	0.285
	(5.67)	(6.49)	(7.38)	(7.21)	(6.89)	(6.86)
SLOVAK	-0.197	-0.289	0.228	0.180	0.360	0.336
	(5.15)	(7.53)	(5.67)	(4.45)	(9.14)	(8.50)
ESTONIA	-0.194	-0.168	0.557	0.587	0.500	0.514
	(4.83)	(4.15)	(13.41)	(14.08)	(12.40)	(12.74)
HUNGARY	0.0494	0.0424	-0.0731	-0.128	-0.0533	-0.0801
	(1.23)	(1.04)	(1.59)	(2.75)	(1.19)	(1.76)
LATVIA	0.0354	0.0002	0.381	0.372	0.385	0.379
	(0.82)	(0.00)	(8.15)	(7.94)	(8.42)	(8.28)
LITHUAN	-0.285	-0.362	0.506	0.464	0.415	0.391
	(7.06)	(8.85)	(11.68)	(10.61)	(9.73)	(9.11)
POLE	-0.0492	-0.053	-0.224	-0.213	-0.241	-0.232
	(1.29)	(1.38)	(4.95)	(4.67)	(5.50)	(5.28)
ROMANIA	-0.475	-0.454	-0.580	-0.540	-0.592	-0.566
	(12.19)	(11.52)	(12.59)	(11.61)	(13.29)	(12.65)
FARM	-0.00917	-0.0199	0.0519	0.00499	0.0592	0.0557
	(0.20)	(0.43)	(0.30)	(0.10)	(1.16)	(1.09)
STUDENT	-0.200	-0.173	-0.105	-0.0796	-0.0484	-0.0352
	(4.66)	(4.04)	(2.45)	(1.86)	(1.17)	(0.85)
UNEMP	0.0960	0.0796	0.0332	0.0158	-0.0118	-0.0217
	(2.97)	(2.45)	(0.91)	(0.43)	(0.33)	(0.61)
FREEMKT		-0.122		-0.162		-0.110
		(6.28)		(8.61)		(5.74)
GENDEV		-0.315		-0.218		-0.116
		(16.37)		(8.61)		(6.36)
N	24352	24352	20239	20239	19893	19893
Log Liklhd	-17575.9	-17368.1	-14630.8	-14528.5	-15719.0	-15681.2
R Log Liklhd	-17993.3	-17993.3	-15604.9	-15604.9	-16684.5	-16684.5
X^2	835.0	1250.4	1948.3	2152.7	1930.8	2006.5

The equations were estimated by ordered probit. See the appendix for definitions of the data. (.) denotes t statistics. X^2 relates to the log-likelihood ratio.

Table 6: Regression Results with Macroeconomic Variables

Dependent Variable: Not Voting in:

	General Election	Join EU	Join NATO
Constant	1.290	-0.-779	0.253
	(10.96)	(0.62)	(2.08)
SEX	0.0757	0.199	0.267
	(4.36)	(10.75)	(14.76)
EDUCN	-0.103	-0.184	-0.127
	(10.31)	(17.01)	(12.26)
LAGE	-0.406	-0.0395	-0.121
	(15.53)	(1.43))	(4.48)
LINCOME	-0.0812	-0.0515	-0.0881
	(5.15)	(3.03)	(5.33)
SELFE	0.0412	-0.109	-0.0568
	(1.02)	(2.40)	(1.31)
CITY	0.00212	-0.0252	0.0124
	(0.09)	(0.96)	(0.49)
CAPITAL	0.0543	-0.0379	-0.0550
	(2.01)	(1.32)	(1.96)
VILLAGE	-0.0554	0.0479	0.0344
	(2.52)	(1.98)	(1.45)
DUM92	-0.154		
	(6.10)		
DUM95	-0.0680	-0.0795	-0.144
	(2.68)	(3.43)	(6.41)
DUM96	-0.0933	0.0956	0.0901
	(3.72)	(4.25)	(4.11)
FARM	0.00363	0.0599	0.0902
	(0.08)	(1.17)	(1.80)
STUDENT	-0.160	-0.0450	-0.00266
	(3.78)	(1.07)	(0.07)
UNEMP	0.0931	0.0405	0.00181
	(2.86)	(1.12)	(0.05)
FREEMKT	-0.111	-0.174	-0.134
	(5.79)	(9.40)	(7.40)
GENDEV	-0.318	-0.203	-0.129
	(17.05)	(10.59)	(6.99)
GNPPC	-0.0000565	-0.000295	-0.000257
	(3.83)	(19.40)	(17.28)
GNPPC91	0.000117	0.000386	0.000335
	(6.69)	(20.30)	(18.81)
N	24352	20239	19893
Log Liklhd	-17466.90	-14931.9	-16120.9
R Log Liklhd	-17993.34	-15604.9	-16684.5
X^2	1052.9	1346.0	1127.2

The equations were estimated by ordered probit. See the appendix for definitions of the data. (.) denotes t statistics. X^2 relates to the log-likelihood ratio.