Learning to make votes count:
The role of democratic experience[☆]

Margit Tavits [a,*], Taavi Annus [b]

[a] *University of Oxford, Nuffield College, Oxford OX1 1NF, UK*
[b] *University of Tartu, Näituse 20, Tartu 50409, Estonia*

Abstract

This paper argues that strategic voting in young democracies increases as voters become more experienced with the functioning of democracy. This proposition is tested with election results from the democracies of Eastern Europe and Former Soviet Union. The amount of wasted votes decreases with time, controlling for the number of lists running, the electoral system, the legal threshold, and the amount of votes for the leading list. The study contributes to the literature on strategic voting and democratic consolidation in Eastern Europe.
© 2005 Elsevier Ltd. All rights reserved.

Keywords: Voting; Central and Eastern Europe; Learning; Democratic development

Voting is the central act of democracy. However, as a means for achieving policy goals, it is not a simple act. If a vote were cast according to one's sincere preferences for a party or a candidate who has no chance of exerting influence on the political decisions after the elections, the vote would be "wasted." Alternatively, a vote cast strategically for a less preferred party would help to fulfill the representational and

policy-related objective of voting. In terms of the aggregate electoral coordination, the failure to recognize the situations of strategic voting and act upon them also poses difficulties for the emergence of stable party systems and consolidation of democratic regimes in general (see Cox, 1997; Duch and Palmer, 2002; Toka, 1997). Finding out whether voters are able to learn from their democratic experience has important implications for the expectations about democratic consolidation and stability. The question is also important in the context of the ongoing academic debate about whether the young East European democracies are gradually stabilizing or continuing to experience electoral volatility (Tworzecki, 2003).

This paper asks whether people become more strategic in their voting behavior if they have a prolonged experience with democratic processes. We argue that the electorates in nascent democracies learn not to waste their votes on non-viable candidates or lists. The next section of the paper will present the theoretical argument behind the learning model. The third section describes the empirical data used and presents the results of the analyses. We consider aggregate level data on voting behavior across a number of democracies of Central and Eastern Europe and Former Soviet Union during almost all democratic elections held to date. The analysis demonstrates that the length of the democratic experience, ceteris paribus, leads to a consistent and considerable decrease in the number of votes for non-viable lists.

The study makes several contributions to the understanding of the electoral dynamic in young democracies. First, the findings suggest that democratic processes in Eastern Europe are moving towards system stabilization, implying a difference in developmental stage rather than in the nature of the regime between nascent and mature democracies. Second, the study allows us to conclude that the electorates in nascent democracies are able to learn the political and policy consequences of their vote choice and to adjust their behavior accordingly. This, in turn, contributes to the stabilization of democracy in these countries. Third, and not less importantly, the reported findings reinforce the need to consider the *dynamics* of the political context in nascent democracies in order to make conclusions about democratic development.

1. Strategic voting and democratic development

Students of democratic consolidation have argued that the critical element in producing a stable democratic system is the institutionalization of a party system (Mainwaring and Scully, 1994; Morlino, 1995; Toka, 1997). This institutionalization resembles an equilibrium of an electoral coordination game proposed by Cox (1997): effective coordination follows the "market-clearing" expectations of voters and candidates that in the long run produce equilibrium between supply and demand. Successful electoral competition involves a reduction in the number of competitors and concentration of votes for the more viable lists or candidates.

Such equilibrium presumes rationality: the ability of voters to recognize and act upon situations where voting for one's sincere preference leads to a less desirable outcome – getting no representation at all. The equilibrium also presumes the

instrumentality of voting, i.e. that people derive the greatest utility not from the act of voting but from the benefits they receive when their candidate or list wins and offers policies they favor. Strategic voting is most commonly understood as a voter's decision to vote for his or her less preferred party if the first preferred party is unlikely to win (Alvarez and Nagler, 2000; Blais, 2000; Cain, 1978; McKelvey and Ordeshook, 1972). On an aggregate such behavior amounts to less votes cast for the non-viable candidates or lists and decrease in the amount of wasted votes.

Strategic voting has important implications for the stabilization of a democratic regime: if voters in new democracies do not learn to vote strategically by concentrating their support for a few viable parties, the party systems in these democracies may not reach the equilibrium as described by Cox (1997). Further, if voters continue to view voting as an end in itself rather than a means for policymaking, those voters who repeatedly fail to achieve government representation may become alienated from the system and discontinue to be a part of a loyal opposition (Duch and Palmer, 2002; Linz and Stepan, 1996). Studying the dynamics of vote wasting in young democracies helps to achieve a better understanding of the nature of strategic voting behavior by improving the ability to predict the electoral consequences of democratic development and the probability of the party system stabilization.

1.1. The developmental argument of strategic voting

Despite the centrality of strategic voting to the stabilization of the democratic regime, there is reason to believe that voters in young democracies are less prepared for it. Compared to their counterparts in advanced democracies, they can fail to recognize the situations of potentially wasting their votes either due to their inexperience with a democratic regime, i.e. their inability to recognize the possibility for strategic action, or due to the inefficiency and inadequacy of political cues and information (Cox, 1997; Duch and Palmer, 2002). Voters with little democratic experience are also less likely to act upon strategic considerations, as they are less able to recognize the instrumental nature of casting a vote, and consider voting for a specific party or candidate as an end in itself. Despite the danger of getting no representation, these voters are less likely to switch their vote to a more viable but less preferred list (Duch and Palmer, 2002).

While there is little reason to doubt that wasting votes is more common in Eastern Europe than in advanced democracies, we suggest that the disadvantageous position of the electorates in new democracies will erode over time, i.e. we propose a developmental argument of strategic voting. This argument presumes that important differences in voter behavior between the nascent and mature democracies are overcome in the course of a learning process based on experience and information. More specifically, strategic voting develops among the electorates of young democracies as ambiguity regarding the link between one's vote and government policies declines, i.e. as people start to recognize the policy and representational consequences of their vote choice. The link becomes less ambiguous as voters become more informed about how democratic institutions function.

Democratic systems, as opposed to non-democratic ones, pose higher information requirements upon citizens in order for the latter to fulfill their obligations in the political system. Thus, in the beginning of the democratic transition, voters are necessarily overwhelmed by the exposure to increasingly numerous and conflicting messages regarding politics. They are also facing numerous political choices for which this information is relevant. However, despite the considerable increase in the availability of information about possible choices, the information about the potential consequences of these choices is still rather limited posing difficulties to strategic behavior. For example, during the first elections the post-election behavior of the parties remains uncertain: some parties may unite in order to gain representation, parties may also form coalitions with ideologically distant parties in order to form a Cabinet, or they may change their programs once in office. All these actions complicate the ability of voters to form clear expectations about the possible election results in terms of the actual seat and portfolio allocations. Further, the information provided during the early years of democracy may not be adequate or credible. Analyses have shown that incompetent polling in young democracies led to false expectations about the election results on several occasions (Cox, 1997; Kaminski, 2002). The difficulty of predicting election results hinders the possibility of electoral coordination and the minimization of vote loss.

As democracies mature, the information barriers are overcome and voters learn to use the information they receive in translating their preferences into a vote choice. Several interrelated factors facilitate this learning process. Most importantly, the individual's experience with the democratic processes becomes an important source of information: the fact that a party or a candidate supported by a voter fails to pass the legal threshold in order to gain parliamentary representation is a clear and convincing cue for the voter not to waste his or her vote next time around. More generally, as voters witness a number of election outcomes, they update their understanding of the relationship between votes, electoral success and government policies. This, in turn, helps them to make strategic decisions about subsequent voting. For example, Duch (2001) argues that as voters learn about the democratic processes they will more readily link the vote choice with the economic performance of the previous government.[1]

Learning involves more than just updating one's understanding of the democratic processes with every election. It includes also continuous observation of the political context. The increased quality of media and polling increase the reliability and availability of political information. Further, discussions with family and friends as well as observations of the dynamics of the political landscape increase the level of information. As people become more aware of the policy and representational consequences of their vote, they are better able to recognize situations that offer strategic possibilities (Dalton, 2002). That is, if information about possible election

---

[1] In several of their studies Stephen Whitefield and Geoffrey Evans have also argued that political learning accounts for the growing rationality of electoral behavior in young democracies (Whitefield and Evans, 1999, 1996, 1994).

results becomes more reliable and the post-election behavior of parties more predictable, it becomes easier for citizens to recognize which lists are in danger of not getting parliamentary representation. This information, in turn, makes it easier for the voters to calculate the potential added value of their own strategic behavior at the polling booths.

In sum, the general level of political awareness is low during the initial stage of democratic development. Over time the information barriers become less severe as people learn about the democratic processes by witnessing a number of election outcomes, observing the policy choices made by the government, following media coverage and interacting with others. As the electorate becomes more knowledgeable about the political processes and recognizes the link between the vote choice and government policies, voting changes from a symbolic to an instrumental act. Instrumentally rational voters are less likely to waste their votes on non-viable candidates or lists. Consequently, one would expect a decrease in the amount of wasted votes on general elections as democracies mature.

2. Comparative analysis of wasted votes

In order to determine whether the learning process takes place over time, we need to look at the empirical data at several time-points. In order to achieve the generalizability of the results we need to look at different countries. We combined the variation in time and space and created a data set including elections of democratic countries (scoring at least ''partly free'' on the Freedom House scales) in Eastern Europe and Former Soviet Union. We could not include election results for Albania, Bosnia and Herzegovina, Croatia, and the FYR Macedonia due to the lack of data.

All young democracies in this region use a proportional electoral system, either a pure proportional list system (PR) or a combined system with a proportional and a single member district (SMD) tier (i.e. a mixed system). The notion of vote wasting, as it is understood here (i.e. voting for a candidate or a party that does not get parliamentary representation), becomes nonsensical in the context of SMD elections. Under SMD, there is only one winner per district and all votes not cast for the winner are, thus, ''wasted''. Clearly, failing to vote for the winner is not the strategic challenge the electorate faces in an SMD election. Studying other types of strategic voting, however, usually requires survey data. Because of this, and because no democratic country in Eastern Europe and Former Soviet Union uses pure SMD system, we have included in the analyses only the elections using a PR list system, including the PR portion of the elections held in countries with a mixed system.

In several instances, we could not take into account the very first democratic elections. In some cases, these elections used a non-comparable electoral system (e.g. Latvia and Lithuania used a majoritarian system in 1990) or had no legal threshold, rendering the analysis of wasted votes almost meaningless (e.g. Poland, 1991 and Romania, 1990). We include all of the first elections in the analysis where a proportional list system with a legal threshold was used. However, one still has to

be cautious about using those elections, as in many instances, a unified opposition was running against the sitting communist party. This type of "transition referendum" does not create strategic voting situations that occur in true multi-party elections. It has been argued that the founding elections usually do not produce information comparable with other elections in more stable settings (Bogdanor, 1990). In order to deal with the peculiarity of these first elections in the analyses, a dummy variable identifying those cases was created. As an alternative, analyses excluding first elections for all countries were also performed. All the rest of the parliamentary elections were included in the analyses. This leaves altogether 54 cases from 15 countries. All elections included in the study are identified in the Appendix.

2.1. Measurement

We are interested in the situation where voters have a strategic voting possibility – when their most preferred party is expected not to gain seats in the parliament. Because it is difficult to capture the actual expectations of the voters during the elections, we used the measure of "*hopeless votes*" or the percentage of votes given to the parties whose election result was more than one percentage point below the legal threshold level. If voters are strategic, they will not vote for the parties that will probably not gain any representation in the parliament. Therefore, the fewer votes given for such parties, the more frequent the instances of strategic voting. Additionally, in order to test the robustness of the results, we used more conservative measures of the dependent variable. First, we calculated the percentage of *wasted votes*, i.e. all of the votes that supported parties that did not gain representation in the parliament regardless of their closeness to the legal threshold. Second, the analyses were also replicated with *risky votes* – the sum of the share of wasted votes and the share of votes given for parties barely above (not more than 1%) the legal threshold.

The main independent variable, the *duration of democracy* captures the time since the country has become democratic. Following the argument in the theoretical part of the paper about voters updating their understanding of the democratic process with every election, this variable is measured by the number of democratic parliamentary elections held in a given country by a given time. Of course, the hypothesized updating may not necessarily follow this strict electoral cycle as voters gather information about the democratic process also between elections or by participating in other types of elections. Therefore, we performed also alternative analyses (not presented) using the number of years since the first democratic election and the number of months since the first election as the measurement units for this independent variable (for a similar operationalization, see Kostadinova, 2002). The overall performance and the significance levels of the independent variables in these models mirrored those presented in Table 2.

In addition to the duration of democracy, the amount of wasted votes may also depend on the "opportunity" to waste one's vote. That is, one might argue that even if the amount of wasted votes decreases as democracies mature, it is not because

people are learning about the mechanisms of democratic elections but that the leaders of the poorly performing parties are behaving strategically by merging with more viable lists or not seeking political office in the future.[2] In short, the more parties run for the parliament, the more wasted votes can be expected.

Although the concept of the number of parties is straightforward, its measurement is not. One could use the raw *Number of lists* competing in a given election as this would account for all parties that give the opportunity for voters to waste their vote. This measure is potentially preferable to a more widespread measure of party system fragmentation in comparative politics − the index of effective number of parties (ENP) (Laaksoo and Taagepera, 1979) − because the latter assumes that voters know already at the time of voting the vote shares that parties will win.[3] At the same time, given that electoral polling of some sort exists in all of these countries, this assumption may not be too unrealistic. In the preliminary analysis we used both the number of lists that entered the electoral contest[4] as well as ENP to measure the variable.[5] Although we report the empirical model that uses the number of lists rather than ENP, the substantive results remain the same regardless of which measure is used.

The electoral system is another potentially important determinant of the amount of wasted votes. As mentioned, all of the elections under consideration use, at least partly, a proportional list system with a legal threshold. Seventeen out of the 54 elections used a mixed system, where in addition to the proportional votes mandates were distributed in single member districts. A mixed system makes it possible for parties to contest on either the list ballot or the SMD ballot or both. This confuses the situation for the voter as it may demand splitting the single member and party list votes (see Duch and Palmer, 2002). In young democracies, individual candidates or

---

[2] This resembles the discussion about the "mechanical effect" and the "psychological effect" of electoral systems (Duverger, 1954). To the extent that such analogy can be drawn, we are interested in the latter and need to control for the former.

[3] The measure of the effective number of parties in a given election is calculated using the formula provided by Laaksoo and Taagepera (1979): $N = 1/\Sigma v_i^2$, where N is the effective number of parties, and v_i is the proportion of votes of the i-th party. The information about the vote share for each party on a given election was obtained from the Database on Central and Eastern Europe Elections, http://www.essex.ac.uk/elections; Electoral Commission of Republic of Slovenia, http://www.gov.si/elections/rvk.html; Central Electoral Commission of the Republic of Armenia, http://www.elections.am/; IFES Georgia, http://www.ifes.ge; IFES Election Guide, http://www.ifes.org/eguide/elecguide.htm; Lithuanian Central Electoral Committee, http://www.vrk.lt/index.eng.html; Romanian Central Electoral Bureau, http://www.bec2004.ro; Russian Central Election Commission, http://www.vrk.lt/index.eng.html; Slovenia: Government Centre for Informatics elections webpage *decision-making by citizens*, http://www.volitve.gov.si/en/index.html and various issues of *Electoral Studies*.

[4] In some mixed electoral systems, not all parties become eligible for entering the proportional vote ballot. In those cases, we used the number of those lists that actually made it to the ballot.

[5] One might also argue that both the number of wasted votes and the number of parties decrease as democracies mature, assuming collinearity between the two independent variables. Interestingly, however, the bivariate correlation between the number of months since the first democratic elections and the number of lists participating in the elections is only −0.030 and does not reach the level of statistical significance. A similar correlation between the ENP and democratic maturation is −0.292. As the young democracies mature, the number of lists does not decrease automatically.

small regional parties have been successful in gaining representation via single member districts. For example, in 1995 Russian elections, independents won 141 of 225 single member district seats (McAllister and White, 2000). However, giving list votes for such single member district candidates would most probably lead to vote wasting. Whether voters decide to strategically split votes depends on whether they receive information about this strategy and whether they process this information so that they become convinced that splitting is a sensible strategy. This is essentially a learning process about the system (Johnston and Pattie, 2002), where more knowledgeable voters are more likely to make the strategic split (Karp et al., 2002). Although in mixed systems the voter level strategizing is conditioned by possibly more complex contestation strategies of parties than in pure PR systems, vote wasting is ultimately a direct outcome of voter level decision-making. Voters' strategic calculations may lead to avoiding vote wasting even when faced with contextual complexities. However, realizing that these complexities matter, we expect that in the presence of a *Mixed electoral system* the proportion of wasted votes is higher than in the case of pure list vote systems. The variable is simply a dummy coded 1 if a mixed system was used in an election and 0 otherwise.

Additionally, the higher the threshold, the more votes may be wasted as any given party needs more votes to be able to surpass the threshold level. Shvetsova (1999) has argued that the relatively high level of legal thresholds in post-communist countries has led to wasting votes. We use in our analysis the *Legal threshold* value for parties. In a few instances, the legal thresholds for party coalitions were higher than those of parties. Unfortunately, we could not account for the former, as it is not reasonable to create an additional variable that has values only for a few cases.[6]

We also included in the analyses a variable that captures situations where an election has a strong winner. Such a situation has a potentially positive effect on reducing the amount of wasted votes via mobilizing the electorate. In addition to the obvious mechanical effect according to which the higher the support for the winner the less votes are available for wasting, the anticipation of a strong winner most probably also mobilizes the opposition. That is, the higher the anticipated support for the winner, the higher the incentives of those voters who oppose the winner to mobilize their support for other viable lists in order for a strong opposition to emerge after the votes are counted and seats distributed. The incentive to balance the power distribution and to avoid too strong a position for a party that they dislike should make the opponents to the leading party more careful about their choice and more attentive to not wasting their votes on a list that has no chance of being part of the power balance. This argument is supported by the empirical finding that an overwhelming majority of the electorate in the Eastern European democracies tends to have a *negative* rather than a positive party identification (Mishler and Rose, 1998).

---

[6] In theory, the real or empirical threshold (Anckar, 1997; Taagepera, 1989) can be greater than the legal threshold if the seats are allocated in the district level where $1/m$ is greater than the legal threshold (m = number of members elected in a given district). However, in all elections considered in this study, a party that cleared the legal threshold also gained seats in the parliament. Therefore, the use of the nationwide legal threshold is justified.

That is, most voters may not feel affinity to any particular party, yet they find certain specific parties strongly objectionable. Thus, casting one's vote is as much voting for someone as it is voting against the disliked party. *Votes for the winner* are measured by the percentage of votes given for the party who gained the most votes.[7]

Table 1 presents descriptive statistics for the main variables included in the subsequent analyses. It is particularly interesting to consider the figures characterizing the different measures of the dependent variable. The shares of wasted, hopeless and risky votes are strikingly high: the mean share of wasted votes at the average legal threshold of 4.68 amounts to 17.8%, with the minimum of 3.7% and the maximum as high as 61.5%. These figures look inflated also in comparison to similar indicators for the West European countries. Using the data provided by Anckar (1997), we calculated that the average share of wasted votes for 22 West European democracies that use proportional representation electoral system in 1988 through 1996 was 3.17%. The corresponding average effective threshold was 6.46%. One of the lowest averages of the share of wasted votes for this time period was in Austria: 1.5% with the legal (and effective) threshold of 4%. The share of wasted votes was the highest in Turkey: 7.5%. But the legal threshold of representation in Turkey was also very high: 10%. This comparison corroborates the theoretical arguments considered above about the disadvantageous position of the voters in young democracies in recognizing the danger of wasting their votes. In the following subsection, however, we demonstrate how this discrepancy between advanced and young democracies is potentially eroding over time.

2.2. Analysis

As we have pooled time-series and cross-section data, we have used a linear regression with the Beck and Katz (1995) method for panel-corrected standard errors to take account of potential panel heteroskedasticty and contemporaneously correlated errors.[8] Table 2 presents the results from these estimations. Model 1 predicts the percentage of risky votes while Model 2 and Model 3 do the same for wasted and hopeless votes, respectively. There are no major differences between the alternative models presented in Table 2. All models perform efficiently with R^2-values reaching up to 0.61.

The theoretically most important independent variable, the duration of democracy or the number of democratic elections held, appears consistent and

---

[7] Alternatively, we also used a dummy variable coded 1 if the winner received more than 40% of the votes and 0 otherwise to measure the closeness of the election. This variable performed rather similarly to the continuous variable reported in Table 2. One might argue that "a clear winner" is determined only after the election and therefore it is not a piece of information that can condition voters' choices at polling booths. However, it is not realistic to assume complete uncertainty or lack of information prior to the election: a potential clear winner is easily detected by pre-election polling.

[8] We use the "xtpcse" command in Stata 8. In fact, since the number of countries in our data set is greater than the number of elections for any country, no serial correlation was detected, and when the analysis is re-run with OLS, there is very little change in the results. Additional robustness tests (see below) indicate that the results are solid.

Table 1
Descriptive statistics

Variable	N	Mean	St. Dev.	Min	Max
Risky votes	54	21.52	11.49	4.8	61.5
Wasted votes	54	17.82	10.30	3.7	61.5
Hopeless votes	54	13.93	7.68	3.7	48.64
Duration of democracy (Number of elections)	54	3.09	1.23	1	5
Months democratic	54	78.37	50.45	0	176
Number of lists	54	25.98	14.95	11	76
ENP	54	5.96	1.89	2.83	11.69
Threshold	54	4.68	0.79	3	7
Votes for the winner	54	31.61	8.29	15.22	50.07

statistically significant in all models. Substantively, every subsequent democratic election decreases the share of risky votes by 5.5%, the share of wasted votes by 4.1% and the share of hopeless votes by 2.8%. Given that the average share of wasted votes is about 18%, a 4% decrease amounts to a considerable effect. Indeed, while in first two democratic elections, 22% of votes are wasted on an average, this average is reduced to only 13% by the fourth election.[9]

The variable denoting mixed electoral systems behaves also in the expected manner. The estimate is significant in all models and the positive coefficient indicates that the mixed electoral system is associated with more hopeless/wasted/risky votes, increasing their amount by about 5% compared with the pure proportional electoral system.[10] Further, the more parties are included on a ballot, the more votes become wasted. The effect is stronger on risky and wasted votes than it is for hopeless votes. On an average, for every additional party 0.2–0.3% of the votes are risked or wasted.[11] The effect of the legal threshold on the amount of hopeless/wasted/risky votes is positive for all models, yet the size of this effect, again, differs according to the measure of the dependent variable. One percentage point increase in the legal threshold of an election is associated with about 5% increase in risky, 3.8% increase in wasted, and 2.8% increase in hopeless votes. The coefficient for the closeness of

---

[9] Of course, we do not expect this decrease to go on indefinitely. Rather, in a long term we expect this political learning to follow a curve of exponential decay: at early stages of democratic development every subsequent election would reduce the amount of wasted votes in a more substantial manner than at later stages, and the effect of the duration of democracy would level off when democracies have matured. The current time series is too short to test this argument conclusively: although a curvilinear pattern of exponential decay exists in data, this pattern is not significantly different from linearity to warrant the presentation of a more complex analysis. The results of the curvilinear analysis are available from the authors.

[10] In order to further test the effect of the electoral system on vote wasting, we split the sample into countries using pure PR (37 cases) and those using a mixed system (17 cases). The main learning argument held up in both analyses, although it was considerably weaker when looking only at mixed systems. However, one has to be cautious with inferences from analyses with only 17 cases.

[11] When the analysis was performed with ENP, every additional party accounted for about 2–3% increase in wasted votes.

Table 2
Linear regressions with PCSE of the share of hopeless, wasted, and risky votes

Variables	b (PCSE)		
	Model 1: risky votes	Model 2: wasted votes	Model 3: hopeless votes
Duration of democracy (Number of elections)	−5.485*** (0.455)	−4.106*** (0.613)	−2.759*** (0.207)
Mixed system	4.383*** (1.337)	5.383*** (1.670)	5.703*** (1.086)
Number of lists	0.365*** (0.101)	0.314*** (0.067)	0.209*** (0.041)
Threshold	5.182*** (1.073)	3.817*** (1.085)	2.824*** (0.652)
Votes for the winner	−0.255*** (0.058)	−0.177* (0.101)	−0.168*** (0.066)
First election	−11.865*** (1.878)	−7.943*** (2.531)	−7.176*** (0.658)
Constant	12.505*** (5.217)	9.099*** (3.201)	7.986*** (1.950)
R^2	0.61	0.52	0.57
Number of groups	15	15	15
Avg. observations per group	3.6	3.6	3.6
Log likelihood	16 636.92***	112.35***	3189.6***
N	54	54	54

Note: panel-corrected standard errors are in parentheses.
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$, two tailed.

the election variable reaches the level of statistical significance. This finding is in variance with the results presented in earlier studies of strategic voting where the variable measuring the competitiveness of the top contenders is unrelated to the frequency of strategic voting (Niemi et al., 1992).[12] The sign of the coefficients is consistently negative, indicating that the emergence of a clear winner on an election is associated with decrease in the amount of strategic voting.[13]

2.3. Alternative estimations

Table 3 presents various alternative estimations of Model 1 in order to demonstrate the soundness of the results in Table 2.[14] First, as a demonstration of our earlier argument about the peculiar nature of the first elections, we performed an OLS analysis excluding these elections. The results of this estimation are presented in the first column of Table 3 and they clearly support the hypothesized relationship

---

[12] The variable does not reach the level of statistical significance when ENP rather than the raw number of lists is used, as ENP already accounts for the vote shares of all parties, including that of the winner.

[13] We also performed diagnostics to detect multicollinearity between independent variables as one might expect that the *ENP* is highly and negatively correlated with the *electoral threshold* (Cox, 1997), with the *mixed electoral system* (Duch and Palmer, 2002), and with the *duration of democracy*. The tolerance statistics for all models ranged from 0.595 to 0.967, and the variance inflation factors from 1.03 to 1.68 indicating that no significant multicollinearity is present (Greene, 2002). The fact that almost all of the variables included in the models reach the level of statistical significance gives additional credence to this conclusion.

[14] Alternative estimations were performed on all models. In order to save the space, only those of Model 1 are presented.

Table 3
Alternative analyses of the share of risky votes

Variables	First elections excluded	Robust LS	Fixed effects
	b (PCSE)	*b* (SE)	*b* (SE)
Duration of democracy (Number of elections)	−5.288*** (0.548)	−5.446*** (1.151)	−4.393*** (1.053)
Mixed system	6.111*** (2.349)	4.337* (2.565)	22.001** (9.150)
Number of lists	0.386*** (0.102)	0.329*** (0.078)	0.828*** (0.182)
Threshold	5.540*** (1.063)	4.996*** (1.563)	6.167*** (1.798)
Votes for the winner	−0.375*** (0.056)	−0.211* (0.134)	−0.156 (0.148)
First election		−12.046*** (2.46)	−6.429* (4.198)
Constant	12.831*** (5.561)	12.677 (8.497)	−24.793* (15.605)
R^2	0.65		0.81
Number of groups	15		
Avg. observations per group	3.3		
N	49	54	54

Note: Table omits country dummy variables for the fixed-effects model.
The model with the first election excluded uses panel-corrected standard errors, all other models use regular standard errors.
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$, two tailed.

stronger than the original estimation. The fact that the overall performance of this model is better ($R^2 = 0.65$) illustrates that the first elections are indeed different from the elections in more stable settings. However, as the results in Table 2 showed, these elections can still be incorporated into our argument without destabilizing the detected pattern of relationships.

There are two additional potential concerns with the regression results presented in Table 2. First, due to the relatively small sample size outlying observations may drive the models. The DFFIT measures with the cutoff point $2\sqrt{(k + 1)/(n − k − 1)}$ (Belsley et al., 1980) revealed one potential outlier for Model 1. The equation was then re-estimated with the help of iteratively reweighted least squares (or robust) regression. The robust regression estimates are presented in the second column of Table 3. The results reflect those of Model 1 in Table 2 indicating that the detected relationships are not sensitive to outlying observations.

Further, as we use cross-sectional data, there is also a danger that the relationship between the amount of wasted votes and the age of democracy occurs simply as a result of cross-sectional variance. In order to account for this problem, we estimated a fixed-effects model using country dummies. The results of this analysis are presented in the third column of Table 3. Again, compared to the OLS estimation of Model 1 in Table 2, the relationship between the amount of wasted votes and the duration of democracy does not change, indicating that the detected pattern also holds within countries.

We also tested some different model specifications by adding more control variables. For example, it is possible that voters whose first preference fails to win parliamentary representation learn to abstain rather than to switch their votes to

more viable parties. We controlled for such a possibility by estimating the effect of *Voter turnout* and *Change in voter turnout* in two separate models. Neither variable appeared significant or changed the performance of other variables in the models presented in Tables 2 and 3. Further, it is also possible that the stability and clarity of party divisions in a country at a given time influences the extent to which voters can reasonably predict whether their vote will be wasted. The stability of the system could be captured by the average *Age of parties in parliament*. Again, however, this variable does not appear significant in the empirical analyses when entered alone or with one of the controls for turnout, while the results presented in Tables 2 and 3 remain unaltered. The argument of learning to make votes count seems to outperform both of these alternatives.

The results of the analyses provide evidence for the argument that as democracies mature, voter support for weak parties decreases. This relationship remains significant even if a number of alternative explanations are taken into account. It is also persistent to alternative estimations. The finding indicates that, at least to an extent, the frequency of strategic voting increases together with the democratic experience. Thus, the democratic experience itself may help people to recognize the instrumental value of voting and act upon it, contributing to the representativeness of the government and the consolidation of the party system, emerging in many post-communist countries (Miller et al., 2000).

In future studies, these aggregate level results could be supplemented with an analysis of individual level behavior in order to specify and test the learning hypothesis more precisely. Such an analysis would need to look at the individual level reasons behind strategic abandoning of weak parties and demonstrate that people who tend to strategically switch their vote from their most preferred to a less preferred party are more politically aware and informed, and that such behavior is a learned response to their own experience or to their observation of the political process.

2.4. Alternative explanation: the strategic behavior of party elites

Although the developmental argument of strategic voting generates empirically testable predictions and the discovered relationships are rather robust, there is a potential alternative explanation to the reduction in the amount of wasted votes over time. Another set of actors in the electoral process — the political parties — can behave strategically by maximizing the probability of their electoral victory. While this argument is plausible, preliminary empirical evidence does not support it. The analysis above took into account the number of parties running on an election and still found that the length of the democratic experience remained a significant predictor of the amount of wasted votes. We have also demonstrated that, as the young democracies mature, the number of lists does not decrease automatically (see footnote 5). This undermines the empirical validity of the argument about the strategic choice of party elites to concentrate around a smaller number of viable lists.

It is, however, also possible that the nature of parties who remain in the elections are changing over time and adapting to the perceived preferences of the wider

electorate. Such an ability of parties to adapt and change has been documented in the case of the West European countries (Mair, 1990, 1997). It may be that similar processes are taking place in Eastern Europe, too. Thus, the reduction in the number of wasted votes may occur not due to increased strategic voting, but as a result of clever strategizing of party elites in their attempt to attract more voters. That is, voters may abandon small parties not because they are strategic, but because more viable parties are moving closer to their ideal point on the policy space.

Despite the plausibility of the elite-based explanation, it is not clear that one can reject the voter-based model or base one's explanation of the elite behavior only. The elite-based model remains limited in some important ways. First, ample literature demonstrates the weak party attachment and high voter volatility – the percentage of the vote that changes hands between two consecutive elections – among the East European electorates (see Birch, 2003 for a review). Mair (1997, p. 182) argues that "the fluidity of social structures and the relative lack of crystallization of identities" leave the East European electorates unpredictable. This makes it more difficult for party elites to even recognize the preferences of the wider electorate, let alone adapt to them.

Further, a well-established party organization is an essential prerequisite for the ability of party elites to adapt and make long-term strategic decisions. In Eastern Europe, however, parties enjoy little loyalty from the elites and are, as a rule, also not grounded within civil society (Mair, 1997; Kopecky, 1995). The weakness of the party organizations, compared to parties in Western Europe is well illustrated by the low levels of party membership in Eastern Europe. Mair and van Biezen (2001) report that the average party membership in Western Europe in the late 1990s was 5.72% of the electorate, while the same figures for the Czech Republic, Hungary and Poland were 3.94%, 2.15%, and 1.15%, respectively. The already mentioned peculiar feature of the East European electorates – the negative party identification (Rose and Mishler, 1998) – further exacerbates the ability of party leaders to strategically appeal to the public, as voters are largely indifferent between most parties.

In addition to voter volatility and low levels of party attachment, there are also high levels of electoral replacement in the East European countries. For example, in Moldova none of the parties elected in 1994 were re-elected in 1998. Both Latvia and Estonia witnessed the electoral victory of a totally new political party during their latest national elections in 2002 and 2003, respectively. In both countries these new parties were successful enough on their first elections to become a major party in the governing coalition. These examples clearly contradict the argument that the elites of those parties that remain in elections over time, are strategically changing their party platforms to appeal to new voters. The examples also show that the emergence of electorally viable new parties is not a characteristic of early elections only, and even if party elites learn to strategize, they apparently need more time.

Last but not least, strategic voting is a real phenomenon in Eastern Europe. For example, Duch and Palmer (2002), posing their respondents a hypothetical voting situation, state that in 1997 13% of the Hungarian electorate was ready to switch their vote to a more viable party if their most preferred party was not going to get into the parliament. More solid evidence about strategic voting in Eastern Europe

can be presented using data from the Hungarian 1994 post-election survey.[15] We use this example as it is the only available survey from the Eastern European countries that contains a specific forced-choice question about strategic voting.[16] Considering all those respondents who stated either, "I voted for the party other than the one I considered the best because I did not believe this party could win anyway" or "I voted for party other than the one I thought best because this was the only way I thought that party could win" as strategic voters we found that 6.8% of the respondents voted strategically on the 1994 Hungarian national election.

This number appears lower than the rate of strategic voting reported by Duch and Palmer (2002) as well as by studies considering data on advanced democracies: Cain (1978) identifies 10% of the British electorate voting for a party other than their first preference, Niemi et al. (1992) reported that 17% of the electorate behaved strategically on the 1987 British election.[17] The discrepancy may be a reflection of our theoretical argument that increases in political awareness and democratic experiences lead to higher levels of strategic voting. In 1997 the Hungarians already had the experience of the 1994 election and many might have been disappointed to find that voting for their first preference turned out to be a waste. Such an experience might have prompted more people to respond strategically to the hypothetical voting situation presented in the 1997 survey. Similarly, the extent of strategic voting in a long-term democracy such as Britain may be more frequent because people have more experience with participating on democratic elections and because of the majoritarian electoral system making the possibilities for strategic behavior more evident. Alternatively, the discrepancy might just reflect measurement differences: survey questions may differ across countries and, concerning the Duch and Palmer (2002) study, more people might intend to vote strategically than actually do because of the information constraints in a real-life voting situation. Comparing the rates of strategic voting across studies may not be very reliable, however, if it is, it supports our hypothesis about learning the mechanisms of democratic elections. And although the dynamics of strategic voting cannot be mapped convincingly based on these survey data, the evidence of the presence of strategic voting among the East European electorates does not allow to disregard the voter-based model entirely.

Thus, there are some important characteristics of the post-communist societies that hinder the strategic behavior of party elites in building large-scale support for

---

[15] The survey data were documented and made available by the Zentralarchiv für Empirische Sozialforschung, Köln. The data for the study were collected by H.-D. Klingemann, Social Science Research Center, Berlin and G. Toka, Department of Political Science, Central European University, Budapest, Hungary. The Hungarian general election took place on May 8, 1994 (first round). The survey was conducted on May 15−25, 1994.

[16] Answers to the forced-choice question where the respondents are asked to provide the main reasons for supporting a particular party on an election and one of the options given is "I really preferred another party but it had no chance of winning" is considered to be the most precise indication of strategic behavior (Evans, 2002; Evans and Heath, 1993; Heath et al., 1991; Niemi et al., 1992).

[17] There are several other estimates of the extent of strategic voting on the same election. Thus, Alvarez and Nagler (2000) report that 7.5% of the voters were strategic, Evans and Heath (1993) and Johnston and Pattie (1991) state it as 6%.

their organizations. The electorate is volatile, making it difficult to detect voter preferences, and party loyalty is low, making it difficult to secure a viable electoral support for any given party let alone build any wider support-base. There is also a non-trivial methodological problem with the elite-based model: it is difficult empirically to pin down the actual strategic behavior of party elites in their attempt to appeal to a larger electorate with every consecutive election. Furthermore, the intriguing finding that voters appear to be more strategic than party elites is consistent with previous studies (Gunther, 1989).

3. Conclusion

Strategic voting within the electorate has been considered as a prerequisite for a stable party system and democratic consolidation. At the same time, it has also been argued that young democracies face the challenge of politically unaware voters who are not accustomed to the norms and processes of democratic elections. This presents a seeming discrepancy between ought and is, as the nascent democracies are the most vulnerable to institutional instability and face the challenge of consolidating their regimes. We have proposed a developmental argument of strategic voting. More specifically, the strategic behavior of voters increases with time as a result of a learning process. As people in young democracies become more experienced with the functioning of a democratic system and its electoral mechanism, they become more able to recognize the voting situations that offer strategic possibilities and act on them. The strategic behavior of some voters is a prerequisite of an efficient electoral coordination and the stabilization of the electoral arena as votes become concentrated on more viable lists. The evidence presented in this study clearly confirms that the duration of democracy is associated with a significant decrease in the amount of votes for non-viable candidates.

Our analysis adds to the existing literature of strategic voting an important developmental argument. It demonstrates that strategic calculations in voting behavior are not the monopoly of advanced societies, but occur as a result of experience with democratic rules of the game and increased information about the political choices. In the course of this experience people learn to abandon less viable candidates and not to waste their votes. This, in turn, leads to a more coordinated electoral outcome on the societal level. Whether voters learn to behave strategically under SMD electoral rules and how the strategic calculations of voters under different electoral rules interact in countries with mixed systems remain important avenues for future study.

Our analysis also adds to the literature of democratic consolidation. The dynamics of strategic voting in new democracies presented in this paper imply that, as the result of a learning process, voters start to treat the act of voting not as an end in itself, but as a means for achieving their preferred policy. This is a positive implication for democratic consolidation in Eastern Europe suggesting that the democratic experiences of the countries in this region lead to a gradual stabilization of the electoral arena.

Appendix. Elections included in the analysis

Country	Year	Number of lists (ENP)	Election number (Months democratic)	Electoral system	Legal threshold	Hopeless votes	Wasted votes	Risky votes
Armenia	1999	21 (4.6)	2 (46)	Mixed	5.00	18.66	18.66	29.29
Armenia	2003	21 (8.2)	3 (94)	Mixed	5.00	19.31	24.00	29.34
Bulgaria	1991	38 (4.2)	2 (16)	PR list	4.00	14.49	24.99	24.99
Bulgaria	1994	48 (3.8)	3 (54)	PR list	4.00	11.80	15.59	20.32
Bulgaria	1997	39 (3.2)	4 (82)	PR list	4.00	7.86	7.86	7.86
Bulgaria	2001	54 (3.9)	5 (132)	PR list	4.00	7.42	14.49	14.49
Czech R.	1990	13 (4.1)	1 (0)	PR list	5.00	6.50	18.82	18.82
Czech R.	1992	21 (7.3)	2 (24)	PR list	5.00	14.52	19.11	36.89
Czech R.	1996	16 (5.3)	3 (72)	PR list	5.00	11.16	11.16	11.16
Czech R.	1998	13 (4.7)	4 (96)	PR list	5.00	11.31	11.31	11.31
Czech R.	2002	28 (4.8)	5 (144)	PR list	5.00	12.43	12.43	12.43
Estonia	1992	17 (8.7)	2 (30)	PR list	5.00	14.60	14.60	14.60
Estonia	1995	16 (5.9)	3 (60)	PR list	5.00	12.69	12.69	29.55
Estonia	1999	12 (6.9)	4 (108)	PR list	5.00	8.40	8.40	8.40
Estonia	2003	11 (5.4)	5 (156)	PR list	5.00	4.80	4.80	4.80
Georgia	1995	54 (6.4)	2 (37)	Mixed	5.00	48.64	61.50	61.50
Georgia	1999	33 (3.8)	3 (84)	Mixed	7.00	19.40	25.99	33.07
Hungary	1990	19 (6.7)	1 (0)	Mixed	5.00	15.81	15.81	15.81
Hungary	1994	19 (5.5)	2 (50)	Mixed	5.00	12.68	12.68	12.68
Hungary	1998	15 (4.5)	3 (98)	Mixed	5.00	11.41	11.41	16.88
Hungary	2002	13 (2.8)	4 (146)	Mixed	5.00	6.94	11.31	16.88
Latvia	1993	23 (6.2)	2 (39)	PR list	4.00	10.69	10.69	15.46
Latvia	1995	19 (9.6)	3 (66)	PR list	5.00	7.55	12.03	23.22
Latvia	1998	21 (6.9)	4 (103)	PR list	5.00	11.39	11.39	11.39
Latvia	2002	20 (6.7)	5 (151)	PR list	5.00	6.91	15.82	21.21
Lithuania	1992	20 (3.8)	2 (32)	Mixed	4.00	16.19	16.19	16.19
Lithuania	1996	28 (6.9)	3 (80)	Mixed	5.00	28.60	32.61	32.61
Lithuania	2000	15 (5.6)	4 (128)	Mixed	5.00	15.15	23.42	23.42
Lithuania	2004	15 (5.7)	5 (176)	Mixed	5.00	9.01	9.01	9.01
Moldova	1994	13 (5.4)	1 (0)	PR list	4.00	14.42	18.08	18.08
Moldova	1998	15 (5.7)	2 (49)	PR list	4.00	16.62	23.54	23.54
Moldova	2001	17 (3.5)	3 (84)	PR list	6.00	17.50	28.31	28.31
Poland	1993	34 (9.7)	2 (51)	PR list	5.00	18.83	34.52	45.70
Poland	1997	21 (4.6)	3 (99)	PR list	5.00	7.68	12.42	17.98
Poland	2001	14 (4.5)	4 (147)	PR list	5.00	6.62	9.72	9.72
Romania	1992	76 (6.7)	2 (28)	PR list	3.00	12.09	19.97	29.90
Romania	1996	66 (5.9)	3 (78)	PR list	3.00	15.48	19.92	19.92
Romania	2000	62 (5.1)	4 (126)	PR list	6.00	18.15	23.19	36.88
Romania	2004	51 (3.8)	5 (174)	PR list	6.00	12.54	12.54	18.73
Russia	1993	13 (8.1)	1 (0)	Mixed	5.00	8.86	12.94	18.46
Russia	1995	43 (8.8)	2 (24)	Mixed	5.00	36.05	49.50	49.50
Russia	1999	26 (6.5)	3 (72)	Mixed	5.00	18.63	18.63	30.54
Russia	2003	23 (5.4)	4 (120)	Mixed	5.00	20.35	24.65	24.65
Slovakia	1990	16 (11.7)	1 (0)	PR list	3.00	11.24	18.18	11.10
Slovakia	1992	20 (5.3)	2 (24)	PR list	5.00	15.76	23.80	23.80
Slovakia	1994	16 (5.8)	3 (51)	PR list	5.00	13.11	13.11	18.51
Slovakia	1998	17 (5.3)	4 (99)	PR list	5.00	5.78	5.78	5.78

Appendix (*continued*)

Country	Year	Number of lists (ENP)	Election number (Months democratic)	Electoral system	Legal threshold	Hopeless votes	Wasted votes	Risky votes
Slovakia	2002	25 (8.8)	5 (147)	PR list	5.00	18.19	18.19	18.19
Slovenia	1992	25 (8.1)	2 (32)	PR list	3.00	11.24	18.18	25.22
Slovenia	1996	22 (6.3)	3 (79)	PR list	3.00	7.90	10.58	13.80
Slovenia	2000	23 (5.1)	4 (126)	PR list	4.00	3.70	3.70	12.40
Slovenia	2004	20 (3.0)	5 (174)	PR list	4.00	11.73	11.73	11.73
Ukraine	1998	30 (8.4)	2 (48)	Mixed	4.00	21.69	31.91	45.09
Ukraine	2002	33 (7.1)	3 (96)	PR list	4.00	17.99	21.34	21.34

Sources: University of Essex. Political Transformation and the Electoral Process in Post-Communist Europe, http://www.essex.ac.uk/elections; Electoral Commission of Republic of Slovenia, http://www.gov.si/elections/rvk.html; Central Electoral Commission of the Republic of Armenia, http://www.elections.am/; IFES Georgia, http://www.ifes.ge; IFES Election Guide, http://www.ifes.org/eguide/elecguide.htm; Lithuanian Central Electoral Committee, http://www.vrk.lt/index.eng.html; Romanian Central Electoral Bureau, http://www.bec2004.ro; Russian Central Election Commission, http://www.vrk.lt/index.eng.html; Slovenia: Government Centre for Informatics elections webpage *decision-making by citizens*, http://www.volitve.gov.si/en/index.html, various issues of *Electoral Studies*; authors' calculations.

References

Alvarez, R.M., Nagler, J., 2000. A new approach for modelling strategic voting in multiparty elections. British Journal of Political Science 30, 57–75.

Anckar, C., 1997. Determinants of disproportionality and wasted votes. Electoral Studies 16, 501–515.

Beck, N.L., Katz, J.N., 1995. What to do (and not to do) with time-series-cross-section data. American Political Science Review 89, 634–647.

Belsley, D.A., Kuh, E., Welsch, R.E., 1980. Regression Diagnostics: Identifying Influential Data and Sources of Collinearity. Wiley, New York.

Birch, S., 2003. Electoral Systems and Political Transformation in Post-Communist Europe. Palgrave Macmillan, New York.

Blais, A., 2000. To Vote or Not to Vote? University of Pittsburgh Press, Pittsburgh.

Bogdanor, V., 1990. Founding elections and regime change. Electoral Studies 9, 288–294.

Cain, B.E., 1978. Strategic voting in Britain. American Journal of Political Science 22, 639–655.

Cox, G.W., 1997. Making Votes Count: Strategic Coordination in the World's Electoral Systems. Cambridge University Press, Cambridge.

Dalton, R.J., 2002. Citizen Politics. Chatham House, New York and London.

Duch, R.M., 2001. A developmental model of heterogeneous economic voting in new democracies. American Political Science Review 95, 895–910.

Duch, R.M., Palmer, H.D., 2002. Strategic voting in post-communist democracy? British Journal of Political Science 32, 63–91.

Duverger, M., 1954. Political Parties. Wiley, New York.

Evans, G., Heath, A., 1993. A tactical error in the analysis of tactical voting: a response to Niemi, Whitten, and Franklin. British Journal of Political Science 23, 131–137.

Evans, G., 2002. On the validation of measures of strategic motivations: a critical comment on Alvarez and Nagler. British Journal of Political Science 32, 185–191.

Greene, W.H., 2002. Econometric Analysis. Prentice Hall, Upper Saddle River, NJ.

Gunther, R., 1989. Electoral laws, party systems, and elites: the case of Spain. American Political Science Review 83, 835–858.

Heath, A., Jowell, R., Curtice, J., Evans, G., Field, J., Whiterspoon, S., 1991. Understanding Political Change: the British Voter 1964–1987. Pergamon Press, Oxford.

Johnston, R., Pattie, C., 1991. Tactical voting in Great Britain in 1983 and 1987: an alternative approach. British Journal of Political Science 21, 95–108.

Johnston, R.J., Pattie, C.J., 2002. Campaigning and split-ticket voting in new electoral systems: the first MMP Elections in New Zealand, Scotland and Wales. Electoral Studies 21, 583–600.

Kaminski, M.M., 2002. Do parties benefit from electoral manipulation? Electoral laws and heresthetics in Poland, 1989–93. Journal of Theoretical Politics 14, 325–358.

Karp, J.A., Vowles, J., Banducci, S.A., Donovan, T., 2002. Strategic voting, party activity, and candidate effects: testing explanations for split voting in New Zealand's new mixed system. Electoral Studies 21, 1–22.

Kopecky, P., 1995. Developing party organizations in East-Central Europe. Party Politics 1, 515–534.

Kostadinova, T., 2002. Do mixed electoral systems matter? A cross-national analysis of their effects in Eastern Europe. Electoral Studies 21, 23–34.

Laaksoo, M., Taagepera, R., 1979. Effective number of parties: a measure with application to West Europe. Comparative Political Studies 12, 3–27.

Linz, J.J., Stepan, A., 1996. Problems of Democratic Transition and Consolidation. Johns Hopkins University Press, Baltimore.

Mainwaring, S., Scully, T.R., (Eds.), 1994. Building Democratic Institutions: Party Systems in Latin America. Stanford University Press, Stanford.

Mair, P. (Ed.), 1990. The West European Party System. Oxford University Press, Oxford.

Mair, P., 1997. Party System Change: Approaches and Interpretations. Oxford University Press, Oxford.

Mair, P., van Biezen, I., 2001. Party membership in twenty European Democracies, 1980–2000. Party Politics 7, 5–21.

McAllister, I., White, S., 2000. Split ticket voting in the 1995 Russian Duma Elections. Electoral Studies 19, 563–576.

McKelvey, R.D., Ordeshook, P.C., 1972. A general theory of the calculus of voting. In: Herndon, J.F., Bernd, J.L. (Eds.), Mathematical Applications in Political Science. University Press of Virginia, Charlottesville, pp. 32–78.

Miller, A.H., Erb, G., Reisinger, W.M., Hesli, V.L., 2000. Emerging party systems in post-Soviet societies: fact or fiction? Journal of Politics 62, 455–490.

Morlino, L., 1995. Political parties and democratic consolidation in Southern Europe. In: Diamandouros, P.N., Gunther, R., Puhle, H.-J. (Eds.), The Politics of Democratic Consolidation: Southern Europe in Comparative Perspective. Johns Hopkins University Press, Baltimore, pp. 315–388.

Niemi, R., Whitten, B.G., Franklin, M.N., 1992. Constituency characteristics, individual characteristics and tactical voting in the 1987 British General Election. British Journal of Political Science 22, 229–254.

Rose, R., Mishler, W., 1998. Negative and positive party identification in post-communist countries. Electoral Studies 17, 217–234.

Shvetsova, O., 1999. A survey of post-communist electoral institutions: 1990–1998. Electoral Studies 18, 397–409.

Taagepera, R., 1989. Empirical threshold of representation. Electoral Studies 8, 105–116.

Toka, G., 1997. Political parties in East Central Europe. In: Plattner, M.F., Diamond, L., Chu, Yun-han, Tien, Hung-mao (Eds.), Consolidating the Third Wave Democracies. Johns Hopkins University Press, Baltimore, pp. 93–134.

Tworzecki, H., 2003. Learning to Choose: Electoral Politics in East-Central Europe. Stanford University Press, Palo Alto, CA.

Whitefield, S., Evans, G., 1999. Class, markets and partisanship in post-Soviet Russia: 1993–96. Electoral Studies 18, 155–178.

Whitefield, S., Evans, G., 1996. Support for democracy and political opposition in Russia, 1993–95. Post-Soviet Affairs 12, 218–242.

Whitefield, S., Evans, G., 1994. The Russian Election of 1993: public opinion and the transition experience. Post-Soviet Affairs 10, 38–60.