MACIEJ ANTONI GÓRECKI
Trinity College, Dublin

Uncertainty Is (Usually) Motivating: Election Closeness and Voter Turnout in 2002 and 2006 City President Elections in Poland

Abstract: One of the classic explanations of variation in voter turnout states that, all else being equal, the closer (the more competitive) the election in question the higher the respective turnout rate should be. In this paper, I examine whether this proposition holds in the context of the city president elections in Poland. I employ two different measures of election closeness to account for the substantive difference between the first and the second rounds of these elections. The results I present indicate that, while the effect of closeness on turnout in the first rounds of the 2002 and 2006 elections was moderately strong or even weak (and insignificant), the regularities observed in the second rounds lend arguably strong support to the closeness hypothesis.

Keywords: voter turnout, election closeness, city president elections in Poland.

Introduction: On Elections Closeness and Its Potential Significance as a Predictor of Voter Turnout in Polish Local Elections

Election closeness has long been recognised as a potential factor affecting voter turnout in democratic elections. Putting it bluntly, if an election is expected to be close and its results uncertain then turnout is expected to rise. The concept appeared already in the work of the very classic voting behaviour scholars, like Key (1949) or Downs (1957). The former author stressed its potential impact on the behaviour of the political elites that should be expected to intensify their campaigning efforts in close elections. Increased campaigning would in turn cause a reaction by voters. The explanation by Downs (1957) emphasised an unmediated direct reaction of the electorate to election closeness. According to this interpretation, the citizens will somehow know whether a given election is going to be close and they will accordingly adjust their perception of the value of their vote. A vote cast in a close election will be valued more than a vote cast when the election result is easy to predict. Interesting as this classic controversy (i.e. the controversy concerning the explanations offered by Key (1949) and Downs (1957)) might seem it tends to be less frequently emphasised by the more contemporary studies on election closeness and turnout. To some extent, it can even be considered a scholastic problem, especially after another classic (though much more recent) study by Cox and Munger (1989). These authors, following extensive literature review and an original analysis of their own data, draw a conclusion that both the above mentioned causal links between closeness

and turnout can be considered equally valid. In other words, close elections are usually accompanied by heated campaigns but controlling for campaign intensity variables one cannot most usually rule out the effect of closeness on turnout. Moreover, if some recent approaches to election closeness are looked at it is not entirely obvious whether the classic controversy is at all important and worth studying. For instance, in the recent influential study by Franklin (2004) election closeness is placed within a broader set of contextual characteristics contributing to competitiveness of a given election. In other words, closeness is here just an arguably noisy proxy for electoral competitiveness that is expected to be positively correlated with voter turnout. This paper will also take such sort of position, refraining from engaging in a detailed discussion on the exact mechanisms behind the effect of closeness on turnout.

Even though the impact of election closeness on voter turnout in post-communist countries has been occasionally investigated by scholars (see for instance Kostadinova 2003) the topic still remains understudied. It is certainly so partly because most of the studies on closeness and turnout operate at the aggregate level which makes the most natural object of interest, the (usually most salient) parliamentary elections, a hard topic for analysis. There are simply too few observations for any particular country. On the other hand, cross-national analyses might potentially suffer from incomparability of electoral systems and the resulting difficulties finding a unified operational definition of election closeness (Pacek et al. 2009: 474). In this situation, studying these topics in the context of local elections in Poland seems worthwhile an effort. First, every race for a position of, say, city president is in a way a separate election with its own turnout rate and closeness. This will contribute to an increase in the number of observations at hand. At the same time, all these separate elections take place under the same electoral rules, and so finding a meaningful operational definition of election closeness is not a problem at all. Moreover, since city presidents (as well as analogous officials in smaller local communities) were elected directly in the two most recent local elections (conducted in 2002 and 2006) closeness of such races is, so to speak, more "visible" as it is in the single-member-district (SMD) electoral systems. Second, as noticed by Pacek et al. (2009), the literature on voter turnout in post-communist countries has been somewhat dominated by the arguments referring to voters' "disenchantment" with the newly established democracy. However, the aforementioned authors present contrary evidence, suggesting that the citizens of post-communist countries quite clearly recognise what is "at stake" in a given election, turning out much more willingly when a given election is, for any reason, salient. Election closeness is obviously one of the factors affecting the citizens' perception salience and, therefore, the fact that the issue is (for reasons referred to above) understudied calls for research efforts aimed at filling in this gap in knowledge. That said, such research would not invalidate the "disenchantment" thesis. Rather, it would show whether among the voters not disappointed enough with democracy there is still potential for taking into account competitiveness while deciding whether to cast a vote or not. Finally, the question about whether election closeness affects voter turnout in these elections is itself interesting. One of the arguments for the introduction of the direct elections to city presidents' and other analogous offices

prior to the local election of 2002 was that it will increase the power of the voters. That is because who takes the given office would be decided by the ballot itself, not by coalition agreements in given local councils (see for instance Kaczmarczyk 2002). The latter argument, referring to the clarity of the electoral rules, certainly makes some sense. On the other hand, under these arrangements the final result (i.e. the person who will hold the office after the given election) might be highly predictable in some cases, i.e. in the cases when a given local race is not close at all and the winner is known (or almost known) upfront. This should obviously lower the elites' propensity to invest resources in campaigning and the citizens' baseline motivation to turn out and cast a vote. As a result, voter turnout should be expected to decline. As follows from the above, the closeness argument might subtly alter one's perception of the clarity argument advanced by the proponents of direct elections to local offices. For variation in election closeness will necessarily interact with clarity of electoral rules. In other words, in the situation of clearer electoral rules closeness should be a much more important predictor of turnout, clarity contributing to an increase in turnout in close races but to an opposite effect in the "safe" ones. Concluding, studying the impact of election closeness on turnout in Polish local elections might not only be the sole meaningful way to ask the question on closeness in the Polish context. It can also certainly contribute to better understanding of the nature of local electoral competition in Poland and the impact of the latter on voter turnout.

Election Closeness in Polish Local Elections of 2002 and 2006: Measures, Hypotheses, and the Concept of Research

In this study, I attempt to assess the impact of election closeness on voter turnout in local elections conducted in 2002 and 2006 in 107 Polish cities, i.e. in all the local communities where presidents (rather than town mayors or other analogous officials) are elected. My aim is to inspect the relationships between closeness of presidential races and aggregate voter turnout registered in the elections. All data utilised in this study have been taken from the Electoral Commission's website (www.pkw.gov.pl). As such, the research to follow operates at the aggregate level. This is obviously the only possible way to study local elections in Poland as no surveys concentrating on these elections have been conducted. On the other hand, studying the issues at the aggregate level has its weaknesses. I refer to the latter briefly in the Conclusion to this paper.

As it was said the previous section, the closer the given election the higher turnout in this election should be. Straightforward as it is (or at least may seem) the issue gets complicated when one asks what it really means that an election is (or is not) close. For the exact definition of closeness depends on the specific electoral rules adopted for the purpose of a given election. In the context of Polish local elections, this is also the case as each of the elections is conducted under a two-round system, according to which a second round takes place in case no candidate obtains more than 50% of votes in the first round. As only two best candidates from the first round

qualify to the second round the context of each round is different. A first round is contested by potentially many candidates and for Polish local elections the number can exceed 10 in some cases. The fact that these are multi-party races should be taken into account. Therefore, even though the situation here is not exactly as it would be in the proportional representation system used in the parliamentary elections, a measure of closeness taking into account all candidates would arguably be the most appropriate here. In this study, I rely on the notion of entropy. The latter is well known as a measure of energy dispersion in physics and chemistry (Lambert 2002), a measure of probability dispersion in information theory (Shannon 1948) or as a an ideal state of pure absurdity in post-modern literature (Pynchon 1998). Here, entropy will mean dispersion of vote among the candidates in a given election (Endersby et al. 2002: 614; Kirchgässner and Schimmelpfennig 1992; Kirchgässner and Meyer zu Himmern 1997). For k candidates, entropy measure takes the following form:

$$\text{Entropy} = \sum(-p_i \ln(p_i))$$

where p_i is the vote share of the ith candidate ($i = 1, 2,…, k$)

The above measure has, unfortunately, two important weaknesses. First, it has no upper bound when the number of candidates increases. In other words, while its (theoretical) minimum is at zero, its (theoretical) maximum depends on the number of candidates. I overcome this difficulty by standardising the variable. I simply divide each value of entropy by its maximum value for the specific number of candidates contesting a given election. Then, for rather aesthetic reasons, I multiply the standardised value by 100. The latter is done to obtain a measure ranging (theoretically) from zero to 100 (as voter turnout is also measured this way here). The second weakness concerns the very relationship between entropy and turnout. While theory would state that the higher standardised entropy the higher voter turnout in a given election, practice can produce significant deviations from this regularity. This might happen in a situation (practically observed in Polish local elections, especially in 2006) when a very popular candidate attracts an extraordinarily large number of votes. This not only gives the candidate an "easy" victory but also leads to a decrease in entropy accompanied by high voter turnout. As a result, the relationship between standardised entropy and turnout might take quadratic (rather than linear) form. The following hypothesis will be tested:

H$_1$: Holding other variables constant, the relationship between standardised entropy and voter turnout in the first rounds of the city president elections will take quadratic form, with a positive coefficient accompanying squared standardised entropy and a negative one accompanying standardised entropy in its linear form. In other words, there should be a negative relationship between standardised entropy and turnout for low values of standardised entropy and a positive relationship when standardised entropy takes high values.

In this study, I test the above hypothesis for the pooled data set encompassing both 2002 and 2006 election. Then, assuming the above hypothesis holds, I find the minimum of the turnout function as dependent from entropy. Finally, I run separate analyses for each election but only for the values of entropy lying to the right of the minimum, this time assuming a linear relationship between entropy and turnout and expecting it to be positive. This way, I can both assess the regularities uncontaminated by outliers and compare these regularities between the two analysed local elections.

The second rounds of the elections to be analysed here are races between only two best candidates in the first round (and only in case no candidate obtained more than 50% of votes in the first round). The situation seems therefore straightforward here. Since there are two candidates and only one can be the winner then the situation is similar to those present in the SMDs electoral system. Numerous studies have been conducted on the relationships between closeness and voter turnout in these systems, including studies on the United States (Silberman and Durden 1975), the United Kingdom (Denver and Hands 1974) and Canada (Berch 1993). Most, though not all, of this scholarship relies on the so-called multiparty-party margin (MPM) as a measure of election closeness (Endersby et al. 2002: 613). This measure is simply a percentage-point difference between two best candidates. Stating it more formally:

$MPM = (v_1 - v_2)/v_t$, where:
v_1—number of votes cast for the winner,
v_2—number of votes cast for the runner-up,
v_t—total votes cast.

Same as entropy, this is an *ex post* measure, calculated on the basis of actual election results. However, this fact may potentially make the measure much more problematic than it would be in the case of entropy. As rightly noticed by Cox (1988), the measure is problematic because its denominator is the total votes cast. The latter is obviously positively related with turnout. Hence, the result of using the MPM (or the so-called two-party margin to which MPM reduces when there are only two candidates running) might likely be spuriousness of the findings obtained. For turnout in fact affects the value of the MPM (the higher turnout the lower the MPM) while the theory tested posits it is the other way around. However, in the case of the elections to be analysed here this problem can be quite easily overcome. I am going to utilise the MPM but calculated not for the second round but for the first one. Proceeding this way, I expect two kinds of benefits. First, controlling for turnout in the first round (obviously strongly correlated with turnout in the second round) I completely overcome the problem of a potential spurious relationship pointed to by Cox (1988). Second, the theoretical benefit from relying on the MPM in the first round is that the latter is an *ex ante* measure of closeness. In the context of local elections, with only a two-week gap between the two rounds, the MPM in the first round is certainly a strong signal (for both politicians and the electorate) on how competitive the second round can be. That said, I do not expect the MPM to influence turnout in the linear manner. Rather, I expect a logarithmic relationship whereby turnout will become less and less

sensitive to a unit change in the MPM as the MPM increases. In practice, I will test the linear effect of ln(1st *Round MPM* + 1) on voter turnout (the unit is added to avoid taking a natural logarithm of numbers lower than 1 as the logarithmic function is very rapidly increasing between zero and 1). The following hypothesis will be tested:

H_2: Holding other variables constant, there should be a negative linear relationship between ln(1st *Round MPM* + 1) and voter turnout in the second rounds of the city president elections (1st Round MPM—percentage-point difference between the two best candidates in the first round).

The hypotheses stated above will here be tested by means of OLS regression. The dependent variable will obviously be aggregate voter turnout at the city-level. Apart from the closeness variable referred to above, I include a few control variables in the models I am going to estimate. First, in order to account for the unobserved factors leading to differences in turnout between the cities, I control for past turnout. In the case of the models estimated for the first rounds of both local elections I control for aggregate voter turnout in the preceding parliamentary election. Parliamentary elections were conducted in 2001 and 2005, i.e. approximately one year before each of the two local elections analysed. In the case of the analyses aimed at explaining turnout in the respective second rounds of local elections, I include aggregate voter turnout in the preceding first rounds as one of the predictors in the model. Second, explaining turnout in the second rounds I control for the two running candidates' (joint) vote share in the first round. I expect that the citizens who have already supported the candidates in the first round will tend to be interested in supporting them again. Therefore, the larger the proportion of votes cast jointly for the two candidates in the first round the higher turnout in the second round should be (especially if also controlled for turnout in the first round). In addition, I also control for the number of candidates in the first round and for the fact that in some of the elections the incumbent president may be running which, I expect, should be a factor causing turnout to rise. Finally, while conducting the pooled analyses (i.e. the joint analyses for both 2002 and 2006 election) I include a dummy variable distinguishing between the two elections in question. The reason for that is the possibility that there might be some country-level factors contributing to temporal changes in turnout. In the end, referring to the pooled analyses one must obviously remember that these will be done using double observations for the same city. This likely yields the problem of inefficient estimates and biased standard errors (even though controlling for past turnout would arguably diminish these risks). I overcome this problem relying on cluster-robust standard errors (Williams 2000; Wooldridge 2003) that are robust not only to intra-cluster correlation but also to heteroscedasticity.

Results and Discussion

The results (see table 1) obtained for the first rounds of the elections in question provide some support for hypothesis H_1. The coefficients for both standardised entropy

and squared standardised entropy (see pooled model) are of expected sign. They are also statistically significant ($p < 0.05$). Solving the equation with respect to standardised entropy, holding other variables constant, I conclude that turnout takes its minimum value when standardised entropy equals approximately 70. Therefore, the next two models, separate for each election, are estimated for only the cases for which standardised entropy is above 70. As it can be seen in table 1, there are 98 (91.6%) such cases in 2002 and 75 (70.1%) in 2006. This gives 173 (80.8%) such observations jointly in both elections. The estimates presented in the second column of table 1 lend suggestive support for the hypothesis about the impact of election closeness on turnout in the 2002 election. The relationship between entropy, i.e. dispersion of vote, and turnout is positive and statistically significant ($p < 0.05$). Holding other variables constant, with a unit increase in standardised entropy predicted voter turnout rises by 0.174 percentage points. In practice, it means that, when other variables are held constant, a change in standardised entropy from its minimum to median value (i.e. in this case from 70.5 to 85.7) is accompanied by an increase in turnout by approximately 2.64 percentage points. An analogous increase in turnout while standardised entropy rises from its minimum to maximum value (97.4) equals approximately 4.68 percentage points. These effects are not obviously dramatically strong but turnout in the local election of 2002 was itself very low (36.81% on average in the 98 elections analysed in the second column of table 1). Therefore, it can be concluded that closeness might have had some very moderate impact on turnout in the first round of the 2002 city president elections. However, the estimates obtained for the 2006 election (third column in table 1) are far less supportive of the closeness thesis. There still is a positive impact of standardised entropy on voter turnout but the effect is statistically insignificant ($p > 0.05$) and very weak. It is probably enough to say that while standardised entropy rises from its minimum to maximum value (i.e. from 70.3 to 99.7), holding other variables constant, turnout increases by only 1.59 percentage points. It is of course hard to say why the impact of standardised entropy on turnout differs between the two elections analysed. One possible explanation would rely on the fact that higher (i.e. above 70) values of entropy usually lead to an inconclusive result in the first round of local elections and thereby to a second round two weeks later. The elites and the electorate, after acquiring this sort of experience in 2002, might have been far less prone to react to closeness in 2006. Future analyses of the analogous relationships in the next local election, scheduled for 2010, will certainly throw some light on the issue. At this stage, it must be concluded that, while hypothesis H_1 has some support in the results presented here, the effects are moderately strong (for 2002 election) or even weak and insignificant (for 2006).

Looking at the results for the second rounds of both local elections (table 2), it is evident that elections closeness matters much more here than it was in the case of the respective first rounds. The effects of the main variable, referring to the distance (in the first round) between the two running candidates, differ only slightly between 2002 and 2006. Therefore, the following interpretations rely on the pooled model solely. The effect of election closeness is logarithmic, and so it is highly non-linear. Holding other variables constant, a change in the distance (in the

Table 1

**Predictors of Voter Turnout in the First Rounds of 2002 and 2006 City President Elections in Poland:
OLS Regression Estimates**

	2002 and 2006 (Pooled)	2002 (St. Entr. > 70)	2006 (St. Entr. > 70)
Standardised Entropy	−0.446*	0.174*	0.054
	(0.211)	(0.086)	(0.050)
Standardised Entropy^2	0.003*	—	—
	(0.001)		
Turnout in the Preceding Parliamentary Election	0.482**	0.392**	0.467**
	(0.086)	(0.123)	(0.096)
Number of Candidates	−0.156	0.096	−0.096
	(0.168)	(0.249)	(0.210)
Incumbent President Running	0.215	−0.274	1.667
	(0.974)	(1.263)	(1.135)
2006 Election	6.914**	—	—
	(0.609)		
Constant	29.566**	3.011	16.076**
	(9.814)	(10.352)	(6.084)
F-statistic	34.030**	3.460*	7.130**
R^2	0.362	0.130	0.289
SEE	4.247	4.964	3.259
Number of Observations	214	98	75
Number of Cities	107	98	75

* $p < 0.05$; ** $p < 0.01$ (one-tailed tests).

Note: Main entries are unstandardised regression coefficients and the numbers in parentheses are standard errors. In the case of the pooled model errors have been clustered at city-level.

first round) between the two running candidates from minimum (0.04 percentage points) to median (8.81 percentage points) leads to a decrease in turnout in the second round by about 4.23 percentage points. A change in the distance from its minimum to maximum (29.86 percentage points), all else being equal, brings a decline in turnout (in the second round) by approximately 6.39 percentage points. The effect is highly statistically significant ($p < 0.01$). Given that mean turnout in all the analysed 159 elections was 31.19 percentage points, these effects are substantial. While turnout clearly persists over time, which is evident looking at the coefficients (and standard errors) estimated for the variable referring to turnout in the respective first rounds of given elections, the marginality of the result in the first rounds clearly affects (directly or indirectly) many citizens' decision whether to cast a vote in the second round or refrain from it. In other words, if all elections were very competitive at the local level one could probably expect country-level turnout to rise by a few percentage points. The clarity of the results (small standard errors obtained from a relatively small number of observations) presented in table 2 indicates consistency of the finding, and thereby evident "visibility" of closeness to the actors involved in local elections as well as their willingness to utilise the result in the first round as an indicator of competitiveness of the subsequent (second) round. Concluding, evidence presented here indicates that closeness clearly matters, especially in the second rounds of the

Table 2

Predictors of Voter Turnout in the Second Rounds of 2002 and 2006 City President Elections in Poland: OLS Regression Estimates

	2002 and 2006 (Pooled)	2002	2006
Ln(1st Round MPM + 1)	−1.884**	−1.909**	−1.781**
	(0.281)	(0.402)	(0.479)
Candidates' 1st Round Joint Vote Share	0.247**	0.279**	0.180**
	(0.028)	(0.039)	(0.037)
Turnout in the 1st Round	0.716**	0.658**	0.914**
	(0.058)	(0.066)	(0.086)
Number of Candidates (1st Round)	0.323**	0.395**	0.206
	(0.122)	(0.159)	(0.188)
Incumbent President Running	0.417	0.352	0.301
	(0.512)	(0.727)	(0.779)
2006 Election	0.535	—	—
	(0.547)		
Constant	−9.818**	−10.019*	−12.662**
	(2.984)	(4.276)	(4.317)
F-statistic	71.310**	28.690**	37.490**
R^2	0.709	0.617	0.764
SEE	3.030	3.170	2.721
Number of Observations	159	95	64
Number of Cities	97	95	64

* $p < 0.05$;   ** $p < 0.01$ (one-tailed tests).

Note: Main entries are unstandardised regression coefficients and the numbers in parentheses are standard errors. In the case of the pooled model errors have been clustered at city-level.

Polish local elections after the citizens (and elites) have been given a "hint" as to the possible competitiveness of a given race, the "hint" being a result in the respective first round.

Conclusion

In this paper, I have presented evidence supporting the thesis that election closeness affects voter turnout in local (city presidential) elections in Poland. The results shown here indicate that only in the first round of the 2006 election closeness had very minor (if any) impact on turnout. This might be explained referring to either the learning process whereby the citizens and elites react to closeness in only the second round or to the problematic nature of the *ex post* measures of closeness (entropy in this case). The results obtained for the second rounds of both 2002 and 2006 election are much more supportive of the closeness hypothesis. This is likely due to a clear signal (of competitiveness) the citizens and elites get in the form of the result of the first round. All else being equal, the more uncertain (judging from the result in the first round) the result in the second round appears to be the higher turnout in the latter round. So, closeness clearly counts and studies on future elections should determine whether

this tendency persists or not. That said, this study is certainly imperfect in at least three dimensions.

First, the puzzle referred to at the beginning, and referring to the classic controversy between the explanations of the impact of closeness on turnout offered by Key (1949) and Downs (1957), cannot be solved here. If the problem is formulated in the more general terms of electoral competitiveness, as done by Franklin (2004), then certainly there is evidence that competitiveness is positively related with turnout. But to what extent the elites are affected as compared to the citizens remains unclear. Data on campaign spending available on the Electoral Commission's website (www.pkw.gov.pl) are not detailed enough to control for campaign spending in this specific case. This hinders not only the research whose results are presented here but also leaves the more general question of the impact of campaign spending on electoral results in Poland largely unanswered.

Second, this aggregate-level study does not answer the question about whether the impact of closeness on turnout is essentially homogenous or there is some crucial heterogeneity involved. This is especially important in the light of the recently prominent concept of habitual voting (Plutzer 2002; Franklin 2004). Briefly speaking, the theory posits that any contextual characteristics of a given election should affect the cohorts of citizens who are at the beginning of their, so to speak, electoral history but not those who have already experienced a larger number of elections, as either voters or abstainers. In other words, the theory proposes that in a few initial elections a citizen becomes "habituated" into voting or into abstention and a so acquired "habit" tends to persist for the rest of the person's electoral history. In the established democracies, that will more or less mean that turnout by the youngest eligible cohorts should be strongly affected by the context of a given election, including closeness, but this effect should be weak (or non-existent) in the case of the older cohorts. In the post-communist countries, the situation is potentially more complex as the older cohorts started to experience democratic elections later in their life (not at the age of eighteen). However, the whole decade of the 1990s should have (theoretically) been a period when many of those citizens had a chance to have their habit of voting or abstention formed. Therefore, when interpreting the results of aggregate-level research one should remember that the effects might be in fact much more nuanced, being extremely strong in the case of the least experienced groups of citizens while completely vanishing for the more experienced ones.

Finally, studying voter turnout using aggregate-level data it is impossible to refrain from a remark on the potential methodological problems related to this kind of data. In particular, a long-known problem of ecological fallacy (Robinson 1950) might be present, especially as virtually all voting behaviour theories (including the one tested here) operate at the individual level. Whether the problem of ecological fallacy can be present in voting behaviour research is not entirely evident. However, a study by Matsusaka and Palda (1993) indicates that it is possible. The authors estimated the effects of closeness on turnout in Canada from both aggregate and individual-level (survey) data. For the same elections they did obtain significant effect of closeness on turnout from the former kind of data but not from the latter one. This leads

the authors to the claim that the effects of closeness on turnout presented in many aggregate-level studies might be a result of ecological fallacy, not of any substantive regularity. However, the authors do not describe the way in which aggregate data would "mask" the individual-level regularity. In addition, they use self-reported (instead of validated) turnout (survey) data that have been proven to introduce bias too (see for instance Karp and Brockington 2005). As a result, it is not really clear how likely the threat of ecological fallacy is in this case. In addition, since survey data are not available for Polish local elections, using aggregate data is the only possible way of studying voting behaviour in these elections. This arguably imperfect approach will have to be continued unless a programme of survey research concentrating on the local elections is launched in future.

References

B e r c h, N. 1993. "Another Look at Closeness and Turnout: The Case of the 1979 and 1980 Canadian National Elections," *Political Research Quarterly* 46 (2): 421–432.

C o x, G. W. 1988. "Closeness and Turnout: A Methodological Note," *Journal of Politics* 50 (3): 768–775.

C o x, G. W. and M u n g e r, M. C. 1989. "Closeness, Expenditures, and Turnout in the 1982 U.S. House Elections," *American Political Science Review* 83 (1): 217–231.

D e n v e r, D. T. and H a n d s, H. T. G. 1974. "Marginality and Turnout in British General Elections," *British Journal of Political Science* 4 (1): 17–35.

D o w n s, A. 1957. *An Economic Theory of Democracy*. New York: Harper and Row.

E n d e r s b y, J. W., G a l a t a s, S. E. and R a c k a w a y, Ch. B. 2002. "Closeness Counts in Canada: Voter Participation in the 1993 and 1997 Federal Elections," *Journal of Politics* 64 (2): 610–631.

F r a n k l i n, M. N. 2004. *Voter Turnout and the Dynamics of Electoral Competition in Established Democracies since 1945*. Cambridge–New York: Cambridge University Press.

K a c z m a r c z y k, A. 2002. "Butelkowa Demokracja" [Bottle's Democracy], *Tygodnik Powszechny* 38 (2776).

K a r p, J. A. and B r o c k i n g t o n, D. 2005. "Social Desirability and Response Validity: A Comparative Analysis of Overreporting Voter Turnout in Five Countries," *Journal of Politics* 67 (3): 825–840.

K e y, V. O. 1949. *Southern Politics in State and Nation*. New York: Knopf.

K i r c h g ä s s n e r, G. and M e y e r z u H i m m e r n, A. 1997. "Expected Closeness and Turnout: An Empirical Analysis for the German General Elections, 1983–1994," *Public Choice* 91 (1): 3–25.

K i r c h g ä s s n e r, G. and S c h i m m e l p f e n n i g, J. 1992. "Closeness Counts if It Matters for Electoral Victory: Some Empirical Results for the United Kingdom and the Federal Republic of Germany," *Public Choice* 73 (3): 283–299.

K o s t a d i n o v a, T. 2003. "Voter Turnout Dynamics in Post-Communist Europe," *European Journal of Political Research* 42: 741–759.

L a m b e r t, F. L. 2002. "Entropy Is Simple, Qualitatively," *Journal of Chemical Education* 79: 1241–1246.

M a t s u s a k a, J. G. and P a l d a, F. 1993. "The Downsian Voter Meets the Ecological Fallacy," *Public Choice* 77 (4): 855–878.

P a c e k, A. C., P o p - E l e c h e s, G. and T u c k e r, J. A. 2009. "Disenchanted or Discerning: Voter Turnout in Post-Communist Countries," *Journal of Politics* 71 (2): 473–491.

P l u t z e r, E. 2002. "Becoming a Habitual Voter: Inertia, Resources, and Growth in Young Adulthood," *American Political Science Review* 96 (1): 41–56.

P y n c h o n, Th. 1998. *Crying Lot of 49*. London: Vintage.

R o b i n s o n, W. S. 1950. "Ecological Correlations and the Behavior of Individuals," *American Sociological Review* 15: 351–357.

S h a n n o n, C. E. 1948. "A Mathematical Theory of Communication," *Bell System Technical Journal* 27: 379–423, 623–656.

S i l b e r m a n, J. and D u r d e n, G. 1975. "The Rational Behavior Theory of Voter Participation: The Evidence from Congressional Elections," *Public Choice* 23 (1): 101–108.

W i l l i a m s, R. L. 2000. "A Note on Robust Variance Estimation for Cluster-Correlated Data," *Biometrics* 56: 645–646.
W o o l d r i d g e, J. M. 2003. "Cluster-Sample Methods in Applied Econometrics," *American Economic Review* 93 (2): 133–138.

Biographical Note: Maciej A. Górecki is a PhD candidate at the Department of Political Science, Trinity College Dublin, Ireland. Research interests: voter turnout, habitual voting, economic voting, research methodology.

Address: Department of Political Science, Trinity College, 3 College Green, Dublin 2, Ireland; E-mail: goreckim@tcd.ie