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Strategic Voting in Post-Communist Democracy?

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The absence of strategic voting in new democracies represents a potential threat to democratic consolidation because it could inhibit the development of a stable party system. Yet can we expect that citizens in new democracies have developed the skills associated with strategic voting in democratic elections? Based on evidence from Hungary, a post-communist democracy, this article suggests that citizens in new democracies respond to strategic voting situations in a fashion consistent with conventional theories of strategic voting. Analysis of Hungarian voting statistics over the past three national elections indicates that voters, consistent with strategic voting theories, vigorously penalized smaller parties thereby contributing to the rapid decline in the number of effective parties competing in Hungarian elections. We argue that strategic voting occurs in two stages: (1) recognition of a 'wasted-vote' situation and (2) strategic response to that situation. Evidence of strategic voting at the individual level consists of demonstrating that a sizeable number of voters have strategic responses to 'wasted vote' situations and that these responses correspond to the predictions of conventional strategic voting models. We conduct a probit analysis of strategic voting using data from a 1997 national survey of Hungarian citizens. When faced with a 'wasted-vote' situation, 13.6 per cent of Hungarian survey respondents strategically switched their electoral support to another party. After controlling for recognition, informational factors proved inconsequential in explaining individual-level differences in strategic voting. Individual differences in issue and party preferences and the availability of co-ordination heuristics accounted for most of the heterogeneity in strategic voting among Hungarian survey respondents. These findings suggest that a sizeable percentage of citizens in nascent democracies respond strategically to 'wasted-vote' opportunities.

A critical aspect of the consolidation of post-communist democracies is the consolidation of the party system. As Cox points out, party systems are subject to market-clearing expectations that in the long term produce an equilibrium between the demand for, and supply of, candidates.[1] This equilibrium presumes that some voters behave strategically and hence are not strictly sincere in their voting decisions.[2] A common motivation for strategic voting is a desire to avoid 'wasting' one's vote, which typically involves voting for a second preferred

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[1] Gary W. Cox, *Making Votes Count: Strategic Coordination in the World's Electoral Systems* (Cambridge: Cambridge University Press, 1997).

[2] We use the term 'strategic' although one could also employ 'tactical' or possibly 'insincere.'

candidate because that candidate's chances of winning are much greater than the voter's sincere first preference.[3]

But what if voters fail to recognize and act upon 'wasted-vote' situations? What if citizens treat a party vote as an end in itself rather than a means to public policy change? If voters in new democracies do not act strategically, then their party systems will not move to equilibrium as posited by Cox. Furthermore, the failure of some parties to achieve government representation will alienate their supporters if those supporters view their vote as an end in itself. Hence, the occurrence of strategic voting in post-communist democracies has important implications for system stability. But does strategic voting actually occur in these democracies? And if so, what can we say about its nature?

In new democracies, the notion of strategic voting is challenged on the grounds that citizens are unfamiliar with the norms and mechanisms of democratic elections and hence are unlikely to exhibit much sophistication in their voting decisions.[4] These assumptions that citizens are not politically sophisticated and vote sincerely often inform the design of electoral systems in nascent democracies. Constitutional scholars often advocate majoritarian electoral laws for these democracies in order to avoid extreme party fragmentation resulting from sincere voting under proportional representation (PR).

In this article, we challenge the notion that new democracies have significantly fewer strategic voters than the mature democracies. We argue that the occurrence of strategic voting presumes, first, that voters recognize a strategic voting situation and, secondly, that they decide to vote against their myopic preferences. Controlling for the recognition of a strategic voting situation, we provide survey evidence indicating that a significant proportion of Hungarians act strategically. More importantly, we demonstrate that the heterogeneity in Hungarian strategic voting conforms to theoretical expectations derived from existing models. Voters differ in what serves as sufficient motivation for them to respond strategically to a 'wasted-vote' situation. Our findings provide strong confirmation of the claim that voters in new democracies behave strategically because Hungary is a context in which one would not *a priori* expect high levels of strategic voting. Finally, we present aggregate-level evidence that challenges the belief that in nascent democracies the citizenry,

[3] Note that strategic voting takes other forms as well, such as voting for a second preference in the first round of a run-off election in order to improve the chances of one's first preferred candidate in the second-round election. We do not consider this form of strategic voting in this article.

[4] The notion that significant numbers of voters behave strategically in mature democracies has also been the subject of considerable speculation in the literature. See John A. Ferejohn and Morris P. Fiorina, 'The Paradox of Not Voting: A Decision Theoretic Analysis', *American Political Science Review*, 68 (1972), 525–36; John A. Ferejohn and Morris P. Fiorina, 'Closeness Counts Only in Horseshoes and Dancing', *American Journal of Political Science,* 69 (1975), 920–5; Benjamin I. Page, 'Elections and Social Choice: The State of Evidence', *American Journal of Political Science*, 21 (1977), 639–68.

reluctant to abandon sincere party preferences, hinders the consolidation of parties competing in elections.

STRATEGIC VOTING AND POST-COMMUNIST PARTY SYSTEMS

The design of constitutions in new democracies (post-communist or otherwise) is often predicated on two important assumptions: (1) an exaggerated notion of the degree of sincere voting; and (2) an underestimation of the extent to which PR electoral systems can be designed to promote strategic voting.[5] These assumptions have led many scholars to advocate the inclusion of majoritarian features in the electoral systems of nascent democracies since sincere voting, particularly when accompanied by strict PR rules, exaggerates party fragmentation, which in turn destabilizes governing coalitions.[6] This concern seems less relevant for more mature democracies. This is partly because political institutions in mature democracies have by definition been widely accepted for much longer than their counterparts in new democracies and are therefore less subject to failure. But another element of the explanation is that greater confidence exists in the ability of voters to behave strategically in mature democratic settings than in more nascent democracies. There is recognition that voters and parties in mature democracies, even with PR electoral laws, are better able to co-ordinate their strategies, thereby moderating the party fragmentation that might undermine governance.[7] Voters in these systems are often portrayed as being much more instrumental in their vote decisions and more likely to recognize and act upon the strategic voting opportunity. Another contributing factor might be the presence of better-developed and institutionalized political cues that facilitate the co-ordination of voter strategies.

By contrast, voters in nascent democracies are seen as less strategic. They are often portrayed as being less likely to identify strategic voting opportunities simply due to their inexperience with democracy. As a result, voter co-ordination is unlikely to moderate the fragmentation effects of a PR system. Voters in new democracies are also believed to perceive the party vote as an end in itself rather than an instrumental act. Consequently, supporters of parties that fail to achieve legislative seats and government representation might reject the political institutions rather than shift their support to another party.

[5] An example is the military government's implementation of electoral reforms prior to the 1989 Chilean elections, which were designed to produce a two-party system. But strategic voting (and successful co-ordination by the left and centre parties) frustrated the military government's goal (see Peter Siavelis and Arturo Valenzuela, 'Electoral Engineering and Democratic Stability: The Legacy of Authoritarian Rule in Chile', in Arend Lijphart and Carlos H. Waisman, eds, *Institutional Design in New Democracies: Eastern Europe and Latin America* (Boulder, Colo.: Westview, 1996), p. 83).

[6] The classic statement of this proposition is Maurice Duverger, *Political Parties: Their Organization and Activity in the Modern State* (New York: Wiley, 1954). For a more recent (and nuanced) statement, see Scott Mainwaring, 'Presidentialism, Multipartism, and Democracy: A Difficult Combination', *Comparative Political Studies*, 26 (1993), 198–228.

[7] Cox, *Making Votes Count: Strategic Coordination in the World's Electoral Systems.*

An additional factor that undermines strategic behaviour, as Toka points out, is voters' inability to place political parties in any meaningful programmatic issue space.[8] In post-communist political systems, this lack of programmatic identity has been blamed on the underdeveloped civil society inherited from communist regimes. In the Latin American context, 'personalized politics' has to some extent undermined the development of programmatic identities for political parties.[9] Regardless of the specific cultural context, this pattern is endemic to nascent party systems in which parties do not have well-defined issue positions and ideologies. The absence of these key political cues can seriously undermine strategic voting.

Some evidence supports the notion of underdeveloped strategic voting in nascent democracies. The 1995 Duma elections in Russia are considered to be an illustration of how post-democratic citizens and parties behave in a decidedly non-strategic fashion. White and his colleagues note how the Russian election, in spite of PR electoral rules, deviated drastically from proportionality, and 'immediately and dramatically revealed the irrationality of the vote-seeking efforts of politicians and parties.'[10] However, in a number of recent nascent democracies exaggerated expectations of sincere voting have proven to be incorrect. To some extent, Communist parties made the mistake of exaggerating the degree of sincere voting when they advocated the adoption of majoritarian electoral systems for the first post-communist democratic elections.[11] Clearly they overestimated their levels of popular support. But another important miscalculation was to assume that the opposition was highly fragmented and that voters would vote sincerely. These two assumptions led Communists to conclude that they would fare well in majoritarian elections as a dominant party facing a large number of smaller parties that would split the opposition vote. We suspect that strategic voting provides part of the explanation for the generally poor showing of Communist parties in post-communist democratic elections.

In sum, controversy exists regarding the extent of strategic voting in nascent democracies. Understanding the extent and nature of strategic voting is important because these factors: (1) can influence system stability and (2) often shape the unintended consequences of electoral engineering. With respect to the first point, strategic behaviour on the part of voters can promote the emergence of stable majority parties that facilitate the formation of durable coalition

[8] Gabor Toka, 'Political Parties in East Central Europe', in Larry Diamond, Marc F. Plattner, Yun-han Chu and Hung-mao Tien, eds, *Consolidating the Third Wave Democracies: Themes and Perspectives* (Baltimore, Md.: Johns Hopkins University Press, 1997).

[9] Scott Mainwaring and Timothy R. Scully, 'Introduction: Party Systems in Latin America', in Scott Mainwaring and Timothy Scully, eds, *Building Democratic Institutions: Party Systems in Latin America* (Stanford, Calif.: Stanford University, 1995).

[10] Stephen White, Richard Rose and Ian McAllister, *How Russia Votes* (Chatham, NJ: Chatham House, 1997), p. 223.

[11] Barbara Geddes, 'Initiation of New Democratic Institutions in Eastern Europe and Latin America', in Lijphart and Waisman, eds, *Institutional Design in New Democracies.*

governments. Low incidence of strategic voting moderates the consolidation of highly fragmented party systems and thus undermines the stability of governing coalitions by making coalition formation more difficult and shortening government tenure. With regard to the second point, assumptions regarding the level of sincere voting in transition states affect the design of electoral rules. Achieving a better understanding of the nature of strategic voting in new democracies will improve our ability to predict the effects of electoral reform.

STRATEGIC VOTING AS A TWO-STAGE PROCESS

Much of the literature is imprecise as to the exact nature of the strategic voting decision. In order to evaluate its occurrence, we propose a simple model of strategic voting. Two events must take place in order for individuals to engage in strategic voting. First, they need to recognize the strategic voting opportunity – the existence of a 'wasted-vote' situation or incentives for strategic behaviour. Secondly, they need to act strategically (i.e., vote against their myopic preferences) in response to this opportunity. These two stages of strategic voting can be formalized in the following simple probability expression:

$$\Pr(\text{Strategic Voting}) = \Pr(\text{Recognition}) * \Pr(\text{Action} | \text{Recognition}).$$

According to this model, the probability of a strategic vote is the product of the probability of recognizing the strategic voting opportunity and the conditional probability of acting strategically given recognition of this opportunity.

Recognition

Much of the strategic voting literature focuses on the first term on the right-hand side of this expression, i.e., it portrays individual-level variation in strategic voting as the result of differences in the recognition of a 'wasted-vote' situation. According to this perspective, recognizing the possibility of a wasted vote and being able to assess its severity (i.e., the voter's sincere party choice having a high probability of losing) represents a *necessary and sufficient* condition for strategic voting. Examples of evidence that recognition matters include demonstrating that the better educated are more likely to vote strategically. Evidence that severity matters typically consists of a statistical relationship between the probability of strategic voting and the likelihood of the voter's sincere first choice failing to achieve legislative representation in a PR system or to win the district in a single member district (SMD) system.[12] The implicit assumption here is that variation in the identification of wasted vote opportunities affects the level of strategic voting.

[12] Richard Niemi, Mark Franklin and Guy Whitten, 'Constituency Characteristics, Individual Characteristics and Tactical Voting in the 1987 British General Elections', *British Journal of Political Science*, 22 (1992), 229–39.

Action

We contend that recognition of the strategic voting situation is a *necessary but not sufficient* condition for strategic voting. The second term in the above expression captures the conditional probability of strategic voting, i.e., the probability of a strategic vote given that the individual recognizes a strategic voting opportunity ('wasted-vote' situation). Recognition alone does not necessarily imply that individuals will behave strategically. They must act on that recognition. We posit that individuals incur costs by voting against their myopic preferences and hence not all individuals who recognize a strategic voting opportunity will act on it. In other words, it is extremely unlikely that the value of the conditional probability equals 1. Our concern in this paper is investigating heterogeneity in the second term in the above expression. What makes some individuals more or less likely to act strategically *once they have recognized a strategic voting opportunity*?

STRATEGIC VOTING UNDER HUNGARY'S COMPLEX ELECTORAL RULES

This section has three purposes. First, we explain the choice of Hungary for testing the strategic voting hypotheses. Secondly, we make the case that the Hungarian electoral rules actually provide opportunities for strategic action. Thirdly, we present aggregate-level electoral data indicating that Hungarian voters over the course of the past three elections have engaged in strategic voting behaviour. While our ultimate goal is to model the heterogeneity of individual voting decisions in order to test hypotheses regarding strategic voting, it is important to establish that trends in electoral results are at least consistent with an argument that post-communist voters are behaving strategically.

Hungary serves as a conservative test of the strategic voting argument partly because the Hungarian electoral system is particularly complex and partly because Hungarian citizens, due to recent transition to democracy, are not steeped in a long tradition of free elections. To be sure, Hungary is one of the more successful transition countries. Nonetheless, we believe the combination of complex electoral rules and a recent transition make this case particularly attractive for testing the argument. Hungary is a context in which one would not *a priori* expect the strategic voting model to work well, and hence it represents a good test case. To the extent that the model does work well, we contend that the evidence for Hungary provides general validation for the theory of strategic voting.

The Hungarian electoral system is amongst the most complicated in the world, using three electoral formulae to allocate a total of 386 seats in the national parliament. The 176 SMD seats are allocated through a majority formula with a second-round election if no candidate receives a majority in the first round.[13] A maximum of 152 seats are allocated to regional list candidates

[13] The top three finishers or all candidates obtaining at least 15 per cent of the first-round vote compete in the second-round plurality election. If less than 50 per cent of eligible voters turn out in the first round, all candidates can compete in the second round. Similarly, at the regional level, if 50 per cent turnout is not met, there is a second round requiring 25 per cent turnout. If that minimum turnout level is not met, the regional seats are added to the national pool.

of parties receiving at least 5 per cent of the national vote through a PR formula similar to the Droop largest remainder (DLR).[14] Unlike a pure DLR formula, however, these seats are awarded only to parties whose vote remainder exceeds two-thirds of the vote quota, with unallocated seats being transferred to the national level. Finally, fifty-eight national seats and any unallocated regional seats are distributed among parties that have established national lists. Given these multiple 'layers' of electoral laws, one can reasonably question whether significant numbers of Hungarian voters act strategically.

Consistent with this interpretation, Downs casts doubt on the ability of the average voter to behave strategically in a multiparty context because of the informational demands. He states: 'we can point out a significant tendency inherent in coalition governed systems. There is a continuous pressure on voters to be irrational, i.e., to cease regarding elections as direct government-selection mechanisms.'[15] To the extent that Downs is correct, we should expect the informational problems associated with multiparty systems to be exaggerated in post-communist countries, such as Hungary, in which the parties are new and unfamiliar to voters.

However, there are distinct elements of the Hungarian electoral system that are likely to send clear signals to voters regarding the opportunities for strategic voting. As noted above, Hungary is a mixed majoritarian-PR system. The most persuasive case for strategic voting applies to the single-ballot SMD electoral system in which the incentives for strategic voting are most evident.[16] Duverger's Law predicts that single-ballot SMD electoral systems undercut third-party support. As Feddersen emphasizes, strategic voting is crucial to this result since formal models that assume sincere voting generate multiparty equilibria under plurality rule.[17] Clearly the 176 SMD contests in Hungary, which accounted for about 46 per cent of the seats in 1995, present the typical voter with wasted-vote situations. Furthermore, Cox demonstrates that run-off elections in SMDs encourage strategic voting.[18] Recall that the SMD contests in Hungary have the possibility of a run-off (second-round) election.

But the PR elections in Hungary also incorporate *features that force voters to confront potential wasted-vote situations*. First, in order for parties to be eligible to run a national-level list (which compensates for 'wasted votes' in SMD and regional PR elections) parties are required to field seven territorial

[14] Ken Benoit, 'Evaluating Hungary's Mixed-Member Electoral System' (paper presented at the Mixed Electoral Systems Conference, Newport Beach, Calif., December, 1998); Matthew Gabel, 'The Political Consequences of Electoral Laws in the 1990 Hungarian Elections', *Comparative Politics*, 27 (1995), 205–14.

[15] Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957).

[16] Duverger, *Political Parties;* William H. Riker, 'The Two-Party System and Duverger's Law: An Essay on the History of Political Science', *American Political Science Review,* 76 (1982), 753–66.

[17] Timothy J. Feddersen, 'A Voting Model Implying Duverger's Law and Positive Turnout', *American Journal of Political Science*, 36 (1992), 938–62. Also see Gary W. Cox, 'Electoral Equilibria under Alternative Voting Institutions', *American Journal of Political Science*, 31 (1987), 82–108.

[18] Cox, *Making Votes Count*.

lists. This requirement increases the likelihood that voters might face a wasted-vote situation. Secondly, Hungarian electoral law requires that a party obtain at least 5 per cent of the vote (4 per cent in 1990) in order to be eligible for national compensation seats. This 5 per cent threshold serves as an important cue to voters about the likelihood that their vote will be wasted. Finally, as Laver and Schofield argue, electoral considerations influence the formation of coalition governments in multiparty systems, such as Hungary's, and hence it is entirely feasible in these contexts for voters to act strategically in anticipation of the government formation process.[19]

The evolution of the Hungarian party system over the past three democratic elections suggests a reasonably high level of strategic voting in Hungary. Assuming voters and party elites act strategically, we would expect a proliferation of parties in the first post-communist election followed by consolidation of the party system.[20] Either through party exit or switching votes (i.e., strategic voters abandoning their sincere preferences for parties that are more likely to win), the effective number of parties competing in Hungarian PR districts should have declined over time.

Consistent with the occurrence of strategic voting, the Hungarian party system has become more rationalized with each subsequent free election. Table 1 presents the election results for the twenty PR regions. The effective number of political parties is defined as $1/\Sigma p_i^2$ where p_i is either the proportion of votes or seats won by the ith party, corresponding respectively to the effective number of electoral or legislative parties.[21] Table 1 clearly demonstrates how quickly Hungarian voters co-ordinated on a fairly small number of parties. In the inital post-communist election, the effective number of legislative parties averaged 4.8, ranging from 2.7 to 7.4 across regions (with a standard deviation of 1.0).[22] Six parties were serious contenders for list representation in the legislature. The Democratic Forum (MDF), Free Democrats (SZDSZ), Independent Smallholders (FKgP), and Socialists (MSZP) each received at least 10 per cent of the regional seat allocations; and the Young Democrats (FIDESZ) and Christian Democratic People's Party (KDNP) each received approximately 7 per cent of

[19] Michael Laver and Norman Schofield, *Multiparty Government* (Oxford: Oxford University Press, 1990).

[20] Because of the unique features of Hungarian electoral law, we expect party exit at the district level to be attenuated since parties have clear incentives to establish as many lists as possible and to field candidates in as many districts as possible (Benoit, 'Evaluating Hungary's Mixed-Member Electoral System'). In addition to the 5 per cent threshold and unused SMD votes contributing to the allocation of national list seats, Hungarian electoral law requires parties to run candidates in a quarter of the SMDs within the larger PR district (with a minimum of two) to qualify for establishing a list in a PR district.

[21] Markku Laasko and Rein Taagepera, '"Effective" Number of Parties: A Measure with Application to West Europe', *Comparative Political Studies*, 12 (April 1997), 3–27.

[22] The effective number of legislative parties in Table 1 was calculated using a simple DLR formula, ignoring the two-third threshold requirement actually employed under Hungarian electoral law.

these seat allocations. The PR system produced the multiparty outcome we would expect, particularly given the absence of electoral history.

By 1998 the average and cross-regional variation of the effective number of legislative parties had fallen significantly. As shown in Table 1, the effective number of legislative parties declined to 4.3 in 1994 and to 3.5 in 1998. Regional variation in the effective number of legislative parties declined by almost half as the effective number of legislative parties ranged from 2.5 to 4.0 in 1998 (with a standard deviation of only 0.5). Similarly, the effective number of electoral parties declined from 6.4 in 1990 to 5.4 in 1994 and to 4.6 in 1998. Moreover, the Young Democrats, Socialists and Independent Smallholders (i.e., three parties rather than six) dominated the PR seat allocations in 1998. Thus, in a matter of eight years, the Hungarian party system was transformed from a fairly fractionalized multiparty system into one with essentially three major parties.[23]

Given the constraints of the electoral system, much of the decline in the number of effective parties is largely consistent with voters switching their support to parties that are more likely to win seats in the Parliament. Benoit notes that virtually all of the major parties have fielded complete lists in all districts in all three post-communist elections.[24] Nevertheless, there is some evidence of party exit. The number of parties fielding lists declined from nineteen in 1990 to fourteen in 1998.

Although confronted with a complex set of electoral rules, the aggregate trends in party strength across PR regions indicate that Hungarians over the course of three elections effectively co-ordinated on voting strategies that significantly reduced the level of party fragmentation that occurred in the initial post-communist election. These aggregate trends suggest that Hungarian voters were acting on wasted-vote opportunities. However, they do not provide any insight into the heterogeneity of strategic voting and whether this heterogeneity is consistent with strategic voting theories.

EXPLAINING HETEROGENEITY IN STRATEGIC VOTING

As specified earlier, the strategic voting expression contains two terms: the probability of recognizing a wasted-vote situation and the conditional probability of acting strategically in response to that situation given that it has been recognized. Our statistical analysis controls for recognition of a wasted-vote situation, and hence we do not evaluate hypotheses regarding heterogeneity in this stage of strategic voting. We expect typical voters to have political preferences and orientations that make them more or less likely to vote strategically, independent of their ability to recognize a wasted-vote situation.

[23] Note that even when we include the legislative seats elected from SMDs, three parties dominate the system. The total allocation of seats in the 1998 Parliament was as follows: Socialists (134 seats), Young Democrats (148), Independent Smallholders (48), Free Democrats (24), Democratic Forum (17), and the Justice and Life Party (14). The largest of the three minor parties only received 6 per cent of the seats.

[24] Benoit, 'Evaluating Hungary's Mixed-Member Electoral System'.

TABLE 1. *Trends in Multi-Partyism for 1990, 1994 and 1998 Hungarian PR Elections*

		1990			1994			1998		
	Region magnitude	Parties contesting	Number of effective electoral parties	Number of effective legislative parties	Parties contesting	Number of effective electoral parties	Number of effective legislative parties	Parties contesting	Number of effective electoral parties	Number of effective legislative parties
Budapest	28	9	5.2	4.9	10	4.9	4.8	9	4.7	4.0
Baranya	6	10	6.3	4.5	14	5.5	3.6	12	4.5	3.6
Bacs-Kiskum	8	12	6.6	4.6	15	6.7	5.3	12	4.8	3.6
Bekes	6	11	6.3	3.6	13	5.7	4.5	12	4.9	3.6
Borsod	11	13	7.6	5.7	12	4.6	3.7	11	4.4	3.9
Csongrad	6	12	5.0	3.0	14	6.5	4.5	11	4.6	3.6
Fejer	6	11	6.2	3.6	13	5.4	4.5	11	4.2	3.6
Gyor	6	12	6.6	4.5	14	6.1	4.5	12	4.2	3.6
Hajdu	8	11	6.8	5.3	14	5.3	4.0	9	4.4	2.5
Heves	5	11	7.1	5.0	14	5.2	3.6	10	4.7	3.6
Jasz	6	11	7.4	4.5	13	5.2	4.5	11	4.5	3.6
Komarom	5	12	6.8	3.6	11	4.4	3.6	10	4.1	3.6
Nograd	4	12	8.1	4.0	11	5.2	2.7	11	4.8	2.7
Pest	14	11	6.1	5.4	13	5.9	4.7	9	5.0	3.9
Somogy	5	14	7.5	5.0	13	4.5	3.6	10	4.0	2.8
Szabolcs	9	11	7.7	7.4	16	5.9	4.8	14	4.6	2.5
Tolna	4	12	7.6	4.0	13	6.0	2.7	11	4.4	2.7
Vas	4	10	5.4	2.7	11	5.6	4.0	11	4.3	2.7
Veszprem	6	11	6.6	4.5	14	5.8	4.5	11	4.3	3.7
Zala	5	12	6.7	5.0	11	5.8	3.6	11	4.4	2.8
Weighted average			6.4	4.8		5.4	4.3		4.6	3.5
Standard deviation			0.9	1.0		0.6	0.7		0.3	0.5

Notes: 'Region magnitude' is the number of PR-allocated legislative seats. 'Parties Contesting' is the number of parties that established PR lists in each region.

The more costly is the strategic vote – for example, because the respondent is a strong partisan – the less likely that the individual will respond strategically to the wasted-vote situation.

Our model of strategic voting incorporates three sources of heterogeneity. The amount of information that the respondent brings to the strategic voting situation is hypothesized to have very different implications for recognition versus action. The other two sets of variables characterize the benefits and costs associated with strategic voting. Partisan and issue preferences and the availability of co-ordination heuristics constitute factors that *motivate* how voters respond to strategic voting opportunities. We contend that political motivations account for heterogeneous responses to wasted-vote situations better than information differences do and hence expect political preferences and co-ordination heuristics to have greater relevance in strategic voting models. The null hypothesis here is that voters respond in a homogenous fashion to wasted-vote situations given that they recognize them. Hungary's recent non-democratic history and relatively short period of democratic consolidation suggest that voting behavior there is likely to conform to this null hypothesis. Thus, modelling the strategic behaviour of Hungarian voters provides a conservative test of this null hypothesis.

Distinguishing between these two alternative hypotheses has important implications for the behaviour of political parties. Under the null hypothesis, if the leaders of a political party have evidence that the electorate is well informed about a wasted-vote situation, they can expect voters not to vote sincerely (in a homogeneous fashion) in order to avoid wasting their vote. In contrast, our alternative hypothesis implies that significant heterogeneity exists in how voters respond to a wasted-vote situation even amongst those who fully recognized it. In particular, information influences the extent of strategic voting even when there is no significant difference in recognition of a wasted-vote situation. Hence, parties must motivate voters to respond to strategic voting opportunities as well as make them aware of their existence.

Table 2 summarizes our theoretical expectations for the explanatory variables. Our theory offers definite predictions for most of the explanatory variables' marginal effects on the likelihood of strategic behavior. Table 2 reports the expected signs of these variables' probit coefficients. For some explanatory variables, though, alternative theoretical claims suggest confounding factors, so the direction of the net effect is uncertain.

Information

Information shapes both the recognition of strategic vote situations and the decision to act on those opportunities. Most models of strategic voting presume reasonable levels of knowledge regarding the political landscape and the relative electoral strength of competing candidates, parties or party lists.[25] Our empirical

[25] Cox, *Making Votes Count*.

TABLE 2 *Summary Explanatory Variables*

Explanatory Variable	Sign	Theory
Information		
Education	?	Communist socialization (−) vs. lower cost of gathering information (+)
Born after 1970	+	Post-communist cohort has more political experience in a democracy
Media Usage	+	Greater exposure to political messages
Political Sophistication	+	Greater knowledge of and interest in politics
Voter preferences		
Dissatisfaction with Political System	−	Alienated by political system; less concern about 'wasting' vote
Major Party Supporter	−	Less incentive to familiarize themselves with 'wasted vote' responses
Intensity of Partisan Attachments	−	Greater concern for electoral fortunes of first choice party
Extremity of Issue Opinions (Ideology)	?	Greater concern about the election outcome (+) or ideological consistency and long-term policy (−)
Government Evaluation*Government Party supporter	+	Stronger incentive to prevent change in government policy
Government Evaluation*Opposition Party Supporter	−	Weaker incentive to promote change in government policy
Issue Distance of Closest Alternative	−	Availability of alternative party with acceptable policy positions
Issue Divergence of Alternatives	+	Greater concern about election outcome, i.e., which party wins more seats
Co-ordination heuristics		
Non-Sincere Party Predicted Winner	+	Strategic switch to party predicted to win the election, i.e., 'electoral momentum' facilitates identification of strategic choice
Evaluation of First-Choice PM Candidate	−	Intensity of preference over PM candidates
Average Evaluation of Alternative PM Candidates	+	Leadership effect (due to PM candidate) facilitates identification of strategic choice

investigation of strategic voting effectively imposes equal levels of information regarding the wasted-vote situation because the survey instrument poses the same situation to all respondents. We contend that greater information implies greater familiarity and hence suggests greater willingness to respond strategically to wasted-vote situations. Consistent with Zaller's research on mass opinion, we expect information to raise the perceived costs or benefits associated with election outcomes.[26] Because informed voters are more sensitive to the costs or benefits of election outcomes, they are more likely to be concerned about wasting their vote and hence more inclined to act strategically.

Variable 1: *Education I.*Most would agree that the more educated are better equipped to interpret information related to strategic voting opportunities because they have the intellectual tools to better understand the political world and to reduce the cost of strategic calculations.[27]

Variable 2: *Education II.*Those educated in an anti-democratic context might be less comfortable with the compromises associated with strategic voting (for example, conceding ideology and policy preferences to ensure a second-best outcome). Hence, education in post-communist democracies might counteract positive informational effects.[28] For similar reasons, we posit the existence of a positive cohort effect for Hungarian citizens born after 1970. Having reached political maturity under a democratic system, we expect Hungarians born after 1970 to be more comfortable with strategic electoral compromises and hence more willing to change their behaviour in response to a wasted-vote situation.

Variable 3: *Media Exposure*. Media exposure may sensitize voters to the importance of responding strategically to wasted-vote situations.[29] Political information in the media might include knowledge about the relative electoral strength of the parties running in their region or riding, what positions parties take on particularly salient issues, and formal and informal signals from party elites regarding

[26] Zaller, *The Nature and Origins of Mass Opinion.* Just as Zaller argues that information transmitted by political elites can heighten the perceived partisan stakes associated with a particular issue, we argue here that more information about politics can raise the perceived importance of election outcomes in the minds of the mass public.

[27] Jerome H. Black, 'Multicandidate Calculus of Voting: Application to Canadian Federal Elections', *American Journal of Political Science*, 22 (1978), 609–38.

[28] James L. Gibson and Raymond M. Duch, 'Political Cultures in the Emerging Soviet Democracy', in Arthur H. Miller, William M. Reisinger and Vicki L. Heslie, eds, *Public Opinion and Regime Change: The New Politics of Post-Soviet Societies* (Boulder, Colo. Westview, 1993).

[29] Typically it is the media that announces the results of public opinion polls that provide signals for strategic voting. Also political parties frequently employ the media for advocating strategic voting behaviour – the advertisements advocating strategic voting during the 1997 British elections are an excellent case in point. R. B. Myerson and R. J. Weber ('A Theory of Voting Equilibria', *American Political Science Review*, 87 (1993), 102–14) incorporate this assumption regarding the informative effect of polls to illustrate how voting equilibria vary across different voting systems.

strategic voting (cues about how to vote).[30] We do not have measures that calibrate the precise nature of these information cues, but we do include a broad measure of media exposure that captures the likelihood that respondents were exposed to them.

Variable 4: *Political Sophistication*. Higher levels of information about politics and the electoral system increase the voter's ability to identify a strategic alternative when faced with a wasted-vote situation. Hence, we hypothesize that voters with more information about politics are better equipped, and more likely, to respond to strategic voting opportunities.

Voter Preferences

Strategic voting is costly in that voters must invest resources to make appropriate voting decisions. Hence, information alone is not sufficient to drive strategic voting. We need to add motivations to the equation. In this section, we outline four considerations that motivate strategic voting: political dissatisfaction, major party support, intensity of preferences and issue proximity. And while we expect motivation to affect the likelihood that voters recognize a wasted-vote situation, we believe that motivational factors have their most significant impact on whether voters actually act on a strategic voting opportunity once it is recognized.

Variable 5: *Political Dissatisfaction*. Those dissatisfied with the outcomes of the election process are less likely to recognize a wasted vote situation and are also less likely to act on a wasted-vote situation.

It is of course this latter proposition that we evaluate empirically. The politically dissatisfied respond to wasted-vote situations in a more sincere fashion because they are less concerned about 'wasting' a vote and less likely to invest the necessary effort to make strategic decisions. The notion that the politically dissatisfied are less likely to act on wasted-vote situations is consistent with the literature on the relationship between political dissatisfaction and conventional participation in politics. Empirical evidence suggests that the politically dissatisfied are less likely to invest effort in conventional voting participation and are more likely to engage in unconventional protest behaviour. Similarly, we expect these citizens are less likely to make the investment associated with

[30] Note that the media can provide extremely targeted cues to average voters, particularly cues from the more specialized press such as those catering to the religious communities. Benoit ('Evaluating Hungary's Mixed-Member Electoral Systems') provides an instructive example from the 1998 Hungarian elections in which Roman Catholic bishops' circulars instructed Catholics to 'vote for a party with Christian democratic interests but also to avoid wasting their vote on parties unlikely to meet the threshold.'

acting on strategic voting opportunities and are more likely simply to vote sincerely.[31]

We adopt a multi-indicator measure of political dissatisfaction that captures general dissatisfaction with the political institutions and processes. Two conventional measures of dissatisfaction – lack of political efficacy and dissatisfaction with democracy – are considered indicators of a lack of legitimacy in the new democratic institutions. We also believe that preferences for a smaller party system and for single-party, rather than coalition, governments represent general dissatisfaction with the nature of the political process (note that Hungary during this period had a coalition government). Thus, we posit that lack of political efficacy, dissatisfaction with democracy, discontent with the size of the party system and preference for single-party government all represent dimensions of an underlying dissatisfaction with the political institutions (the factor analytic construct is discussed in the Appendix III).

Variable 6: Major Party Support. All things being equal, voters who support the major parties have less incentive to familiarize themselves with strategic voting options.

Because major-party supporters are less likely than supporters of smaller parties are to have actually confronted strategic voting dilemmas, they are less likely either to recognize or to act upon a wasted-vote situation. In contrast, supporters of smaller parties have been conditioned to recognize and respond to wasted-vote situations either through experience or as the result of information campaigns by the smaller parties.

Variable 7: Intensity of Partisan Preferences. We expect intensity of preferences to heighten the sensitivity of voters to the importance of strategic voting and thereby increase their likelihood of recognizing a wasted-vote situation.

On balance, we expect voters who have intense preferences regarding their first party to be less likely to act on a strategic voting situation. As party attachment strengthens, we expect voters' psychological identification and expressive

[31] Barbara Farah *et al*., 'Political Dissatisfaction,' in S. Barnes, M. Kaase *et al*., eds, *Political Action* (Beverly Hills, Calif. Sage, 1979); Russell J. Dalton, *Citizen Politics: Public Opinion and Political Parties in Advanced Western Democracies*, 2nd edn (Chatham, NJ: Chatham House, 1996). We can think of political action as a continuum running from one extreme representing a highly demanding form of unconventional participation (e.g., an illegal protest march) to another extreme representing a highly demanding form of conventional participation (e.g., contributing money to an election campaign). Note that on both sides of the conventional–unconventional continuum modes of participation exist that are more or less demanding (or costly). In our formulation, engaging in strategic voting represents a mode of conventional participation that is more demanding than engaging in non-strategic voting. Political dissatisfaction, we argue, has the following effects: it reduces the likelihood that individuals will invest in costly conventional political participation (i.e., makes non-strategic voting behaviour more likely than strategic voting behaviour), and it increases the likelihood of investment in unconventional political action.

benefits to increase so that they are less likely to act strategically when their sincere party choice faces electoral defeat in the short term. Cox, for example, argues that intensity of partisanship makes other parties seem less attractive and hence reduces the likelihood that an individual would vote for another party.[32] And there is convincing evidence from Britain and from Canada that individuals with intense partisanship are less likely to vote strategically.[33]

Variable 8: Intensity of Ideology. Our theoretical expectation for ideology is uncertain. On the one hand, those with intense ideological positions on issues might view voting as strictly instrumental and hence they would support their sincere preference regardless of its chance of winning and regardless of which party is most likely to win. On the other hand, intense ideologues care more about outcomes and therefore might be more likely to recognize and act on a wasted-vote situation.

We do not have any convincing reason to suspect that one of these hypothesized effects is stronger than the other for voters holding more extreme issue positions. Which of them proves stronger in the Hungarian context is an empirical question that our statistical analysis considers.

Variable 9: Government Performance. We expect voters' reactions to government performance (short-run policy outcomes) to influence their likelihood of acting on a wasted-vote situation.

Our expectations about the impact of government performance evaluations, however, are contingent on voters' partisan attachments. Satisfaction with government performance provides an incentive to switch parties strategically in order to maintain current public policy, while dissatisfaction with performance provides an incentive to switch parties strategically to promote policy change. But the impact of these evaluations depends on whether a voter is or is not a partisan supporter of the incumbent. The decision to act strategically to end incumbent policies is less costly for voters whose first choice was an opposition party since their party switch would be to another party not currently in the incumbent coalition. Hence, we expect government evaluations for supporters of opposition parties to have a negative impact on strategic voting. We believe the decision to act strategically to prevent policy change is less costly for voters who initially supported a government party because such action will increase the likelihood of their preferred party staying in office. Hence, we posit that the effect of government evaluations on strategic voting is positive for government supporters.

[32] Cox, *Making Votes Count*.

[33] David J. Lanoue and Shaun Bowler, 'The Sources of Tactical Voting in British Parliamentary Elections, 1983–1987', *Political Behavior*, 14 (1992), 141–57; Richard Niemi, Guy Whitten and Mark Franklin, 'People Who Live in Glass Houses … Evans and Heath's Critique of Our Note on Tactical Voting', *British Journal of Political Science*, 23 (1993), 549–52; Black, 'Multicandidate Calculus of Voting: Application to Canadian Federal Systems.'

Asymmetry might exist in the behaviour of malcontents versus the contented, with the former group displaying greater willingness to compromise sincere preferences in order to influence short-run government policy.[34] Thus, we expect the magnitude of government evaluations' negative effect for opposition supporters to be greater than the magnitude of its positive effect for government supporters.

Variable 10: *Issue Proximity of Closest Alternative*. Another consideration that enters the calculation to act on a wasted-vote situation is the issue proximity of alternative candidates. Take for example the issue positions of a second choice that has a higher probability than one's first choice of winning an election contest. The second choice could be another candidate in a single member district or a party list in a PR district. Consistent with the spatial model of voting, we posit that the likelihood of voting strategically increases with the ideological proximity of the individual's second choice.[35]

Variable 11: *Issue Divergence of Alternatives*. The incentive to vote strategically in a wasted-vote situation is conditioned by the proximity of the second choice to the individual's least preferred choice. As these two get closer, we hypothesis a decline in the likelihood of strategic voting since voters have less incentive to act strategically if they are indifferent between their second best and least preferred choices.

This argument implies a relationship between strategic voting and the ideological (or policy) distribution of parties.[36] We test this hypothesis by including a measure of the distance between individuals' placements of their second and least preferred choices.

Co-ordination Heuristics

Variable 12: *Predicted Winner*. One factor that influences strategic voting is the extent to which voters' assessments of the likely election outcome shape their voting decisions. Clearly these assessments should affect the likelihood that a voter recognizes a wasted-vote situation. We also argue that the clarity of co-ordination heuristics increases strategic responses to wasted-vote situations. This second proposition is tested by exploring whether individuals who predict a different election winner than their most preferred party are more likely to act on a strategic vote situation. This test

[34] Cox, *Making Votes Count*; Niemi, Whitten and Franklin, 'People Who Live in Glass Houses'.

[35] James Enelow and Melvin Hinich, *The Spatial Theory of Voting* (New York: Cambridge University Press, 1984).

[36] Cox, *Making Votes Count*.

assumes a 'momentum' effect in that the predicted election winner serves as a focal point for voters whose most preferred choice faces electoral defeat.[37]

Variable 13: *Evaluation of PM Candidates*. Another test of the co-ordination hypothesis is whether strategic voting varies positively with evaluations of major-party leaders.

While the major Hungarian parties satisfy the requirement of electoral viability, strategic voters must choose one of them as the best alternative to their sincere party choice. Charismatic party leaders facilitate strategic co-ordination by focusing attention on their party. If voters view all of the leaders from alternative major parties as unacceptable candidates for prime minister (PM), they are less likely to vote strategically. The more intensely voters prefer the PM candidate from their first-choice party, the less likely that they vote strategically to promote the electoral fortunes of a PM candidate from another party.[38] In sum, we expect the likelihood of acting on a wasted-vote situation to increase as leadership evaluations for alternative major parties become more positive and those for the voter's first-choice party decline.

SURVEY RESULTS

Our statistical analysis of Hungarian survey data tests two hypotheses. The first hypothesis concerns the willingness of voters to vote strategically when confronted with a wasted-vote situation. We test this by asking individuals whether they would consider voting for another party if their most preferred party was unlikely to get enough votes to gain seats in Parliament. The second hypothesis concerns the heterogeneity of reactions to wasted-vote situations. The survey instrument presents all respondents with the same wasted-vote situation and hence essentially controls for the severity of that situation. Our interest then is in modelling heterogeneity in the conditional probability of strategic action given recognition of a common wasted-vote stimulus. We test our theoretical arguments regarding the nature of this heterogeneity using a probit analysis of strategic voting estimated with data from a 1997 Hungary survey.

Our statistical analysis employs individual-level data from the 1997 Hungarian Public Opinion survey conducted as part of the Markets and Democracy Project. Appendix I provides a discussion of the survey's sampling and interviewing strategies.[39]

[37] McKelvey and Ordeshook, 'Elections with Limited Information: A Fulfilled Expectations Model Using Contemporaneous Poll and Endorsement Data as Information Sources'; Myerson and Weber, 'A Theory of Voting Equilibria'.

[38] Political motivation also provides a rationale for the hypothesized effects of leadership evaluations. Voters who strongly prefer the PM candidate of their first-choice party over those of alternative major parties might vote strategically with less frequency due to the instrumental effect of preference intensity.

[39] Appendix I is at the end of the *Journal*'s website version of this article. The survey's codebook is at the Markets and Democracy website: www.uh.edu/democracy.

In order to test propositions from our individual-level model of strategic behaviour, we constructed a binary variable, *Strategic Party Switch*, which denotes strategic decision making in a typical Hungarian voting situation. Participants in the Hungarian Public Opinion survey were first asked to state a vote intention (V64): 'If the general election were to be held on the upcoming Sunday, which party would you vote for?' Given that a general election was scheduled in six months the response to this question is considered a meaningful representation of their electoral preference. Individuals who named a party in response to this question were then asked (V68): 'If it seems that the party you prefer will get too few votes to get into Parliament, would you still vote for that party, or would you vote for a party that has better chances?' *Strategic Party Switch* is coded 1 for those individuals who responded, 'I would vote for another party.'[40]

For several reasons, we believe *Strategic Party Switch* is a reliable indicator of strategic behaviour. First, the measure is constructed from a question whose wording suggests a 'wasted vote' opportunity for strategic behaviour (i.e., due to poor election prospects, a vote for the respondent's first-choice party might be 'wasted' in terms of affecting the allocation of parliamentary seats). Secondly, the *Strategic Party Switch* question poses a situation, confronted by Hungarian voters with some frequency, in which the respondent's most preferred party faces only the possibility of receiving too few votes to obtain seats in Parliament (i.e., it has not been removed from the set of possible vote choices). Thus, the question does not induce 'strategic' responses by presenting an unequivocal opportunity for strategic behaviour.[41] Finally, the *Strategic Party Switch* question identifies 13.6 per cent of the sample as strategic, which

[40] Only 901 respondents named an initial party preference (vote intention) and hence were asked the strategic voting question. This raises some concerns about the appropriateness of our sample. First, are those respondents who failed to state a party preference being strategic? An auxiliary analysis of these respondents (available from the authors as part of a supplemental appendix on www.uh.edu/democracy) indicates that they have characteristics generally attributed to non voters – lower levels of political sophistication, media exposure, government trust and political efficacy. We believe this finding counters any speculation that *Strategic Party Switch* understates the percentage of strategic voters by ignoring non-voters as 'closet' strategic actors. A second relevant concern here is whether we can treat the 901 respondents in our sample as a random subset of all survey participants. In other words, does sample selection bias plague our probit analysis of strategic behaviour? We investigated this issue by estimating a bivariate probit model (also available from the authors) that included an equation for willingness to state a party preference as well as one for strategic party switching. This methodology is discussed in William H. Greene, *Econometric Analysis*, 3rd edn (Upper Saddle River, NJ: Prentice Hall, 1997), pp. 906–11. The party preference equation represents the selection process that determined which respondents were asked the strategic party switching question. The bivariate probit analysis revealed no evidence of sample selection bias. In particular, the bivariate probit coefficients in the strategic party switching equation are essentially the same as the probit coefficients presented in Table 3.

[41] One might speculate that *Strategic Party Switch* fails to include individuals who gave a strategic response to the vote intention question. Note, however, that all individuals who stated a vote intention, regardless of whether that intention was strategic or sincere, were confronted with a wasted-vote situation involving the party named. Why should we expect individuals who acted strategically when stating a vote intention to remain loyal to their strategic party choice (i.e., respond non-strategically)

is consistent with the numbers of strategic voters identified by other studies.[42] Cain identifies 10 per cent of British electors as voting for a party other than their first preference.[43] Similarly, Blais and his colleagues find that 12 per cent of non-Quebec voters voted strategically in the 1997 Canadian election, and Bensel and Sanders estimate that about 10 per cent of Wallace supporters in the 1968 US presidential election voted strategically.[44] The *Strategic Party Switch* percentage, however, is higher than the 6.5 per cent of British major-party voters characterized by Heath and his colleagues as strategic.[45] The similarity in estimates across countries (and measurement strategies) reassures us that *Strategic Party Switch* is a reasonable measure of strategic behaviour.

What implication should we draw from the estimate of 13.6 per cent obtained with *Strategic Party Switch*? We interpret this finding as reasonably supportive evidence that Hungarian voters act strategically and hence conclude that the primary null hypothesis that the Hungarian electoral system exhibits low levels of strategic behaviour is probably false.[46] Such an interpretation assumes that *Strategic Party Switch* accurately and reliably identifies strategic actors. And while we recognize that survey questions are flawed measures of underlying characteristics, particularly in the case of political behaviour and issue positions,

(F'note continued)
when faced with a wasted-vote situation? We see no reason why acting strategically when stating a vote intention precludes one from strategically switching to another party when informed that the initial strategic party choice is unlikely to gain parliamentary representation.

[42] It is important to note that this estimate of strategic voting is derived from a question that presents individuals with a potential wasted vote situation. Not only does the question provide relevant information, thereby reducing if not eliminating the obstacle of recognition, the wasted-vote situation posed by the question is clearly severe: 'If it seems that the party you prefer will get too few votes to get into Parliament …' Hence, this estimate of strategic voting most likely overstates the percentage of Hungarian voters who would act strategically in a general election since voters in that context would have to derive their own expectations about the potential wasted-vote situation that they face.

[43] Bruce E. Cain, 'Strategic Voting in Britain', *American Journal of Political Science*, 22 (1978), 639–55.

[44] André Blais, Richard Nadeau, Elisabeth Gidengil and Neil Nevitte, 'Voting Strategically against the Winner: The 1997 Canadian Elections' (paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago, 1998); R. F. Bensel and M. E. Sanders, 'The Effect of Electoral Rules on Voting Behavior: The Electoral College and Shift Voting', *Public Choice*, 34 (1979), 69–85.

[45] Anthony Heath, Roger Jowell, John Curtice, Geoff Evans, Julia Field and Sharon Witherspoon, *Understanding Political Change: The British Voter 1964–1987* (Oxford: Pergamon, 1991). The proper method of measuring strategic voting in Britain has been the subject of considerable debate (Evans and Heath, 'A Tactical Error in the Analysis of Tactical Voting'; Niemi, Whitten and Franklin, 'Constituency Characteristics, Individual Characteristics and Tactical Voting in the 1987 British General Elections'; Niemi, Whitten, and Franklin, 'People Who Live in Glass Houses … ').

[46] Also, the fact that the survey was conducted six months before the actual election could have affected the strategic calculations of the average voter. But vote preferences in the survey turned out to be reasonably close to the actual election outcomes although support for the incumbent (MSZP) was considerably higher (36 per cent in the survey ($n = 327$) versus 32 per cent in the election) and support for the election winner (FIDESZ) was somewhat understated (24 per cent ($n = 213$) versus 28 per cent).

we certainly see this estimate as challenging any notion that citizens in Hungary's post-communist democracy do not engage in sophisticated voting.

Of course we did explore a number of possible sources of systematic measurement error in this dependent variable. One possibility is that the situation posed by this question is clearly counterfactual for supporters of large political parties. Because supporters of large political parties are rarely, if ever, confronted with a wasted-vote situation, they might respond differently to the stimulus than do the supporters of small parties. We found that this was clearly the case with only 12.3 per cent of the major party supporters acting strategically compared to 25.3 per cent of the supporters of other parties doing so. We control for this effect in our multivariate analysis (reported below) by including a dummy variable for major party supporters. Another possibility is that respondents who see the wasted-vote situation as a counterfactual will exhibit more variance in their responses. This speculation implies a heteroscedastic probit model. Yet we found no evidence supporting this speculation – major party supporters exhibited no greater response instability. Hence, we believe that our dependent variable is a relatively reliable measure of strategic reaction to a recognized wasted-vote situation.

Our second set of hypotheses concern the heterogeneity of responses to wasted-vote situations. In order to address this issue, we estimated a probit model of strategic behaviour, presented below. Probit regression was employed because *Strategic Party Switch* is binary.[47] The explanatory variables in the model correspond to specific propositions from our theoretical model of strategic behaviour. Appendix II, available in the *Journal*'s website version of this article, discusses the measurement and coding of these variables; Table A1 reports their descriptive statistics.

As stated earlier, our statistical model of strategic behaviour provides us with a means of evaluating hypotheses about the nature of strategic voting in Hungary. Our second *null* hypothesis states that voters respond in a homogeneous manner to a wasted-vote situation, after controlling for individual-level differences in its severity and recognition. The measure of strategic behaviour inherently controls for severity and recognition since it is derived from a question that presents voters with the same wasted-vote situation. Consequently, we expect informational factors to matter only to the extent that they capture differences in how individuals interpret the wasted-vote situation. In addition, evaluation of the second null hypothesis focuses on whether other sources of heterogeneity in strategic voting exist.

Table 3 presents a probit model of strategic party switching.[48] Comparison of the statistical significance of the probit coefficients reveals a striking

[47] See Greene, *Econometric Analysis,* 3rd edn, pp. 872–94.

[48] We found little evidence of heteroscedasticity. We estimated a heteroscedastic probit model that included *Born after 1970*, *Media Usage*, *Political Sophistication*, and *Major Party Supporter* in the error variance function. The corresponding Likelihood Ratio (LR) test statistic was 3.49 with a *p*-value of 0.322, which fails to reject the null hypothesis of homoscedasticity at conventional significance levels.

pattern.[49] Most of the heterogeneity in strategic behaviour is due to political motivation and co-ordination heuristics, rather than informational factors affecting the voter's ability to understand a wasted-vote situation.[50] The lack of importance of information variables represents a surprising finding even though we anticipated that informational advantages would play a modest role in the present context. The insignificant coefficients of *Education*, *Media Usage* and *Political Sophistication* are consistent with the claim that our measure of strategic behaviour inherently controls for individual-level differences in the ability to recognize a wasted-vote situation because in the question wording respondents are informed of the strategic voting opportunity. Nevertheless, we entertained the possibility that the more informed voters would still have a better understanding of the implications of wasted vote situations and hence would be more likely to act on them. This turns out not to be the case. One other variable, however, that calibrates informational advantages – *Born after 1970* – proves significant with a marginal effect in the direction posited by theory.

The marginal effects of the explanatory variables on the probability of strategic behaviour are not equal to the probit coefficients. Hence, we calculated the marginal effects and their standard errors.[51] These are reported along with the coefficients in Table 3. Also, when discussing the variables' estimated substantive impacts, we consider the behaviour of a typical respondent, defined as having a 0.135 probability of strategically switching parties.[52] We then illustrate how this person's predicted likelihood of strategic behaviour varies with different explanatory variables. For instance, if this hypothetical person

[49] When evaluating probit results, multicollinearity is a relevant methodological concern. Russell Davidson and James G. MacKinnon (*Estimation and Inferences in Econometrics* (New York: Oxford University Press, 1993), p. 186) state: 'Trying to estimate models that are too complicated is one of the most common mistakes among inexperienced applied econometricians.' Thus, they recommend the application of simpler model specifications in the presence of considerable collinearity. To assess the level of multicollinearity in our data, we estimated auxiliary regressions in which each explanatory variable was regressed on the other explanatory variables. R^2 values from these auxiliary regressions (available from the authors) measure the extent of multivariate correlation amongst the explanatory variables or how much of their variation is shared rather than independent. Overall, the level of multicollinearity is modest. *Education*, *Political Sophistication*, and *Issue Divergence of Alternatives* displayed the highest levels with R^2 values in the 0.35 to 0.39 range, which is relatively inconsequential.

[50] The ten variables measuring political motivations and co-ordination heuristics are jointly significant at better than the 0.001 level with a LR test statistic of 46.09. In contrast, the five variables measuring voters' ability to understand a wasted-vote situation achieve statistical significance at the 0.01 level with a LR test statistic of 19.58. Most of this significance, though, is due to two variables, *Born after 1970* and *Major Party Supporter*, which do not necessarily capture informational differences.

[51] Greene (*Econometric Analysis*, 3rd edn, pp. 878, 884–5) provides an exposition of the equations for calculating these values.

[52] This initial probability of strategically switching parties corresponds to the sample frequency and hence is representative of a 'typical' respondent. When characterizing the effect of a non-binary explanatory variable, we assume that a typical respondent has an initial value equal to the variable's sample mean (i.e., the initial probability of 0.135 holds for the sample means of the explanatory variables).

TABLE 3 *Probit Model of Strategic Party Switching, Hungary 1997*

Explanatory variables	Coefficient (*t*-statistic)	Marginal effect (Standard error)
Born after 1970	0.540***	0.101***
	(3.78)	(0.027)
Education	− 0.008	− 0.002
	(− 0.16)	(0.010)
Media Usage	0.009	0.002
	(0.51)	(0.003)
Political Sophistication	0.112	0.021
	(1.44)	(0.014)
Major-Party Supporter	− 0.354**	− 0.066**
	(− 2.04)	(0.032)
Strength of Party Attachment	− 0.178***	− 0.033***
	(− 2.66)	(0.012)
Government Evaluation*Government Party Supporter	− 0.058	− 0.011
	(− 0.53)	(0.020)
Government Evaluation*Opposition Party Supporter	− 0.203**	− 0.038**
	(− 2.45)	(0.015)
Dissatisfaction with Political System	− 0.062**	− 0.012**
	(− 2.28)	(0.005)
Extremity of Issue Opinions	0.021	0.004
	(0.39)	(0.010)
Issue Distance of Closest Alternative	− 0.053**	− 0.010**
	(− 2.15)	(0.005)
Issue Divergence of Alternatives	− 0.010	− 0.002
	(− 0.80)	(0.002)
Average Evaluation of Alternative PM Candidates	0.264***	0.049***
	(3.35)	(0.014)
Evaluation of First-Choice PM Candidate	− 0.140**	− 0.026**
	(− 2.43)	(0.011)
Non-Sincere Party Predicted Winner	0.315***	0.059***
	(2.61)	(0.022)
Constant	0.091	
	(0.19)	
χ^2 statistic of overall model fit	78.4***	
% of cases predicted correctly	86.6	
N	901	

Notes: The dependent variable is *Strategic Party Switch*. ***p < .01; **p < .05; *p < 0.10.

were born after 1970, his or her probability of strategic behaviour would be over 12 percentage points greater.

The probit model in Table 3 reveals numerous sources of heterogeneity consistent with our theoretical model of strategic behaviour. First, *Strength of Party Attachment* proves to have a significant negative effect. For a typical

respondent, the likelihood of strategically switching parties decreases by 15.5 percentage points as his or her party attachment strengthens from 'not close at all' to 'very close.' The estimated effect of *Government Evaluation*, though, only achieves statistical significance for supporters of opposition parties.[53] This null result suggests that preventing short-run changes in government policy does not provide sufficient motivation for strategic voting.[54] Yet, consistent with the asymmetry hypothesis, negative evaluations of government performance, which we interpret as a desire to change public policy, increase the likelihood of strategic behaviour. For a typical respondent who supports an opposition party, *Government Evaluation* has an estimated effect similar to *Strength of Party Attachment*, decreasing the likelihood of strategic behaviour by over 17 percentage points as evaluation of Prime Minister Horn's government improves from absolute negative to absolute positive. Note also that the typical respondent's likelihood of strategically switching parties would be almost 8 percentage points lower if he or she initially stated support for one of the major parties (i.e., MSZP, SZDSZ, Fidesz or FKgP). This lends some support to our argument that major-party supporters have less incentive to familiarize themselves with appropriate strategies for responding to wasted-vote situations.

Secondly, the significant negative effect of *Dissatisfaction with Political System* indicates that citizens satisfied with the political system overall are engaged in the electoral process and hence are more concerned about 'wasting' their votes and more likely to act strategically. For a typical respondent, a one standard deviation (SD) increase in *Dissatisfaction with Political System* produces a 2.6 percentage point decrease in the predicted probability of a strategic party switch. While this marginal effect might seem modest, the maximum impact of political dissatisfaction is similar to that for strength of party attachment.

Thirdly, as the strategic voting model predicts, the coefficient for the *Issue Distance of the Closest Alternative* party is statistically significant and negative. Thus, the smaller the issue distance between voters and their second-choice parties, in terms of issue proximity, the more likely that they will act strategically. For a typical respondent, a one-SD decrease in *Issue Divergence of Closest Alternatives* increases the likelihood of a strategic party switch by 2.6

[53] Some readers might question our specification of the *Government Evaluation* interaction since we did not include *Government Party Supporter* (or *Opposition Party Supporter*) as a regressor in the probit model. We chose not to present a full interaction specification since we have no theoretical reason to believe that supporters of government and opposition parties differ in their likelihood of strategically switching parties, independent of a difference in the effect of their evaluations of the Horn government. However, we did estimate such a specification and found that the results (available from the authors) were essentially the same as those presented in Table 3.

[54] Government performance evaluations might still indirectly affect strategic behaviour among government party supporters by influencing their strength of party attachment. Consistent with this supposition, *Government Evaluation* and *Strength of Party Attachment* are positively correlated (0.195) among government party supporters. Similarly, 73.1 per cent of 'close' government partisans positively evaluated government performance while only 43.7 per cent of 'not close' government partisans did the same.

percentage points. We also hypothesized that the magnitude of the distance between the second and least preferred party alternatives would positively influence strategic voting. The coefficient of this variable, however, is negative and statistically insignificant. Finally, our measure of preference intensity, *Extremity of Issue Opinions*, has a statistically insignificant coefficient. The null result suggests that neither of the predicted confounding effects – greater concern about the election outcome (positive) versus greater concern about ideological consistency and long-term government policy (negative) – proves dominant.

The probit model includes two variables designed to assess whether focal points exist on which voters co-ordinate. One of these variables is *Non-Sincere Party Predicted Winner*, a binary variable denoting voters who predicted that a party other than their sincere choice would win the 1998 election. Everything else being equal, we expect voters to prefer an alternative party with superior electoral prospects. Hence we expect greater strategic voting by those who, anticipating the behaviour of other voters, identify an alternative party than their own as having the greatest probability of winning the election. We argue that the existence of such a perceived winner facilitates strategic voting. Consistent with this argument, *Non-Sincere Party Predicted Winner* has a significant positive coefficient. This 'momentum' effect increases the predicted probability that a typical respondent strategically switches parties by 6.5 percentage points.

The second co-ordination measure is *Average Evaluation of Alternative PM Candidates*. Our reasoning here is that voters are more likely to act strategically if they perceive an alternative party leader as a capable PM candidate. Similarly, we posit that the likelihood of strategic voting decreases as individuals more positively evaluate the ability of their sincere-choice party leader to serve as PM. In Table 3, the significant positive coefficient of *Average Evaluation of Alternative PM Candidates* and the significant negative effect of *Evaluation of First-Choice PM Candidate* conform to our theoretical expectations. In sum, strategic behaviour is less common amongst voters who intensely prefer the PM candidate of their sincere-choice party to those of alternative parties. For a typical respondent who supports the Socialists, a one-unit improvement in their evaluation of Horn Gyula combined with a one-unit decline in their average evaluation of other major parties' PM candidates decreases their likelihood of strategically switching parties by almost 7 percentage points.

The probit model of strategic voting has strong overall performance, as indicated by the χ^2 LR statistic reported in Table 3 that tests for the joint significance of the coefficients. Table 4 illustrates this explanatory power by presenting the distribution of predicted probabilities for different subsets of the respondents, as denoted by the column labels. The distribution of predicted probabilities in the 'All' column characterizes the overall level of heterogeneity in respondents' strategic behaviour. Comparison of the distribution in the 'All' column with those in the 'Strategic' (respondents indicating they would act strategically) and 'Non-Strategic' (respondents indicating they would not act strategically) columns illustrates the explanatory power of the probit model by

TABLE 4 *Comparison of Predicted Probabilities of Strategic Voting for Respondents Coded as Strategic and Non-Strategic*

Probability Range	All	Strategic	Non-Strategic
0–0.05	20.3	2.5	23.1
0.05–0.10	29.2	18.0	30.9
0.10–0.15	15.9	13.9	16.2
0.15–0.20	12.8	18.0	11.9
0.20–0.25	8.4	13.9	7.6
0.25–0.30	5.0	12.3	3.9
0.30–0.35	3.7	10.7	2.6
0.35–0.40	2.0	2.5	1.9
>0.40	2.8	8.2	1.9
N	901	122	779

Notes: Table 4 was constructed by first using the ordered probit coefficients in Table 3 to derive the predicted probability of strategic voting for each respondent. Respondents were then grouped according to their predicted probabilities into probability ranges (i.e., the rows in Table 4). Finally, respondents were divided into two groups according to their coding for *Strategic Party Switch* (i.e., the last two columns in Table 4). Cell entries in each row are the percentages of predicted cases in the denoted probability range. The percentages in each column sum to 100. Respondents classified as 'Strategic' are those coded 1 for *Strategic Party Switch*. In turn, 'Non-Strategic' respondents are those coded 0 for *Strategic Party Switch*. Column labels correspond to the different subsets of respondents considered.

demonstrating how effectively it distinguishes between respondents in terms of their likelihood of acting strategically. For instance, to the extent that the probit model helps to identify strategic respondents, we should expect the distribution of predicted probabilities in the 'Strategic' column to be more skewed towards higher values than the distribution in the 'All' column. Table 4 reveals such a pattern. For instance, consider the values in the '0.25–0.30' row. The value in the 'All' column indicates that 5.0 per cent of all respondents were predicted by the probit model to have a 25–30 per cent chance of voting strategically. Similarly, the values in the 'Strategic' and Non-Strategic' columns indicate, respectively, that 12.3 per cent of the respondents who stated that they would switch parties and 3.9 per cent of those who stated that they would not switch parties were predicted to have a 25–30 per cent chance of voting strategically. Comparison of these three values indicates that the probit model helps to distinguish between potentially strategic and non-strategic voters. Recall that the sample frequency, interpreted as a naïve model, predicts that *all* respondents – 'Strategic' and 'Non-Strategic' – have a 13.5 per cent chance of voting strategically. Hence, our model improves on this naïve model by predicting that

a higher proportion of the 'Strategic' respondents have a 25–30 per cent chance of voting strategically. More generally, our model improves on the naïve prediction for non-strategic respondents by predicting that only 10.3 per cent of them have probabilities of strategic voting greater than 0.25. Similarly, our model improves on the naïve prediction for strategic respondents by predicting that 33.6 per cent of them have probabilities of strategic voting greater than 0.25. In sum, the probit model in Table 3 distinguishes between non-strategic and strategic voters with a reasonable amount of precision.

Unlike in the case of linear regression, though, explanatory power is not synonymous with predictive power. In terms of overall prediction accuracy, the estimated probit model does not improve much on the naïve model, which predicts that everyone is not strategic, since the distribution of cases is highly skewed. Even so, if an assessment of prediction accuracy focuses on the non-modal category, which in the present case is of greater interest, the estimated probit model's performance is more favourable. For instance, if we wanted to use the naïve and estimated models to identify the 122 respondents who strategically switched parties, the estimated model would perform considerably better. The naïve model, since it does not distinguish between respondents in terms of their likelihood of strategic behaviour, would randomly choose 122 of the 901 respondents and hence correctly identify 13.5 per cent of the strategic switchers, on average. In contrast, the estimated model would select the 122 respondents with the highest predicted probabilities of strategic behaviour, thereby correctly identifying 34.4 per cent of the strategic switchers.

CONCLUSION

The theory of strategic voting suggests that the average voter is informed about politics and responds to political cues in an instrumentally rational fashion. New democracies, particularly the post-communist regimes, represent a challenging context within which to evaluate this theory because scepticism exists regarding the political sophistication of new democratic citizens. Also, the level of strategic voting in new democracies is generally thought to be low. These perceptions are reflected in concern about the possible negative implications of strictly sincere voting on party consolidation and system stability in new democracies. Hungary is a particularly compelling context in which to evaluate the strategic voting model since the null model of no evidence of strategic voting seems highly plausible. The Hungarian electoral system is complex and deviates significantly from the SMD norm, and hence we should not expect voters to respond strategically to wasted-vote situations. Democracy is also relatively novel in Hungary. Because much of the electorate was socialized under a non-democratic regime, we should not expect the average voter to have a sophisticated understanding of democratic politics. Moreover, the Hungarian party system has only had a short period in which to reach an equilibrium number of competing parties.

The strategic voting model predicts that voter co-ordination strategies favour

parties with better electoral prospects and penalize smaller parties with slim chances of election. If this were not the case, we would observe a relatively stable number of electoral parties over the post-communist period. Aggregate-level voting statistics clearly confirm that post-communist voters in Hungary conform to the strategic voting model. Voters vigorously penalized smaller parties thereby contributing to the rapid consolidation of the Hungarian party system.

While the aggregate-level results are persuasive, they represent only an indirect test of the strategic voting model's assumptions regarding the reasoning of the average voter. We also implemented a more direct test by analysing a national survey of Hungarian voters. We contend that the strategic vote should be conceptualized as a two-stage process: (1) the recognition of a wasted-vote situation, and (2) the decision to act on this opportunity given that the voter recognizes it. Our research design does not address the first part of the strategic vote calculation but rather identifies voters who would be likely to respond strategically to a wasted-vote situation if they in fact recognized its existence. Given Hungarians' relatively limited exposure to democratic politics, it seemed quite plausible that survey participants would not respond strategically to the wasted-vote situation. The results presented in this essay, however, clearly demonstrate the opposite outcome that a substantial number of Hungarian voters are strategic.

Once voters recognize a wasted-vote situation, what factors shape their decision to act on this opportunity? We examined two different explanations for heterogeneous responses to wasted-vote situations. One possible explanation for diverse responses to wasted-vote situations is information. Those with greater exposure to the media, higher levels of education and a more sophisticated understanding of politics may be better equipped intellectually to respond to a strategic voting opportunity. The empirical evidence presented in this article, however, leads us to reject this argument rather decisively. While media exposure and political sophistication might enhance the probability that voters learn about a wasted-vote situation, their levels of political information and sophistication do not significantly add to their likelihood of responding in a strategic fashion to a wasted-vote stimulus. The one exception to this generalization, we believe, represents a unique feature of post-communist regimes. Citizens born prior to 1970 have a significantly lower probability of strategic behaviour since their socialization under the old non-democratic regime makes them less likely to recognize a wasted-vote situation and to have sufficient familiarity and knowledge of the political landscape to respond to it.

We argue that the set of preferences individuals bring to the strategic voting decision contribute much more to the heterogeneity of strategic behaviour. Variations in individual political preferences make strategic voting either more or less costly and are hypothesized to be the central factor that differentiates between voters in terms of their likelihood of acting strategically. Our empirical results provide a resounding confirmation of this argument. Strategic voting is negatively correlated with strength of party attachments, government evalua-

tions (for opposition supporters), and major-party support. Those dissatisfied with the political system are less likely to engage in strategic voting. As hypothesized, the likelihood of strategic behaviour decreases with the voters' distance from their second preferred party choice. Finally, preferences that facilitate the identification of a focal point on which voters can co-ordinate strategic votes also are significant determinants in the individual-level model. Respondents who predict that an alternative party will win the election and who more positively evaluate PM candidates from alternative parties, relative to the PM candidate from their sincere party choice, are more likely to behave strategically. In sum, voter preferences constitute a critical motivating factor in the decision to act on a wasted-vote situation. Furthermore, voter preferences have impacts consistent with strategic voting theory.

Although this article's specific motivation is to provide evidence validating the strategic voting model, it is more generally motivated by a desire to demonstrate that voters, even in nascent democracies, have enough information to behave in a fashion consistent with democratic theory. In particular, the nuances of the multivariate individual-level model suggest that democratic citizens are not only sufficiently well informed to respond to wasted-vote situations, but also that their responses exhibit a rather sophisticated weighting of the costs and benefits associated with strategic behaviour.

Finally, we speculate that the occurrence of strategic voting in nascent democracies such as Hungary is a positive force for system stability since it implies that citizens do not view their party vote as an end in itself. To the extent that this holds, citizens will not reject the electoral laws or larger political system if their most preferred party plays only a marginal policy-making role or does not even achieve government representation. This positive implication for system stability is reinforced by our evidence that heterogeneity in strategic behaviour is attributable more to the issue positions and leadership of the major parties than to demographic characteristics. This evidence suggests that the scope of strategic voting should increase over time as Hungarian voters become more policy-oriented due to greater familiarity with the democratic process and knowledge of the major parties.

APPENDIX I: DESCRIPTION OF 1997 HUNGARIAN PUBLIC OPINION SURVEY

The 1997 Hungarian Public Opinion survey includes 1,544 respondents, interviewed from 26 November to 8 December. The survey questionnaire was designed by Raymond Duch, and translated and administered by TARKI. The survey sample is a probability sample, selected in multiple stages without proportional stratification. In the first stage, localities were divided into eight strata and then seventy-one localities were selected from these strata with simple probability sampling. In the second stage, the number of the individuals to be sampled from each strata was set according to the proportion of the adult population in that strata. These proportions were modified according to the presumed drop-out rate. The presumed drop-out rate for each strata was determined on the basis of 1996 Census characteristics.

The original sample was designed so that after drop-outs the final sample size should have been 1,700. As seen from the actual sample size, the drop-out rate was higher than expected, thus the sample is smaller than originally intended. The overall response rate was 55.6 per cent (i.e., 2,775 addresses were visited). The names and addresses of individuals were acquired from the Central Registration and Election Office with simple probability sampling. The average interview length was 57.67 minutes.

The demographic characteristics of the survey sample match those of the adult population relatively closely: 54.7 per cent of the sample are women compared to 53.1 per cent in the 1996 Census; 20.5 per cent reside in Budapest and 43.0 per cent reside in towns compared to 19.4 per cent and 43.7 per cent for the 1996 Census. The sample respondents are slightly older and less educated, however, than the adult population; 33.5 per cent of them are 18-39 years old and 45.7 per cent are 50 or older. In contrast, 39.9 per cent in the 1996 Census were 18-39 years old and only 40.1 per cent were 50 or older. Similarly, 11.8 per cent of the respondents are college or university educated, while 13.9 per cent of them have less than an elementary school education. These percentages compare to 13.0 per cent and 11.7 per cent for the adult population.

APPENDIX II: CODING OF EXPLANATORY VARIABLES

Appendix Table A1 summarizes the statistical features of the explanatory variables.

Born after 1970 is a dummy variable denoting the cohort that came 'of age' politically during the post-communist period. *Education* is the respondent's highest education qualification. It is coded 0 for did not attend school and less than elementary school, 1 for elementary school, 2 for vocational training, 3 for secondary school with a final examination, 4 for college degree and 5 for university degree.

Media Usage was constructed with a factor analysis (see Appendix III). The factor analysis includes the six questions below for which responses were coded from 1 for 'hardly ever' to 5 for 'every day', with 'don't know' responses coded 1.

> How often do you ever watch news on television?
> How often do you ever listen to radio news?
> How often do you ever read newspapers, magazines?
> Last month, how often did you watch TV broadcasts on the economic situation?
> Last month, how often did you listen to radio interviews on the economic situation?
> Last month, how often did you follow articles on the economic situation?

Political Sophistication is the interviewer's assessment of the respondent's general level of information about politics, ranging from 0 for 'very low' to 4 for 'very high'. 'Cannot decide' was coded 2.[55]

[55] For a discussion of the performance of knowledge measures based on interviewer assessments as compared to scales composed of direct knowledge tests, see John Zaller, 'Proposal for the Measurement of Political Information' (*Report to the NES Board of Overseers,* Center for Political Studies, University of Michigan, 1985).

TABLE A1. *Descriptive Statistics*

Explanatory variables	Mean	S.D.	Min.	Max
Born after 1970	0.15	–	0	1.0
Education	2.18	1.32	0	5.0
Media Usage	13.15	3.59	4.02	20.12
Political Sophistication	1.81	0.92	0	4.0
Major Party Supporter	0.903	–	0	1.0
Strength of Party Attachment	2.09	0.89	0	4.0
Government Evaluation* Government Party Supporter	0.29	0.62	−2.00	2.0
Government Evaluation* Opposition Party Supporter	−0.28	0.70	−2.00	2.0
Dissatisfaction with Political System	9.58	2.32	2.50	14.46
Extremity of Issue Options	2.79	1.15	0	4.50
Issue Distance of Closest Alternative	5.35	2.74	0	23.00
Issue Divergence of Alternatives	6.09	5.60	0	27.00
Average Evaluation of Alternative PM Candidates	−0.38	0.75	−2.00	2.00
Evaluation of First-Choice PM Candidate	1.16	1.00	−2.00	2.00
Predicted Winner Focal Point	0.296	–	0	1.00

Strength of Party Attachment measures 'how close' respondents are to the parties that they would vote for if a general election was held on the upcoming Sunday. It ranges from 0 for 'not close at all' to 4 for 'very close'. Respondents refusing to name a party or answering 'don't know' were coded as 0. *Major Party Supporter* is a binary variable coded 1 for respondents who stated that they would vote for the MSZP, SZDSZ, FIDESZ or FKgP, if a general election was held on the upcoming Sunday. *Government Evaluation* is constructed from coded responses to the following question, 'Based on the last three years how do you evaluate the Horn government?' Responses were coded from −2 for 'absolute negatively' to 2 for 'absolute positively,' with 'don't know' responses coded 0. *Government Party Supporter* and *Opposition Party Supporter* are binary variables denoting whether the party for which the respondent would vote was in the 1994 government or opposition. The government parties are MSZP and SZDSZ. All other parties are treated as being in the opposition.

Dissatisfaction with Political System was defined with a factor analysis (see Appendix III). The factor analysis includes seven variables constructed from the following questions:

To what extent do you agree or disagree with the following statements:
- Public officials are not interested in what people like me think.
- The Hungarian Parliament does not work properly because there are too many parties represented in the Parliament.
- People like me do not have a say in what the government does.
- Politics and governing sometimes seem to be such complicated matters that people like me do not really understand what happens.

If the general election was held on the upcoming Sunday, would you vote?

In your opinion, would it be better for our country if only one party formed the government after the election of 1998, or if a coalition of more parties governed the country?

How satisfied are you about the way the Hungarian democracy is working?

Responses to the first four questions were coded from 1 for 'fully disagrees' to 5 for 'fully agrees'. Responses to the fifth question were coded from 1 for 'would go for sure' to 4 for 'would not go for sure'. The sixth question was coded as a binary variable with 1 denoting preference for single-party government. Coded responses to the seventh question range from 1 for 'not satisfied at all' to 4 for 'very satisfied'. The factor analysis excludes 'don't know' responses but they were used to construct *Dissatisfaction with Political System* – coded 3 for the first four questions, 2.5 for the fifth question, 0 for the sixth question, and 2.34 (sample mean) for the seventh question.

Extremity of Issue Opinions is the average magnitude of centre-deviated responses to ten-point issue questions on state control of the market economy, the treatment of Hungarian minorities in neighbouring countries, and the role of the Church in politics. The codebook presents the ten-point scales for these questions. We subtracted 5.5 from the coded responses to the issue questions and then took the absolute values of these differences. The magnitudes for 'don't know' responses were set equal to 0. *Extremity of Issue Opinions* is the average of these magnitudes.

Issue Distance of Closest Alternative is the total perceived distance between the positions of the respondents and their closest alternative parties on three issues: state control of the market economy, the treatment of Hungarian minorities in neighbouring countries, and the role of the Church in politics. The set of alternative parties is the eight parties that respondents were asked to place on these three issues (i.e., MSZP, SZDSZ, FIDESZ, FKgP, MDF, KDNP, Workers' Party and Hungarian Life and Truth Party), excluding the party for which the respondent would vote in a general election. We calculated the total perceived distance for each party by summing the absolute values of the differences between the respondents' issue positions and their party placements. We then selected the party with the smallest total perceived distance as each respondent's closest alternative. For respondents who placed themselves but refused to place a particular party, we used the distance between the respondent's issue position and the sample mean placement of the party. For those who refused to place themselves, we used the distances between the sample means of respondents' issue placements of themselves and the parties.

Issue Divergence of Alternatives is the difference between the total perceived issue distances of the respondent's most distant and closest alternative parties. The calculation of total perceived issue distances is described in the definition of *Issue Distance of Closest Alternative*. We identified each respondent's most distant and closest alternative parties in the same manner as for *Issue Distance of Closest Alternative*, where the most distant alternative party has the largest perceived total distance. For those who refused to place themselves or had more than one alternative party, *Issue Divergence of Alternatives* was coded as zero.

Average Evaluation of Alternative PM Candidates is the average evaluation of prime minister (PM) candidates from major alternative parties. As with *Major-Party Supporter*, we identified the major parties as MSZP, SZDSZ, Fidesz and FKgP. For each respondent, the set of major alternative parties includes the major parties for which the respondent would not vote if a general election was held on the upcoming Sunday. Respondents were asked to evaluate the leader of each party on his abilities to serve as PM, using a five-point scale. These ratings range from -2 for 'unable' to 2 for 'able' with 'don't know' responses coded as 0. *Average Evaluation of Alternative PM Candidates* is the average of these coded responses for the set of major alternative parties.

Evaluation of First-Choice PM Candidate is the evaluation of the PM candidate from the party for which the respondent would vote in a general election. Respondents were asked to evaluate the leader of each party on his abilities to serve as PM, using a five-point scale. These ratings range from -2 for 'unable' to 2 for 'able' with 'don't know' responses coded as 0. Finally, *Non-sincere Party Predicted Winner* is a binary variable coded 1 for respondents who predicted a different election winner than the party for which they would vote in a general election.

APPENDIX III: FACTOR ANALYSIS RESULTS

Table A2 presents the factor analysis results used to construct *Media Usage* and *Dissatisfaction with Political System*. In each case, we conducted a factor analysis with Principal Components extraction and no rotation. The coding of the items included in each factor analysis is described in Appendix II. When there was more than one component with an eigenvalue greater than one, we used the factor loadings for the component with the highest eigenvalue to construct the corresponding scale.

TABLE A2. *Factor Analysis Results*

	Factor Loadings	
Factors	Component 1	Component 2
Media usage		
Exposure to general news on television	0.587	− 0.107
Exposure to economic news on television	0.770	0.002
Exposure to general news on radio	0.546	0.627
Exposure to economic news on radio	0.731	0.488
Exposure to general news from print media	0.628	− 0.552
Exposure to economic news from print media	0.761	− 0.400
Eigenvalue	2.744	1.107
% of variance	45.7	18.5
N	1,526	
Dissatisfaction with political system		
Public officials are not interested in what people like me think	0.658	0.102
People like me do not have a say in what government does	0.516	0.224
Politics and government is too complication to understand	0.626	0.287
Likelihood of voting if election was held on upcoming Sunday	0.424	− 0.544
Satisfaction with democracy	− 0.316	0.728
Dissatisfaction with party system	0.706	0.243
Preference for single-party government	0.545	− 0.136
Eigenvalue	2.167	1.046
% of variance	31.0	14.9
N	1,183	

Notes: Component 3 of the factor analysis for *Media Usage* has an Eigenvalue of 0.864 and accounts for 14.4 per cent of variance. Component 3 of the factor for *Dissatisfaction with Political System* has an Eigenvalue of 1.009 and accounts for 14.4 per cent of variance.