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Paul Abramson, *Michigan State University*

John Aldrich, *Duke University*

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Comparing Strategic Voting under FPTP and PR

by

Paul R. Abramson, Michigan State University

John H. Aldrich, Duke University

André Blais, Université de Montréal

Matthew Diamond, Community Midrasha of Durham & Chapel Hill, NC

Abraham Diskin, The Hebrew University of Jerusalem

Indridi H. Indridason, University of California at Riverside

Daniel J. Lee, Michigan State University

Renan Levine, University of Toronto

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A B S T R A C T

Based on recent work that suggests that voters in proportional representation (PR) systems have incentives to cast strategic votes, we hypothesize that levels of strategic voting are similar in both first-past-the-post (FPTP) and PR systems. Comparing vote intentions in majoritarian elections in the United States, Mexico, Britain, and Israel to PR elections in Israel and the Netherlands, we find that a substantial proportion of the voters desert their most preferred candidate or party and that patterns of strategic voting across FPTP and PR bear striking similarities. In every election, smaller parties tend to lose votes to major parties. Since there tends to be more small parties in PR systems, tactical voting is actually more common under PR than under FPTP. The findings suggest that, whatever the electoral system, voters focus on the policy consequences of their behavior and which parties are likely to influence policy outcomes following the election.

Introduction

The social choice literature has examined the question of whether electoral systems provide opportunities for strategic behavior. The Gibbard-Satterthwaite theorem provides a clear answer (Gibbard, 1973; Satterthwaite, 1975). Only voting systems that meet the conditions of Arrow's theorem are strategy-proof (that is, is immune from rational deviations from "sincere" voting).¹ Thus, since dictatorship is the only preference aggregation rule that satisfies Arrow's conditions, it is logically possible that strategic voting will be found in proportional representation (PR) systems much like strategic behavior is found in extensively examined first-past-the-post (FPTP) systems.

Until recently, though, many scholars believed the incentives for strategic voting to be much weaker in PR systems, since even parties with the support of only a small fraction of the public will likely gain representation in the legislatures. Recent analyses (Aldrich et al., 2005; Adams, Merrill and Grofman, 2005; Bargsted & Kedar, 2007; Cox, 1997; Kedar, 2005a; Kedar, 2005b; Rosema, 2004) argue voters in PR systems face similar incentives to cast a strategic vote. Although the distinction between weak and strong candidates may not be as relevant a motivation as in FPTP systems, voters in PR systems may face additional incentives rooted in institutions beyond the electoral system. For example, the need to form a multi-party coalition government in PR systems creates incentives for voters to vote strategically (or tactically) for parties other than the one whose policies (or leadership) they most prefer.

The existence of strategic opportunities does not imply that voters will act on them. How many voters actually vote for parties other than their favorite is still an open question. No attempt has ever been made to systematically compare levels of strategic voting across FPTP and PR systems. In this paper, we compare vote intentions in two "pure" PR systems, Israel and the

Netherlands, to FPTP elections in the U.S., Mexico, England, and Scotland, and a run-off election for the Israeli prime minister in 1999 in order to test whether strategic voting is really more prevalent in FPTP than PR systems. For each of these elections, we analyze pre-election survey data about vote intentions.

In sharp contrast with the view that voters face weak strategic incentives in PR systems, we find that a high number of voters intended to cast strategic votes in PR systems. Under both FPTP and PR, the largest parties win the votes of the vast majority of their supporters (as measured by the respondents who ranked the party the highest using a battery of feeling thermometers). Smaller third- (or fourth-) parties do not retain nearly as high a percentage of their supporters. While the propensity of voters to desert their most favorite party appears similar in FPTP and PR system, the proliferation of small parties under PR, and the greater number of voters ranking small parties first, implies that strategic voting may be even more prevalent in PR systems than under FPTP.

Theoretical Considerations and Definitions of Key Terms

According to Duverger's (1963) Law, first-past-the-post (FPTP) electoral systems produce a two-party system. Duverger argued that this was the result of two effects produced by FPTP systems. First, the "mechanical factor" of FPTP systems allocates a disproportionate share of the legislative seats to large parties. Second, a "psychological factor" causes voters to strategically defect from their preferred candidate because of concerns that their votes will be wasted on a hopeless cause.

Consequently, one might expect FPTP systems to yield larger numbers of strategic deviations from the party that tops the voters' preference-rankings, or "direct" preference. The

simplicity of FPTP makes it easy for voters to ascertain when casting a strategic vote would be worthwhile and what actions are strategically desirable.

In contrast to FPTP, legislatures elected via proportional representation (PR) systems can be designed to reflect minute changes in the share of the vote won by each party and to guarantee representation for all but the tiniest of parties, obviating the mechanical factor. As a result, PR systems tend to have more parties, increasing the odds that voters will find a party able to gain representation that shares their policy preferences. Few votes are wasted. Therefore, scholars have often assumed that the “psychological factor” is largely absent in PR systems.

Contrary to the claim that the psychological factor, and therefore strategic voting, is largely absent under PR, Cox & Shugart (1996) found evidence of strategic voting in multi-member districts using a variety of voting rules. However, Cox (1997) conjectures that the incentive to act strategically to influence representation more or less vanishes when district magnitude (M) is greater than five. He points out that, in general, the question is whether the voter prefers the candidate she expects to place M^{th} , which wins a seat, to the $M+1^{th}$ (runner up) candidate. As district magnitude increases, the informational requirements placed on the voter become ever more unwieldy: The voter must have more accurate information about the expected vote share and understand how the expected results benefit the candidates competing for the last seat. This diminishes the likelihood that the voter will vote strategically to maximize the number of seats won by a party, but does not preclude voting strategically for other reasons.

A common assumption in the literature on strategic voting is that instrumental voters are motivated by considerations of how their votes affect the policy outcome. In FPTP systems with single-party governments, these considerations are uncomplicated and directly related to representation. Under PR, Adams et al. (2005), Duch et al. (2007), and Kedar (2005a) argue that

voters' preferences over policy outcomes induce a preference ranking of the parties. In PR simply gaining representation may not give a party much influence over post-election policy-making because parties outside of the governing coalition have little input into policy-making. In countries where the norm is multi-party coalition governments, voters may consider the potential coalitions that may form, the bargaining power of parties in the policy making process within the legislature or the governing coalition, and who is likely to lead the government. Cox (1997) describes one variation of this behavior as "portfolio maximizing" in contrast to "seat maximizing" behavior. Maximizing these considerations may lead a voter to cast a strategic vote for a party other than the one that best represents the voter's policy preferences.

These incentives are not exclusive to PR systems. A considerable literature, for example, investigates whether American voters actively seek to have divided government, where different parties control the different institutions. A preference for the expected policy outcomes that result from divided government leads strategic voters to split their votes between parties (see, for example, Fiorina, 1992; Lacy & Paolino, 1998; Mebane, 2000). Likewise, German voters will split their ballots to ensure the participation of small party in a governing coalition (Gschwend, 2004).

It is useful at this point to clarify what we understand sincere and strategic voting to mean in this context. *Sincere voting* describes behavior in which the voter simply casts her vote for the party she most prefers, irrespective of any other considerations. Thus, the party's electoral prospects and the expected effect of the voter's choice on the outcome of the election do not factor into her decision. *Strategic voting*, on the other hand, implies that the voter evaluates how her vote will influence the outcome and casts her vote so as to obtain as favorable an outcome as possible. Strategic votes depend on the strength of the voters' preferences for their first choice

relative to their preferences for their second choice, voters' expectations about how each candidate (or party) will do in the election and the candidate's (or party's) subsequent ability to influence policy outcomes. Since we define sincere and strategic voting in terms of how the voter reaches a decision rather than what action she takes, her observed vote choice can be consistent with both sincere and strategic voting. Strategic party supporters may come to the conclusion, after due consideration of *both* their preferences and expectations, that their best choice is to support their favored party. Indeed, voting for one's favorite party should be a common conclusion, especially for those who most prefer the most popular parties.

The literature on strategic voting has often failed to appreciate the distinction between definitions of strategic voting in the formal theory literature and empirically observed strategic voting. To make this distinction clear in the remainder of the paper we will use *strategic scrutiny* to refer to the assumption that voters consider how their vote choices influence policy outcomes and *tactical voting* to refer to instances in which a voter does not cast a vote for her most preferred candidate. In other words, we say a voter votes tactically when her strategic considerations lead her to abandon her most preferred candidate.

Our definition of strategic scrutiny implies that more voters act strategically than most previous analyses that generally only focus on what we have termed tactical voting (see Alvarez & Nagler, 2000). Generally tactical voters cast their vote for a candidate with a better chance of winning than their most preferred party because they perceive their chance of being pivotal to be greater. However, if we broadly understand strategic voters as those who take into account the expected outcome of the election, then we include those voters whose sincere and tactical votes coincide.

According to this view, many strategic choices happen to be observationally equivalent to sincere voting, but they come about for different reasons, i.e., the voters take account of the expected outcome in arriving at the decision how to cast their votes. Farquharson (1969) aptly called this coincidence between sincere and strategic reasoning a “straightforward” choice, since preferences and expectations point in the same direction. In a three-candidate race in FPTP, it follows that no less than two-thirds of the electorate must face a straightforward choice because the top two contenders necessarily have the support of at least 66.7% of the electorate between them. Tactical voters can then be described as the subset of those voters that do not face a straightforward choice and act on incentives to cast a vote for someone other than their most preferred candidate.

In FPTP systems, *major parties* are the top vote-getters in every election. Following American conventions, we call the smaller parties “*third parties*,” but use the designation “*fourth party*” when there are three major parties or when we need to differentiate between small parties like the British Greens (who have never won a seat in Westminster) and somewhat larger parties like the Liberal Democrats (who are competitive with the major parties in some constituencies). In Israel, the Netherlands and Scotland the distinction between major parties and minor (third- or fourth-) parties is not as simple as in the U.S. and England because the competitiveness of individual parties tend to fluctuate and the major parties are not always the largest ones.² Generally, the analogous major parties under PR enjoy some combination of size and a location in policy space somewhere near the center of the political spectrum that enable them to seriously entertain ambitions of leading the government. For consistency and to make inter-election comparisons clear, we treated a major party as such in every election even if its vote shares dropped in one election.

Note that strategic scrutiny does not imply that all those that prefer third (or fourth) parties will desert the party in favor of another party. A third-party supporter that is indifferent between the two major parties has no incentive to desert the third-party candidate, nor will a strategic voter defect if her vote is highly unlikely to influence the election outcome (or post-election bargaining).

In this paper, we compare the number of voters who vote sincerely with those whose behavior conforms to strategic scrutiny. To consider the extent to which voters act sincerely we compare voters' preferences for a candidate or party with their intended vote. This is a common method that utilizes frequently available feeling thermometer data for the candidates (or parties) to create an individual-level ranking of each of the competitors. We assume that the candidate or party ranked the highest using the feeling thermometers is the respondent's *favorite candidate or party*. Sincere and straightforward voters intend to vote for their favorite option.

Table 1 shows the expected distribution of vote intentions under sincere voting behavior and strategic scrutiny for two- and three-way competitive elections (Niou, 2001; see also Kselman & Niou, 2005). If all respondents vote sincerely, all observations would fall on the main diagonal as in Table 1-I. If, however, all respondents engage in strategic scrutiny, there would be 100% on the main diagonal for the Republican and Democrat Party nominees in the standard U.S. setting, while those who most preferred the third candidate would be scattered across the various columns (see Table 1-II). The same logic applies to situations with three competitive alternatives. In these elections, the first three rows of the table would all have strategic voters voting straightforwardly and thus all choices falling on the main diagonal of the first three rows. Only in the fourth row are strategic and sincere voting not observationally equivalent (see Table 1-III).

In the following analysis, we consider whether the assumption of strategic scrutiny is helpful in explaining patterns of vote intentions. In considering the assumption of strategic scrutiny, we use “apparent strategic scrutiny” to describe the observed pattern for three reasons. First, as we noted above, at least two-thirds of the electorate faces straightforward choices and so most of the data cannot be used to address the question. Second, our evidence is exclusively preference-based. These tables do not account for voters’ expectations about the election outcome, which shape their incentives to vote strategically. Finally, following Niou (2001), we assume that tactical voting only involves deviations from minor parties to competitive parties.³ Thus, the questions we seek to answer are: First, what share of the vote can’t be explained by sincere voting behavior but can, potentially, be explained by strategic voting; and second, whether there are similarities in how useful the strategic scrutiny assumption is in explaining vote intentions across different electoral systems.

[Table 1 about here]

Evidence of Apparent Strategic Scrutiny in Vote Intentions

Majoritarian Systems (FPTP and Run-off)

The American National Election Studies includes pre-election feeling thermometer and vote intention data for third party candidate who won at least 2% of the vote in four elections: 1980, 1992, 1996, 2000. We present these results in Tables 2A – Table 2D. These tables closely approximates the patterns presented in Table 1, at least if mentally adding in some measurement error. We show that Niou’s hypothesis is statistically supported, in the following sense. Suppose we assume that the 95% of those who most preferred a Democrat or a Republican and voted for him is essentially the expected 100% with a modest level of measurement error (modest for survey data, at least). Since no major party candidate won less than 95.8% of the

votes, the results satisfy the first part of the hypothesis – that strategic (as well as sincere) voters [nearly] always support their most preferred candidate, if that candidate is the most or second-most likely to win.

[Table 2A-Table 2D about here]

The third party candidates won a much lower percentage of the votes of those respondents who most preferred them. Ross Perot in 1996, won the highest percentage, with 68.1% of his supporters' vote. In contrast, only 26.6% of the supporters of Ralph Nader intended to vote for Nader. More than half of Nader's supporters intended to vote for Al Gore.

We can next ask if the proportion that supports their most preferred party/candidate differs between the groups who most favor a major party/candidate and those who most favor the third party/candidate using a simple difference of proportions test. Not surprisingly, the difference between the percentage of supporters intending to vote for a major party candidate and the small percentage of supporters who intended to vote for a minor candidate was significant for every election at $P < 0.01$.

We can also ask the magnitude question more precisely, via an analogue of the proportionate reduction in error (PRE) measure. If everyone voted sincerely, every observation would fall on the main diagonal in Table 1. Thus, if we assume sincere voting, the number of observations in the off diagonal cells tells us how many errors there are in the data. We can compute a similar number of errors for apparent strategic scrutiny by counting the observations in the off-diagonal cells of the first two rows in the 3x3 case or the first three rows in the 4x4 case but not the observations in the last row. The quantity of off-diagonal entries in the last row is a measure of success for apparent strategic scrutiny (or tactical voting) relative to sincere voting. We can then compute the PRE statistic as the ratio of the reduction in error in

predictions between sincere voting and strategic scrutiny assumptions to the total number of errors in the sincere voting case. If apparent strategic scrutiny predicts no additional cases correctly, the PRE is 0% but if all sincere errors fall in the off-diagonal cells of the last row, then the statistic is 100%. In Table 2A there are a total of 79 errors in the sincere voting case, 59 of which were consistent with apparent strategic scrutiny and tactical voting (i.e., in the off diagonal cells of the third row) resulting in a PRE score of 74.7%. We conclude that the apparent strategic scrutiny hypothesis gives a significantly and substantively better fit to the data than does the sincere voting hypothesis. Even stronger results are found in 1992 and 2000, with a PRE in 1992 of 77.5% and a PRE in 2000 of 80%. In 1996, the relatively high level of loyalty shown by supporters of all three candidates resulted in a PRE of 52.9%.

In Tables 2E-2H we report the results for three additional races conducted in majoritarian systems, the Israeli prime ministerial contest of 1999 (majority run-off), the Mexican presidential election of 2000 (FPTP), and the British legislative election of 2005 (FPTP).⁴ These cases give us another example of a three candidate races with only two strong candidates, a case with three candidates that appeared to have a chance of winning, and two cases with more than three parties.

[Table 2E-Table 2H about here]

The first case, the 1999 Israeli race for Prime Minister was, in principle, a runoff contest. If no candidate received a majority in the first round, the top two contenders would meet in a second round. The PM race had three serious contenders: Yitzhak Mordechai (Center Party), Ehud Barak (Labor), and Benjamin Netanyahu (Likud). As we would expect for an essentially pure FPTP system with clear front-runners, the pattern in Table 2E looks very much like the pattern from the U.S. Only a few who most preferred the major parties' candidates planned to

vote for someone else. A good many more, a full quarter of those that most preferred Mordechai planned to “defect” and vote for another candidate. This difference in proportions is statistically significant, with a PRE of 41%. Evidence reported in Abramson et al. (2004) indicates that those interviewed in the second half of the surveying period defected from Mordechai in very high proportions, and indeed such polling results served as the impetus for Mordechai to withdraw on the eve of the election.

In Mexico in 2000, there were three presidential candidates. Unlike in the United States, there was no clear consensus among Mexican respondents in the last pre-election wave of the 2000 Mexican Election Panel study over who would win. Most voters pegged Vincente Fox of the moderately conservative Partido Acción Nacional (PAN) or Francisco Labastida of the Partido Revolucionario Institucional (PRI), the long-time ruling party, as the favorite, but less than 20% thought that *both* Fox and Labastida had a better chance of winning than Cuauhtémoc Cárdenas of the Partido de la Revolución Democrática (PRD), on the left.⁵ Almost 90% of those that preferred the two leading candidates intended to vote for them (see Table 2F), which is a slightly lower percentage than we observed in the U.S. and Israel. Given that nearly eight in ten thought that Cárdenas had at least as good a chance of winning as one of the other two candidates, we would expect the uncertainty about the outcome to greatly attenuate the incentives to defect from one’s favored choice. Indeed, almost 83% of those who liked Cárdenas best intended to vote for him, much more than the percentage of third party supporters who intended to vote for their favorite candidate in the US.⁶ Since there were almost as many defections from the major candidates as there were from the third candidate, the PRE analogue is a much lower 25%.

The 2005 British legislative elections were contested by the usual two major parties (the Labour Party and the Conservatives), a significant third party (the Liberal Democrats), a couple of smaller “fourth” parties (the Greens and the United Kingdom Independence Party), as well as several regional parties. Although only the Labour and Conservative parties can be considered the competitive parties at the national level, the Liberal Democrats are nevertheless competitive in some constituencies and won 62 seats. We therefore present the vote intentions of voters who most favored the Liberal Democrats and the “fourth” parties separately. Because the Liberal Democrats are competitive in relatively few constituencies, our expectation remains that Labour and Conservative supporters predominantly vote straightforwardly for their most preferred party, while all others are more likely to defect to one of the frontrunners.⁷ We examine the Scottish respondents from the same survey separately. The Scottish National Party (SNP) is quite popular and is a serious contender for winning seats to the national parliament. We also consider this (at least at the national level) as an instance of the 3x3 case, but have listed all five parties rated.

In England, the Labour and Conservative parties held on to very high percentages of those who most preferred them, while the Liberal Democrats held on to “only” 78% of those who most preferred them (see Table 2G). “Fourth” parties (Greens and UK Independence) fared poorly, as only 21% of those who ranked these parties the highest intended to vote for the party.

The results for Scotland are also largely in line with our expectations with the exception of the Conservative party, which, despite coming in third or lower in each election since 1997 managed to hold on to 97% of the voters that most preferred the party. Relative to Labour and the Conservatives, the SNP and the Liberal Democrats suffered from defections (see Table 2H). The Greens failed to even hold onto 10% of their supporters. One potential explanation for these

patterns is that the identity of the two frontrunners varies considerably more across constituencies in Scotland than in England. Moreover, the total number of constituencies in Scotland was reduced from 72 to 59, so that there was a substantial change in constituency boundaries between the 2001 and 2005 General Elections, which might create additional uncertainty in voter expectations. However, in both England and Scotland, the PREs are fairly substantial (56% and 62%, respectively) and the differences in proportions tests between sincere voting and apparently strategic scrutiny are statistically significant.⁸

PR Systems

The Netherlands and Israel employ a form of PR where the entire country is one district (M=150 and 120, respectively) and the threshold of representation is low. If voters are only interested in seat-maximization, we should not expect similar patterns of strategic scrutiny in these countries. Table 3 reports the proportion of voters that voted for their most preferred party in five PR elections, treating these cases akin to FPTP. The cases for comparison are the 1999, 2003, and 2006 Israeli Knesset elections, and the 1998, 2002 and 2006 Dutch elections. Like in the tables above, we consider each of the large, major parties separately while grouping the small parties together. For purposes of comparison to the FPTP cases, the only tactical choices we consider involve defecting from a minor party to a major party. In this way, we compare only like behavior to see if the different systems yield similarities.

[Table 3 about here]

The 1999 Knesset vote occurred simultaneously with the vote for Prime Minister discussed above. For the 1999 Knesset vote, we observed preferences for five parties: Barak's Labor Party, Netanyahu's Likud Party, Mordechai's Center Party, left-wing Meretz and a

religious party, Shas.⁹ In 2003, we observe preferences for eight parties including Labor and Likud. In 2006, the emergence of Ariel Sharon's Kadima party obliges us to present the case as a 4 x 4 table with three major parties.¹⁰ In 2006, we have feeling thermometer data for four additional small parties.

[Table 4 about here]

There is sufficient variation across the three elections to warrant presenting each of the results separately. In Table 3A, we present the results from cross-tabulating the party preferences and the voting intention in 1999. More than 93% of the supporters of Labor and Likud intended to vote for their favorite party. Only 61.3% of those who ranked Center, Meretz and Shas highest intended to vote for that party.¹¹ The high levels of defections from the "third" parties make these results look much like the results for the FPTP elections. The difference in proportions of defecting from the most-preferred party is statistically significant. The proportional reduction of errors between sincere voting and strategic voting is 50.8%.

Concerned that the direct-election of the Prime Minister only encouraged voters to cast votes for small parties, Israel eliminated these elections and the last Prime Ministerial election was held in 2001 (Kenig et al., 2005). Ironically, in the next election, the rate of defection from Labor and Likud rose. In 2003, Labor and Likud held onto 81.9 and 90.2 percent of their support, respectively (see Table 3B). Those who most favored one of the remaining parties held on to 72.5 percent. Likud was the recipient of most of these defections. Aldrich et al. (2005) argue that many of the defections were strategic attempts to influence an expected Likud-led coalition. The PRE analogue for this pattern is 61.7%.¹²

As we noted above, there were three major parties in 2006, as Labor and Likud trailed the newly formed Kadima Party in the polls. In Table 3C, we see a familiar pattern, in which the

three major parties held on to over 93% of those who favored them, while less than 80% of those who most preferred another party reported voting for it. This difference is statistically significant, with a PRE score of 55.8%.

In the three Dutch Parliamentary elections in our analysis, there are three large parties: the Partij van de Arbeid (Labour Party or PvdA), the liberal Volkspartij voor Vrijheid en Democratie (People's Party for Freedom and Democracy or VVD) and the Christen Democratisch Appèl (Christian Democratic Appeal or CDA). Over the past thirty years, two of these three parties have ruled together in a coalition government, often with a smaller party, but the VVD has never been the largest party nor supplied the Prime Minister. The data on voter preferences are very rich for 1998 and 2002 because the Dutch Parliamentary Election Studies include feeling thermometer data for all of the parties that won seats in either election, plus two parties in 1998 that failed to cross the threshold. In 2006, the survey included thermometers for six parties.

The results from the Dutch election studies are also consistent with our expectations. We present results from 1998 election in Table 3D, the results from the following election in 2002 in Table 3E, and the results from 2006 in Table 3F (there was no pre-election survey in 2003). In each election, about 95% of those who ranked the CDA the highest on the thermometers intended to vote for their favorite party. The other two parties did not consistently retain their supporters' votes under very different circumstances. In 1998, only 86.8% of the PvdA's supporters intended to vote for the PvdA even though the party won eight more seats in that election compared to the previous parliament. In 2002 and 2006, this percentage rose to 93.1% and 92.5% respectively, even as the party lost seats compared to the previous parliament. In 1998, 97% of the supporters of the VVD intended to vote for the VVD. In 2002, only 88% of

those who most preferred the VVD intended to vote for the party in an election that saw the VVD lose fourteen seats. The low percentage of supporters won by the VVD in 2002 was still higher than the percentage of respondents who preferred a “fourth” party and also intended to vote for that party. In 1998, 69.8% of these respondents intended to vote for the party they most preferred. In 2002, the percentage rose to 74.6%. In 2006, about the same percentage of supporters of two of the three “fourth parties” for which we have data, the Socialist Party (SP, the third largest party in the Tweede Kamer in that election, 72.4%) and the GroenLinks (74.2%), intended to vote for their favorite party. The third party, Democrats 66 (D66), won only 3% of the vote after less than 10% of the party’s supporters actually intended to cast a vote for the party, causing the overall percentage to decline to 66.2%. The PRE in 1998 was 56.3%, 57.5% in 2002 and 56.5% in 2006.

Summary of Results

A comparison of the patterns of voting intentions in FPTP-systems (Tables 2A-2H) and in PR systems (Tables 3A-3F) reveals strong similarities. First, the major parties in both types of systems are highly successful in holding onto those voters who most prefer the party. There are, of course, differences in what constitutes a major party in each type of system. While there is no well defined criteria for determining which parties are considered major parties on those terms the results are unambiguous: certain, usually larger, parties, are successful in holding onto their supporters.

Second, voters who prefer minor parties are relatively more likely to defect and vote for one of the major parties in both FPTP and PR systems. As a result, we find a similar proportional reduction in errors across many elections conducted using different electoral rules and under varying electoral circumstances and fortunes. Arguably, there is considerable variance

in the percentage of minor party supporters that stick with their most preferred party. Defections badly hurt the smallest parties with dispersed support in England and Scotland. However, our data also indicate that the desertion rates do not depend much on the type of system, since between 60-80% of many “third” or “fourth” party supporters in Israel, the Netherlands, the U.S. and Britain intended to vote for their favorite party (see Table 4). In Mexico, where the third party was seen as having a chance of finishing in the top two, we observe the highest percentage of supporters intending to cast votes for that party. Consequently, we also observe the lowest PRE for Mexico.

These observations have an interesting implication for our understanding of how institutions influence voting behavior. Since PR elections are generally contested by more parties the expected policy distance between a voter and the party that best represents his policy preferences will, other things being equal, be smaller. That party is also less likely to be one of the major parties. Thus, the number of voters that most prefer a minor party will generally be larger and, thus, the set of voters who may have an incentive to defect from their preferred party will be larger. Since our data indicate that the defection rates to large parties across the two systems are fairly similar, we can conclude that more voters vote tactically in PR systems than in FPTP systems. This is reflected in the higher PRE statistics for PR systems.

Conclusion

In conclusion, we find that the sincere voting hypothesis does a poor job of predicting the intended vote of voters who most prefer third parties, and that these defections are apparently consistent with the strategic scrutiny assumption. An even more interesting and striking aspect of our findings is that there is very little difference in these patterns of defections across the

different electoral systems. Indeed, they are barely distinguishable by our measures. That is, strategic considerations are just as valuable for understanding the patterns in PR as in the FPTP elections.

We can only speculate as to what motivates tactical voters in PR systems. Indridason (2008) offers a formal model that highlights the three types of incentives voters face when policy choices are made by post-electoral coalitions. First, voters have an incentive to vote for parties that are likely to be included in the governing coalition as votes for coalition parties have greater impact on policy outcomes. This incentive corresponds to the notion of voters as “portfolio maximizers” (Aldrich et al., 2005; Bargsted & Kedar, 2007; Blais, Loewen, & Bodet, 2004; Bowler, Donovan, & Karp, 2007; Cox, 1997; Meffert & Gschwend, 2007; Rosema, 2004). Second, voters have an incentive to influence the identity of the formateur since the formateur influences which coalition forms. The formateur party may also enjoy disproportionately more cabinet and policy clout relative to the size of the party (Ansolabehere et al., 2005). Third, given a government coalition, voters have an incentive to vote for a coalition partner that is more extreme than they are themselves to pull the policy outcome closer to their preferred policy (Kedar, 2005a).

Another factor that appears to facilitate tactical behavior is that the circumstances under which a voter might consider voting for a party other than their favorite may be broader and less dramatic when there are many parties (such as is common under PR) and more than one party may be an acceptable option (Arian & Shamir, 2002; Gschwend & Hooge, 2008; Tillie, 1995). When choosing among several desirable parties, voters who pursue portfolio maximizing or policy balancing strategies may support a small party instead of their favorite if the party is likely to be included in the governing coalition (see Aldrich et al., 2005). If this is the case, then even

some of the voting behavior which we treat as either sincere or strategic, and therefore do not factor into the PRE analogue we report above, may indeed be the product of strategic scrutiny.

Future scholarship should focus on understanding what causes strategic voting. The high rate of defections from some small parties without geographic concentrations of support in both Britain and the United States indicates that it would be premature to dismiss Duverger's observation that there is a psychological effect that leads to concerns that votes will be wasted. However, the similarities between the elections across the different systems indicate that Duverger's observation should not be treated as necessary or sufficient for the establishment of a two-party system.¹³

The next step would appear to be for scholars to turn their attention to a comparison of voter expectations that may buttress the psychological factor. In this paper, we only used data about voter preferences. With data about expectations for both parties and post-election coalition considerations, scholars can test models that might explain the behavior we have described in both systems. Sadly, cross-national data about such expectations are difficult to come by despite their potential contribution to our understanding of how electoral systems shape voting behavior. Fortunately, there will always be another election in each of the countries we have examined, so perhaps future election studies will include a battery of expectations along with the data on preferences we analyze here.

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Appendix: Information about the American, Israeli, British, Mexican, and Dutch Surveys.**American National Election Studies**

Burns, N., Kinder, D. R., Rosenstone, S. J., & Sapiro, V. AMERICAN NATIONAL ELECTION STUDY, 2000. The pre-election survey was in the field starting on September 5, 2000, and consisted of 1,006 face-to-face interviews and 801 telephone interviews.

Rosenstone, S. J., Kinder, D. R., Miller, W. E., & the National Election Studies. AMERICAN NATIONAL ELECTION STUDY, 1996: PRE- AND POST-ELECTION SURVEY. This study included 1,316 interviews conducted with empanelled respondents who had been interviewed in 1992 and/or 1994, and 398 with new respondents.

Miller, W. E., Kinder, D. R., & Rosenstone, S. J. AMERICAN NATIONAL ELECTION STUDY, 1992: PRE- AND POST-ELECTION SURVEY [ENHANCED WITH 1990 AND 1991 DATA]. Includes 2,485 respondents from the 1992 Pre- and Post-Election surveys; 1,359 individuals of whom also participated in the 1990 Post-Election survey (ICPSR 9548) or in the 1991 Political Consequences of War survey (ICPSR 9673), or both.

Miller, W. E., & the National Election Studies/Center for Political Studies. AMERICAN NATIONAL ELECTION STUDY, 1980

The data are available at: <http://www.electionstudies.org>

British Election Study, 2005

David J. S., Whiteley, P. F., Clarke, H. D., & Stewart, M. BRITISH ELECTION STUDY 2005. Colchester, UK: University of Essex. The pre-campaign 2005 British Election Study used face-to-face interviews using a sample of people 18 years of age or older drawn from the British postcode address file. There was a booster sample for Wales and Scotland. Fieldwork was conducted by the National Centre for Social Research (NATCEN) under the supervision of Research Director, Katarina Thomson. The *N* for the pre-campaign survey is 3,589.

Data and questionnaires are available at: <http://www.essex.ac.uk/bes/>

Dutch Parliamentary Election Studies

Aarts, K., van der Kolk, H., & Kamp, M. DUTCH PARLIAMENTARY ELECTION STUDY, 1988, ICPSR version, 1999. The pre-election wave of face-to-face interviews was conducted from March 30 through May 5, 1998, before the May 6 election to the Netherlands Second Chamber of Parliament (Tweede Kamer). Fieldwork was carried out by the Institute of Applied Social Research (ITS) at the University of Nijmegen under the supervision of Arts, van der Kolk, and Kamp. The research was conducted under the auspices of the Dutch Electoral Research Foundation SKON (Stichting KiezersOnderzoek Nederland). Respondents were selected using a multi-stage sampling to select 4,207 adults among whom 2,101 completed the interviewer.

Galen, I., Holsteyn, J. J. M., and den Ridder, J. M. DUTCH PARLIAMENTARY ELECTION STUDY, 2002/3. Amsterdam, the were selected using a multi-stage sampling procedure of 4,207 adults. 2,101 of respondents completed Netherlands: Dutch Electoral Research Foundation (SKON) [producers], 2003. The Dutch Parliamentary Election Study 2002-2003 conducted face-to-face interviews with 1,907 respondents between April 18, 2002 and May 14, 2002 before the election on May 15, 2003. The interviews were conducted by TNS-NIPO under the supervision of an academic consortium, the Foundation for Electoral Research in the Netherlands (Stichting Kiezersonderzoek Nederland, SKON).

Aarts, K., van der Kolk, H., Rosema, M. & Brinkman, M. DUTCH PARLIAMENTARY ELECTION STUDY 2006. Amsterdam, the Netherlands: Dutch Electoral Research Foundation (SKON) and the Centraal Bureau voor de Statistiek (CBS). Over 90% of the 2,806 interviews were conducted face-to-face in October and November 2006. About 5% were conducted by telephone and a small percentage by mail.

Data and questionnaires are available at the Nationaal Kiezersonderzoek (Dutch Parliamentary Electoral Studies) website: <http://www.dpes.nl/> or <http://easy.dans.knaw.nl>

Israel Election Studies

Arian, A., & Shamir, M. ISRAEL ELECTION STUDY, 1999, ICPSR version, 2001. The pre-election wave of the 1999 Israel Election Study, was fielded prior to the elections held on May 17, 1999. Face-to-face interviews

were conducted by Mahshov, a private research institute, on a representative sample of the population (N=1,225) between April 4, 1999 and May 14, 1999.

Arian, A., & Shamir, M. ISRAEL ELECTION STUDY, 2003. Haifa, Israel: Asher Arian/Tel-Aviv, Israel: M. Shamir [producers]. Jerusalem, Israel: Hebrew University, Israel Social Sciences Data Center. The 2003 Israel Election Study consists of a total of 1,234 telephone interviews in Hebrew, Russian and Arabic performed between January 12 and January 25, 2003. The study was directed by Arian & Shamir. The study was conducted by Mahshov, a private research institute using a representative sample of the adult population. Arian, Asher, and Michal Shamir. ISRAEL ELECTION STUDY, 2006. Haifa, Israel: Asher Arian/Tel-Aviv, Israel: Michal Shamir [producers]. Jerusalem, Israel: Hebrew University, Israel Social Sciences Data Center. The 2006 Israel Election Study was conducted between February 28 and March 23, 2006. Mahshov Research Institute carried out the fieldwork using Hebrew, Russian, and Arabic telephone interviews (N=1,919).

The data are available from the Israel Social Sciences Data Center at the Hebrew University of Jerusalem, <http://isdc.huji.ac.il>.

Mexican Election Panel Study, 2000

Basáñez, M., Lawson, C., Camp, R. Cornelius, W. A., Domínguez, J. Estevez, F., Klesner, J., Magaloni, B., McCann, J., Moreno, A., Paras, P., & Poire, A. The 2000 Mexican Election Panel Study consists of five separate surveys conducted over the course of the campaign and following the election, using a hybrid panel/ cross-sectional design. We use data from the last pre-election wave, interviewed from June 2-18. There were 976 respondents in this wave, all of whom answered the question about their vote intention. No more than 914 provided feeling thermometer data. The data were collected through personal interviews using subjects randomly selected from the universe of non-institutionalized adult residents aged 18 and over.

Data available at ICPSR (<http://www.icpsr.umich.edu>), study number 3380.

Table 1. Hypothetical Distribution of the Percentage of Respondents Who Intend to Cast Votes for Their Favorite Party or Candidate, Assuming Rational Voting

I. Sincere Voting

Highest Preference	Vote intention for			
	Major Party 1	Major Party 2	Third Party	Total
Major Party 1	100%	0	0	100%
Major Party 2	0%	100	0	100%
Third Party	0%	0	100	100%

II. Strategic Voting (Three Parties)

Highest Preference	Vote intention for			
	Major Party 1	Major Party 2	Third Party	Total
Major Party 1	100%	0	0	100%
Major Party 2	0%	100	0	100%
Third Party	X%	Y	100 – (X + Y)	100%

III. Strategic Voting (Four parties with competitive third party)

Highest Preference	Vote intention for				
	Major Party 1	Major Party 2	Competitive Third Party	Fourth Party	Total
Major Party 1	100%	0	0	0	100%
Major Party 2	0%	100	0	0	100%
Competitive Third Party	0%	0	100	0	100%
Fourth Party	X%	Y	Z	100 – (X + Y+Z)	100%

Source: Developed by authors.

Table 2. How Respondents Voted or Intended to Vote, by Favorite Candidate or Party, U.S.A., Israel, Mexico, and Britain**Table 2A. U.S. Presidential Candidates, 1980**

Highest Preference	Voted for			Total	Number
	Carter	Reagan	Anderson		
Carter	97.3%	1.6	1.1	100.0%	445
Reagan	1.2%	98.1	0.7	100.0%	410
Anderson	20.3%	16.0	63.8	100.1%	163

Source: 1980 American National Election Study, pre-election interviews. Only includes respondents with strict highest preferences.

Table 2B. U.S. Presidential Candidates, 1992

Highest Preference	Voted for			Total	Number ^a
	Clinton	Bush	Perot		
Clinton	99.2%	0.6	0.2	100.0%	735
Bush	3.9%	95.8	0.3	100.0%	597
Perot	30.7%	13.8	55.6	100.1%	241

Source: 1992 American National Election Study, pre-election interviews. Only includes respondents with strict highest preferences.

^a Weighted sum.

Table 2C. U.S. Presidential Candidates, 1996

Highest Preference	Voted for			Total	Number ^a
	Clinton	Bush	Perot		
Clinton	98.0%	1.3	0.7	100.0%	698
Bush	2.1%	97.4	0.5	100.0%	394
Perot	11.1%	20.9	68.1	100.1%	85

Source: 1996 American National Election Study, pre-election interviews. Only includes respondents with strict highest preferences.

^a Weighted sum.

Table 2D. U.S. Presidential Candidates, 2000

Highest Preference	Voted for				Number ^a
	Gore	Bush	Nader	Total	
Gore	96.2%	3.8	0	100.0%	372
Bush	2.5%	97.2	0.3	100.0%	363
Third Party	56.2%	17.1	26.6	99.9%	131

Source: 2000 American National Election Study, pre-election interviews. We excluded two respondents who intended to vote for Buchanan.

^a Weighted sum.

2E. Israeli Prime Minister Candidates, 1999

Highest Preference	Vote Intention for				Number
	Barak	Netanyahu	Mordechai	Total	
Barak	95.6%	3.2	1.3	100.1%	317
Netanyahu	5.3%	94.3	0.4	100.0%	247
Mordechai	15.9%	8.5	75.6	100.0%	82

Source: Israel Election Study, 1999. Jewish respondents only.

2F. Mexican Presidential Candidates, 2000

Highest Preference	Vote Intention for				Number
	Fox	Labastida	Cardenas	Total	
Fox	90.0%	7.2	2.9	100.0%	279
Labastida	6.7%	89.6	3.7	100.0%	268
Cardenas	8.2%	9.1	82.7	100.0%	110

Source: Mexican Election Panel Study.

2G. British Parliamentary Election 2005 – England

Highest Preference	Vote Intention for					Total	Number
	Labour	Conservatives	Liberal Democrats	Same Fourth	Other Fourth		
Labour	92.7%	2.6	4.7	---	0.0	100.0%	383
Conservatives	2.3%	95.4	1.6	---	0.8	100.1%	388
Liberal-Democrats	10.0%	10.5	78.4	---	1.1	100.0%	190
Fourth Party	32.6%	18.4	27.7	21.3	0.0	100.0%	141

Source: British Election Study, 2005

Notes: “Fourth” includes Greens and UK Independence Party. We include English respondents who had already decided how to vote or said they were leaning towards voting for some party. We exclude respondents who intended to vote for parties for which we did not have feeling thermometer data.

2H. British Parliamentary Election 2005 – Scotland

Highest Preference	Vote Intention for					Total	Number
	Labour	Conservatives	SNP	Liberal Democrats	Greens		
Labour	96.8%	0.9	1.8	0.5	0.0	100.0%	221
Conservatives	0.0%	97.3	2.7	0.0	0.0	100.0%	74
SNP	11.1%	3.7	82.4	2.8	0.0	100.0%	108
Liberal-Democrats	12.3%	3.5	3.5	80.7	0.0	100.0%	53
Greens	42.2%	22.9	7.2	18.1	9.6	100.0%	83

Source: British Election Study, 2005

Notes: Includes respondents who rated the SNP and who had already decided how to vote or said they were leaning towards voting for some party. We exclude respondents who intended to vote for parties for which we did not have feeling thermometer data.

Table 3. Percentage of Respondents Who Intend to Cast Votes for Their Favorite Party: Preferences and Choice.

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3A. Israeli Knesset Parties, 1999

Highest Preference	One Israel	Likud	Same Third	Other Third	Total	Number
One Israel	94.7%	1.9	-	3.4	100.0%	207
Likud	1.8%	93.6	-	4.6	100.0%	218
Third*	27.5%	7.5	61.3	3.8	100.0%	83

Source: Israel Election Study, 1999.

* Third includes the two other parties rated using feeling thermometers, Center, Meretz and Shas. We treat the thermometer for Shas' party leader, Aryeh Deri, as a proxy for the party.

Notes: Table excludes respondents who intended to vote for some party other than the five parties for which we have feeling thermometer data. Only includes Jewish respondents with strict highest preferences.

3B. Israeli Knesset Parties, 2003

Highest Preference	Vote Intention for				Total	Number
	Labor	Likud	Same Third	Other Third		
Labor	81.9%	5.3	--	12.8	100.0%	94
Likud	2.2%	90.2	--	7.7	100.0%	183
Third*	8.0%	15.2	72.5	4.3	100.0%	349

Source: Israel Election Study, 2003.

* "Third" includes the other six parties rated using feeling thermometers: Meretz, Mafdal, Shinui, Ihud Leuni, Shas, and Yisrael B'Aliya.

Notes: Only includes Jewish respondents who intended to vote for one of the parties for which we have feeling thermometer data and those with strict highest preferences.

3C. Israeli Knesset Parties, 2006

Highest Preference	Vote Intention for				Total	Number	
	Kadima	Labor	Likud	Same Fourth			Other Fourth
Kadima	93.1%	3.0	1.8	---	2.1	100.0%	332
Labor	0.7%	96.4	0.7	---	2.2	100.0%	137
Likud	2.7%	0.0	92.9	---	4.4	100.0%	113
Fourth*	3.6%	6.9	6.4	79.7	3.4	100.0%	360

Source: Israeli Election Study, 2006. Jewish respondents only.

* "Fourth" includes the other six parties rated using feeling thermometers: Meretz, Ihud Leumi-Mafdal, Yisrael Beitenu, and Shas.

3D. Netherlands Tweede Kamer Election 1998

Highest Preference	Vote Intention for						Number
	PvdA	CDA	VVD	Same Fourth	Other Fourth	Total	
PvdA	86.8%	6.0	4.0	--	3.3	100.0%	151
CDA	2.9%	96.1	0.0	--	1.0	100.0%	102
VVD	0.0%	1.5	97.0	--	1.5	100.0%	135
Fourth*	11.1%	6.7	6.2	69.8	14.2	100.0%	225

Source: Dutch Parliamentary Election Study, 1998

* "Fourth" includes all other parties that won seats: D66, GroenLinks, SGP, GPV, RPF, and SP, as well as two other included on the feeling thermometer scores, Centrumdemocraten and AOV. We exclude respondents who were undecided or who planned to vote for a party not evaluated with the thermometer scores.

3E. Netherlands Tweede Kamer Election 2002

Highest Preference	Vote Intention for						Number
	PvdA	CDA	VVD	Same Fourth	Other Fourth	Total	
PvdA	93.1%	1.4	0.7	--	4.9	99.9%	144
CDA	1%	95.9	1	--	2	100.0%	193
VVD	0.8%	4.2	88.3	--	6.7	100.0%	120
Fourth*	6.9%	8.2	3.6	74.6	6.7	100.1%	449

Source: Dutch Parliamentary Election Study, 2002

* "Fourth" includes D66, GroenLinks, and Pim Fortuyn. We exclude undecided respondents as well as those who plan to vote for a party not evaluated with the thermometer scores.

3F. Netherlands Tweede Kamer Election 2006

Highest Preference	Vote Intention for						Number
	PvdA	CDA	VVD	Same Fourth	Other Fourth	Total	
PvdA	92.5%	2.4	0	--	5.2	100.1%	212
CDA	0.4%	94.7	4.1	--	0.8	100.0%	247
VVD	0.8%	0.8	95.8	--	2.5	100.0%	119
Fourth*	11.9%	11.4	4.6	66.2	5.9	100.0%	219

Source: Dutch Parliamentary Election Study, 2006

* "Fourth" includes D66, GroenLinks, and SP. We exclude undecided respondents as well as those who plan to vote for a party not evaluated with the thermometer scores.

Table 4 Summary of Results

	% of those who ranked voter highest on feeling thermometer who also voted for favorite...			
	Major parties	3 rd party	4 th parties [^]	PRE
FPTP				
U.S. 1980	97.3, 98.1	63.8		74.7
U.S. 1992	99.2, 95.8	55.6		77.5
U.S. 1996	98.0, 97.4	68.1		52.9
U.S. 2000	96.2, 97.2	26.6		80.0
Israel 99	95.6, 94.3	75.6		41.4
Mexico	89.6, 90.0	82.7		25.3
England	92.7, 95.4	78.4	21.3	56.0
Scotland	96.8, 97.3	80.7, 82.4	9.6	62.0
PR				
Israel 99	93.6, 94.7	61.3		51.0
Israel 03	81.9, 90.2	72.5		61.8
Israel 06	92.9, 93.1, 96.4		79.7	55.8
Netherlands 98	86.8, 96.1, 97.0		69.8	56.2
Netherlands 02	88.3, 93.1, 95.9		74.6	57.4
Netherlands 06	92.5, 94.7, 95.8		66.2	56.5

Source: Tables 2 and 3.

[^] Fourth parties refer to minor parties in elections with three major parties (Israel in 2006 and the two Dutch elections) and to differentiate between regional or semi-competitive “third” parties in the U.K. (like the Liberal Democrats) and non-competitive parties like the Greens.

¹ The result also assumes that the outcome is not chosen at random.

² In two of the Tweede Kamer elections a “fourth” party won more votes than one of the major parties. In 2002, List PIM Fortuyn won more votes than the party of the incumbent Prime Minister (PvdA) and VVD. In 2006, the SP won more votes than the VVD. In the 2006 Knesset election, Shas won more votes than the Likid.

³ We urge readers to recognize that this is an assumption that potentially ignores certain types of policy-balancing strategic behavior and strategic voters who wish to ensure some political pay-off short of a victory (such as earning enough voters to qualify for a spot on the ballot in the next election). Cox & Shugart (1996) found that deviations from weak to strong were much more common than the reverse.

⁴ Information about the surveys is in the appendix. We only used pre-election data because post-election data can inflate levels of support for tactical voting (Alvarez and Nagler, 2000; but see, Abramson, Aldrich, & Rohde, 2003).

⁵ On a scale running from 0 to 10, the mean estimates for Fox and Labastida were 6.4 and 7.0. The average expectation for Cárdenas was significantly smaller and the proportion of voters was 4.7, significantly lower than for the other candidates but much higher than for many hapless third-party or independent candidacies in the U.S. The survey did not collect feeling thermometer data for the three other registered candidates.

⁶ The proportion of sincere or straightforward voting for Cárdenas was significantly smaller than the proportion of voters who intended to cast sincere or straightforward voters for the major candidates at the $P < 0.05$ (one-tailed test).

⁷ The Liberal Democrats should experience fewer defections where the party is competitive. There is limited evidence that there are some constituencies where Conservatives may have voted for Liberal Democrats to prevent a Labour candidate from winning (see Curtice, Fisher, & Steed, 2005).

⁸ Treating the cases as having a different number of major parties does not change the substantive significance of the results. If we treat England as having only two major parties, then, by coincidence, the PRE is unchanged. If we treat Scotland as having the same two major parties, the PRE rises to 69.0%. If we treat the SPN and the Liberal Democrats as major parties, the PRE is 66.2%.

⁹ Labor ran under the banner “One Israel” with two small parties in 1999. We used a feeling thermometer for Shas’s charismatic party leader, Rabbi Aryeh Deri, as a proxy for affect toward the party.

¹⁰ Even though we treat Labor and Likid as major parties in each of these elections, voters may not have been confident that they would be the top two parties. In 1999, Shas nearly eclipsed Likud. In 2003, Shinui won nearly as many seats as Labor, and we find that 27% of Jewish Israelis did not expect Labor and Likud to be the largest parties and thus could rationally have decided to vote for whatever “third”

party they thought might be among the frontrunners. In 2006, Shas won 17,000 more votes than Likud. However, even when winning more votes than a major party, these “third” parties never win the votes of 90% of those who prefer them to all other parties. For example, in 2006, 83% of Shas supporters tended to vote for the party.

¹¹ There is little variation among these three parties in the percentage of supporters who voted sincerely.

¹² The one-tailed difference in proportions is statistically significant at the 0.05 level for 2003. All other years are significant at the 0.01 level.

¹³ It is still possible to conceive of Duverger’s Law without the psychological factor by emphasizing elite-level decisions to abandon hopeless candidacies (see Riker 1982).