

Strategic Voting in Canada: A Cross Time Analysis

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Introduction

The health of a democracy is rooted in the participation of its citizens. It is in the voting booth that citizens register their preferences over who should lead their nation. In some ways voting seems a clear and simple act: one should vote for the candidate he or she most prefers. Sometimes, however, the electoral system creates incentives for citizens to vote for someone other than their true preference. When one candidate has little chance of winning in multi-candidate elections, the supporters of this candidate might abandon their first preference and vote for their second preference to avoid casting a “wasted” vote. They might worry that in voting for their favorite candidate, they will end up with their least preferred candidate being elected, while if they had switched their votes, they might have helped their second preference get elected. Strategic voting, also called tactical or sophisticated voting, refers to the situation in which voters cast ballots for their second preference as opposed to their first preference.

This paper investigates strategic voting in Canada. We test the standard expected utility model, as developed by McKelvey and Ordeshook (1972), across four federal elections. Given that the number of parties in the system changed from 1988-1993, we can test whether the model performs as well with the inclusion of more terms, or whether the fit decreases as the model becomes more complex. Furthermore, we are able to test whether the model better explains behavior among minor party supporters, as opposed to major party supporters. Finally, we expand the model to examine whether the likelihood of voting strategically varies by one’s level of political sophistication.

The project is distinct in that no existing studies of strategic voting in Canada have tested the expected utility model across many different points in time. Furthermore, we have the nice advantage of change in the system, from three nationally competitive parties in 1988 to four nationally competitive parties from 1993-2000.¹

In the next section of the paper, we outline the theory, or the multicandidate calculus of voting, discuss the empirical literature, and introduce extensions to the model. We then turn to our data and the context of the four elections. Following that, we discuss the model and our measures. The next section presents the results of the general model, across minor party and major party supporters, and across levels of sophistication. Finally, we conclude with a discussion of our results.

Theory and Extant Studies

Theory

Duverger was one of the first scholars to talk about the tendency of strategic voting in plurality systems. In his 1954 work, Duverger claimed that “the simple-majority single-ballot [or plurality] system favors the two party system.”(p. 217) Duverger suggested that two forces - fusion and elimination - are responsible for creating such a system.

The force of fusion refers to the situation in which a minor² party chooses to ally itself or fuse with a major party in exchange for favors from that party. In this situation,

¹ We exclude the Bloc Quebecois because it only runs candidates in Quebec. Our analyses exclude Bloc Quebecois supporters because there are fewer of them and the analysis would only have a very small N.

² While most of the strategic voting refers to third parties and their supporters, the Canadian case has more than one “third” party. We thus refer to parties whose supporters have an incentive to strategic vote as minor parties.

the elites of the minor party, who have trouble winning in such a system, make the choice to fuse. They may do this because they believe they have no chance of winning on their own, or because they believe that having their political priorities fulfilled can best be done with the support of a major party.

The force of elimination describes the risk that minor party supporters will gradually desert the party to vote for one of the two major parties due to mechanical and psychological factors. The mechanical factor comes from the exaggeration of success of the major parties due to the aggregation process. For example, in presidential elections in the United States, even though a minor party might perform well in the popular vote, this will not be reflected in the Electoral College, if that support is spread evenly throughout the country. In Canada, the first-past-the-post electoral system means that a bare plurality of the popular vote can translate into a large majority of seats in the House of Commons. The psychological effect refers to the tendency of voters not to vote for a party that does not have a chance of winning. Thus, voters end up voting for their second preference so that they do not “waste” their vote.

McKelvey and Ordeshook (1972) formalized the psychological effect, or the logic of strategic voting, by extending the calculus of voting developed by Riker and Ordeshook (1968) to account for races in which there are more than two candidates. They developed an expected utility model that takes into account an individual’s utility over various outcomes of the election and the probability of such outcomes occurring. The decision theoretic model simplifies to the following equation in three candidate elections:

$$(1) \quad E^1 - E^2 = P_{12}B_{12} + P_{13}B_{13} - P_{23}B_{23}$$

Where $E^1 - E^2$ is the expected utility of voting for one’s first preference minus the expected utility of voting for one’s second preference,

P_{12} is the probability of being decisive between an individual’s first preference and second preference,

P_{13} is the probability of being decisive between an individual’s first preference and third preference,

P_{23} is the probability of being decisive between an individual’s second preference and third preference,

B_{12} is the difference in utility between an individual’s first preference and second preference, and so forth.

Thus if $E^1 - E^2 > 0$, an individual will vote for their first preference, while if $E^1 - E^2 < 0$, they should vote for their second preference. Now, when will $E^1 - E^2$ be less than zero? If an individual’s first preference has little chance of winning, P_{12} and P_{13} will be close to zero, leaving small values for $P_{12}B_{12}$ and $P_{13}B_{13}$. If the race is close between their second and third preference, then P_{23} will approach a value of 1. If the difference in utility between this pair is sufficiently large, $E^1 - E^2$ might be negative, thus inducing some to vote for their second preference. The key term in the equation is the voter’s decisiveness between pairs of candidates multiplied by the voter’s utility differential between them.

In order to extend this calculus to four parties, we need to add the probability and utility comparisons with the fourth party, or $P_{14}B_{14}$ and $P_{24}B_{24}$ to the equation. The same logic applies in that as the race becomes closer between one’s first preference and fourth

preference and the difference in utility is large, an individual is more likely to vote for their favorite candidate. However, if their first preference has no chance of winning and the race is close between their second and fourth preference, an individual will have an incentive to vote for their second preference if the utility differential between this pair is sufficiently large. The equation then simplifies to the following:

$$(2) \quad E^1 - E^2 = P_{12}B_{12} + P_{13}B_{13} + P_{14}B_{14} - P_{23}B_{23} - P_{24}B_{24}$$

Extant Studies

Several studies have estimated the level of strategic (or sophisticated) voting in different elections at different points in time. Without individual level data, some studies have deduced the presence of such voting from aggregate electoral outcomes. Fisher (1973) and Blais and Carty (1991) compared the lower support for minor parties in plurality systems as opposed to PR systems as evidence of strategic voting in plurality systems. Others have looked at the pattern of inter-election vote shifts in different types of constituencies within plurality systems to infer levels of tactical voting (Curtice and Steed, 1988; Galbraith and Rae, 1989; Johnston and Pattie, 1991; Spafford, 1972).

Some studies have been able to derive estimates through survey data that asked voters the reasons they voted a certain way. In these studies, all conducted in the UK, a voter is considered strategic if she indicates strategic motivations underlying her decision to vote for a particular party (Evans and Heath, 1993; Heath et al, 1991; Niemi et al., 1992). Other studies have used feelings towards the candidates and vote intentions to approximate the level of sophisticated voting in the 1968, 1980, and 1992 U.S. presidential elections (Abramson et al, 1995).

Many other empirical studies have been able to approximate the expected utility model developed by McKelvey and Ordeshook (1972). Without subjective estimates of the probability terms, some studies have used objective measures, such as the actual election results across different districts (Alvarez and Nagler, 2000; Black, 1978; Cain, 1978; Ordeshook and Zeng, 1997), which were then merged with individual level survey data. Other studies have used the respondents' subjective probability assessments of the candidates' or parties' chances of winning (Abramson et al, 1992; Abramson et al, 2001; Bartels, 1988; Blais and Nadeau, 1996; Hsieh, Niou, and Paolino, 1997). Most of these studies also use some type of feeling thermometer towards the candidates or parties as measures of the utility, or benefit, terms in the equation.

Studying strategic voting in the Canadian context brings a different set of issues into play. Canada does not have a two-party system of the type envisioned by Duverger. In fact, Canada has often been hailed as an example that contradicts Duverger's law. Several explanations have been given to explain this anomaly, most often that the regional nature of the country allows the development of parties that focus their efforts in one region of the country; in this explanation, Duverger's law is maintained because two-party competition is said to occur in each region, although which two parties compete may vary.³ This explanation appears to explain why the Reform Party/Canadian Alliance (Reform/CA) and Bloc Quebecois (BQ) developed into strong parties, but it cannot explain the persistence of the New Democrat Party (NDP). Formed in 1961 as a

³ See Kim and Ohn (1992). However, this logic has been challenged by the empirical work of Gaines 1999.

partnership between the Canadian Labour Congress and the Co-operative Commonwealth Federation Party (a Western-based organization), the NDP has become a stable, national party that has bases of support in all provinces, and has had substantial experience with running provincial governments.⁴ It seems that the psychological effect that Duverger discusses is not a factor in Canadian elections, which might lead to the conclusion that the expected utility model will not perform well in the Canadian context. As we will see in the results section, however, even though the NDP has been a stable minor party, the expected utility model does perform well in Canada, especially among minor party supporters.

Jerome Black (1978) was the first to study strategic voting in the 1968 and 1972 Canadian federal elections. Without subjective estimates of the probability term, he used objective measures of actual election results in each riding to test the performance of the model developed by McKelvey and Ordeshook. He found strong support for the model, and found that the probability measures explain more of the variance for those individuals with higher levels of education.

Blais and Nadeau (1996) take a somewhat different approach to estimating a strategic voting model in their study of the 1988 Canadian federal election. They first split the sample by those individuals who would have an incentive to abandon their first preference. These voters perceive their most preferred party as being less likely to win than their second preference. Instead of estimating the multicandidate calculus, Blais and Nadeau's model uses as independent variables the difference in utility between one's first and second preferences, the difference in the probability of one's first and second preferences winning, and finally the difference in utility between one's second and third preferences, among those who have already been identified as potential strategic voters. They find that all three variables are significant.

Blais et al. (2001) investigate a more particular question with the 1997 election study, examining what type of probability measure matters in an individual's decision of for whom to vote. In particular they test whether voters are concerned with their local riding, which party will form the government, or which party will form the official opposition when casting their votes. According to their results, voters are affected more by the chances of the party winning in the individual's riding than by the other two measures. Though they do not test the model developed by McKelvey and Ordeshook, Blais et al. find that expectations of who would win affected the calculations of voters, with 3% casting strategic votes in and outside of Quebec. They find that this hurt the NDP throughout the country, and the Progressive Conservatives in Quebec.

Finally, Bowler and Lanoue (1992) argue that there are incentives to vote for a candidate other than one's first preference beyond the wasted vote logic. In their paper on the 1984 Canadian federal elections, they look at protest voting as well as strategic voting. Protest voting occurs when an individual is not satisfied with their preferred party's performance and want to express their discontent by voting for another party, though they will only do so if they know that their favored candidate will win the election. They find evidence of protest voting among those high in education when their favored party was not going to lose in the riding.

There are several limitations to the existing studies of strategic voting in Canadian elections. First, most of the work looks at strategic voting at one point in time. It is

⁴ For example, Bob Rae in Ontario, Glen Clark in British Columbia, and Roy Romanow in Saskatchewan.

difficult to assess the performance of a model using only one election as a test case. Furthermore, most of the papers use different models to account for whether an individual votes strategically; thus we cannot compare results in different elections across time. Finally, Black was the only one to test the expected utility model developed by McKelvey and Ordeshook. There are, however, two reasons to test for the multicandidate calculus of voting in more recent elections. First of all, Black did not have subjective estimates of the probability term to use in his analysis. The 1988-2000 Canadian federal election surveys have questions that ask for the respondent's subjective probability of the various parties winning in the respondent's riding. Second, the context of Canadian elections has changed with the inclusion of another political party. We thus might question how the model performs with the inclusion of Reform/CA as another national competitor. We address these limitations of Black's work by testing the performance of one model across the 1988, 1993, 1997 and 2000 Canadian federal elections. We estimate the model separately for 1988, since there were only three parties, and pool the data from the remaining elections (when four parties were in contention).

Extensions to the Model

While the above extensions are particular to the strategic voting literature in the context of Canadian elections, we also seek to extend the strategic voting literature more generally. We suggest three extensions to the general model.

Political Sophistication

The model developed by McKelvey and Ordeshook assumes a homogeneous model across all segments of the electorate. Going back to *The American Voter* (Campbell et al., 1960) and moving forward to current work on public opinion (Zaller, 1992; Sniderman, Brody and Tetlock, 1991; Popkin and Dimcock, 1996) we are led to question whether the performance of the model varies across individuals with different levels of political sophistication.

Let us assume that people get their estimates of the probability terms in the equation from messages sent by elites. If we apply Zaller's (1992) model of survey response to this claim, we are led to a hypothesis that those who are average in sophistication should be most responsive to elite cues. Thus, the model should perform best for individuals who fall into this category. According to Zaller, those individuals low in sophistication do not pay as much attention to news and current events, and would be less likely to hear, much less absorb, elite cues. Those individuals high in levels of sophistication are more likely to receive such messages; however, they are also less likely to incorporate such cues as they counter-argue the incoming information.⁵ It is those individuals average in sophistication who are most likely to hear and incorporate the messages sent at the elite level.

In addition, we might find that the significant variables differ for those with different levels of sophistication. Sniderman, Brody and Tetlock (1991) found that those who were lower in sophistication were more likely to use affect towards blacks in their preferences over government spending policies, while those high in sophistication used affect and ideology. In an experimental analysis, Aldrich et al (2001) also found that

⁵ Those high in sophistication might realize that the probability of their vote being decisive is close to zero, regardless of what elites claim.

those high in sophistication were more likely to use ideology as a cue when answering different policy questions. Finally, in their analysis of the 1992 House of Representatives banking scandal, Popkin and Dimcock (1996) found evidence of differential determinants of decision-making among survey respondents low and high in sophistication. In terms of the multicandidate calculus of voting, we might find that the variables operate differently across the three levels of political sophistication.

Location and Number of the Minor Parties

Another extension to the model is to take into account the location and number of minor parties. We believe that the incentives to vote strategically among minor party supporters should also vary depending on the location of the minor party. In the situation in which a minor party lies to the left or right of one of the major parties (on some important dimension of choice), the elites of that major party will have an incentive to send cues to such voters to switch their vote when the race is close between the major parties. The logic is that since their preferred candidate has no chance of winning, they can at least ensure that their common second preference wins the race. The situation is more complex when a minor party lies in between two major parties. If one party tries to woo minor party supporters with strategic voting cues, they might be successful in getting those voters to switch their votes. However, such cues might backfire by causing the minor party supporters whose second preference is the other major party to vote strategically for *that* party. Thus, the defections by the minor party supporters to both of the major parties might cancel each other out in the election. If elites play an important role in influencing minor party supporters to abandon their first preference, we should find higher levels of such voting among minor party supporters whose party lies to the extreme of one of the major party candidates. Canadian elections are a nice case to test this hypothesis, since there are two minor parties, one of which (the NDP) lies to the extreme left of the Liberals, and one of which (the PC) lies in the center, between the right-wing Reform/CA and the left-of-center Liberals.

In addition to the location of the minor parties, the sheer number of parties in the system also might influence the likelihood of strategic voting among the electorate. As the number of parties increases, it might be more difficult for voters to coordinate their votes on one major party. It is much easier to deal with probabilities over three parties, as opposed to dealing with four or five. The Canadian context also presents a nice natural experiment since there were only three nationally competitive parties in 1988 and four nationally competitive parties from 1993 to 2000.

Characteristics of Minor Party Voters

The final extension deals with characteristics of minor party voters. Those who have supported a minor party in the past might be more inclined to do so (Peterson and Wrighton, 1998), be it out of a sense of value in expressing their true preference or to express their dislike of the two major parties. Scholars have also found that those who vote for minor parties have more distrust of the system (Peterson and Wrighton, 1998;

Rosenstone, Behr and Lazarus, 1996). Thus, we might expect that those with very low levels of political efficacy are more likely to stick with the minor party candidate.⁶

Summary of Hypotheses

The above discussion yields several hypotheses. They are summarized below:

Main Hypothesis

- H1: A person is more likely to vote strategically when their first preference has no chance of winning and the following conditions hold:
- the election is close between their second and third (or fourth) preferences, and
 - the difference in utility between these candidates is sufficiently large.

Extensions

- H2: The expected utility model should perform best for those individuals with a minor party as their first preference.
- H3: The expected utility model should perform best for those individuals average in political sophistication.
- H4: We should see higher levels of strategic voting in the 1988 election, compared to the elections in 1993, 1997 and 2000, because there were fewer parties and therefore strategic coordination should have been easier.
- H5: Minor party supporters who have voted for a minor party in the past will be more inclined to stick with their first preference. Given their experience with supporting a minor party, the model should perform better for NDP voters than PC voters (from 1993 to 2000).
- H6: Minor party supporters with low levels of efficacy should be more inclined to vote for their first preference.

The Context of Canadian Elections and Data

The data we use to test our models for the 1988, 1993, 1997, and 2000 elections come from Canadian National Election studies. We deal with two data sets in the paper. The first data set consists of the election study from 1988, in which we end up with 1656 respondents. In order to end up with a bigger sample of the minor party supporters, we pooled the election studies from 1993-2000, resulting in a sample of 6463 respondents. We were not able to pool 1988 with the other years because the party system changed between 1988 and 1993. In terms of the multicandidate calculus of voting, the inclusion of another national competitive party requires the inclusion of two more multiplicative terms. Because the BQ does not compete outside of Quebec, we have chosen to ignore (for the time being) Quebec voters and focus on those who face a choice between four consistent, national parties. As well, in order for the probability multiplied by utility measures to be applicable across respondents, we needed to ensure an equal number of parties across the ridings that we examine. The Reform/CA ran some candidates in Quebec in some elections; therefore, some ridings had five candidates. Since we are

⁶ In the context of strategic voting, we might also find that those individuals with very high levels of efficacy are also likely to vote sincerely in that they overestimate how much their vote matters or feel a duty to vote for their first preference.

focusing on the decision of for whom to vote, we also do not include respondents who did not intend to cast a vote.⁷

The incentives to vote strategically varied widely across the four elections we study. In 1988, passage of the Canada-US Free Trade Agreement separated the pro-free trade PCs from the Liberals and NDP. In this election, there was an incentive for anti-free trade NDP supporters to switch their vote to the Liberals if their opposition to the trade agreement was more important to them than expressing their sincere vote preference.

In 1993-2000, the incentives for strategic voting were much less obvious, and the playing field was decidedly different. There were two new, regional parties contesting the election (the Reform/CA in the West and the BQ in Quebec), which promised alternatives to the brokerage politics of the Liberals and PC, the traditional winning parties. In 1993, the BQ, a party that only ran for seats in Quebec, became the Loyal Opposition with 54 seats, narrowly beating out the Reform Party (which won 52 seats). The PC party was reduced from a commanding majority of 169 seats in the House of Commons (out of 295) to 2. Both the PC and NDP parties faced another blow – they were denied official party status within the government because neither achieved the 12-seat threshold.

The party system had dramatically changed – much more so than anyone could have expected. Gone was the two-and-a-half party system that had lasted for so long, and in its place was an untested, unfamiliar system. Whereas only NDP party supporters had a reason to vote strategically in the past (as their party was the only one without a realistic chance of leading the country), now almost every party could envision a situation in which their supporters could put their votes to better use for a different party. This context continued for both the 1997 and 2000 elections to some degree, but by 1997 the Reform Party had replaced the PCs as the viable party of the right. In 2000, then, two sets of partisans⁸ were facing incentives to vote strategically because of their favored parties' lack of viability.

It is important to note, up front, that there are two reasons that strategic voting may be less prevalent in Canada than in other countries. First, the campaign period in Canada is much shorter. When an election is called, there are 36 days until the ballots are cast. This does not leave a lot of time for strategic coordination. Second, the Election Expenses Act of 1974 provides partial reimbursement of election expenses for candidates that receive at least 15% of the popular vote in their riding and financial incentives for official parties.⁹ Thus, there is an incentive to earn as many votes as possible, even if there is no chance of winning the election. It is unlikely, then, that the minor parties will try to convince their supporters to switch their votes to one of the major parties.¹⁰ However, there still are incentives for the major parties to woo minor party supporters if they are in a close race. Neither of these reasons means that studying strategic voting in

⁷ An interesting question arises over whether the outcome of the election would change if abstainers did cast a vote. This is a question we will address in future work.

⁸ Excluding, as we do in this analysis, the BQ.

⁹ The Act allows for partial reimbursement of some advertising expenses of official parties.

¹⁰ Whitehorn (2001:120) notes that in the 2000 election, “the NDP chose to ‘overwhelmingly’ target Liberal voters, particularly soft Liberals, along with wavering or former New Democrats.” Similarly, Woolstencroft (2001:91-2) writes: “in 2000 the Tories tried to minimize their losses – and survive.”

Canada is any less interesting. In fact, finding that strategic voting occurs is all the more interesting because it might reflect a voter's own calculus.

Model and Measures

Models

To refresh, our goal is to test the performance of the multicandidate calculus of voting in accounting for whether individuals vote strategically in Canada. Since the number of parties changed from 1988 to 1993, there are two different models that we test. For the 1988 election, the multicandidate calculus is as follows (it is the same as equation one previously):

$$(3) \text{ Probability (Vote Favorite)} = P_{12}B_{12} + P_{13}B_{13} - P_{23}B_{23}$$

Thus, the probability that an individual casts a vote for their favorite candidate or first preference is a function of a series of comparisons between the parties' chances of winning multiplied by the utility differential between them.

For the pooled data from 1993-2000, we are dealing with four nationally competitive parties and therefore need to incorporate additional multiplicative terms in the model. The model that we test for the pooled data is:

$$(4) \text{ Probability(Vote Favorite)} = P_{12}B_{12} + P_{13}B_{13} + P_{14}B_{14} - P_{23}B_{23} - P_{24}B_{24}$$

The only difference in this model is the inclusion of utility comparisons between one's first and fourth preference, and one's second and fourth preference. Thus, if an individual has a chance of being decisive between their first and fourth preference, they should be more likely to vote for their favorite. However, as with the PB_{23} term, as the race becomes closer between their second and fourth preferences and their first preference has no chance of winning, they might have an incentive to cast a strategic vote if the utility differential is large enough.

In addition to the variables in the multicandidate calculus of voting, we also include a series of control variables and substantive variables of interest in the models. For control variables, we include the respondent's age, gender, religion, whether they speak French, union membership, and their region. Given that much research finds that younger voters are drawn to minor parties, we would expect a negative coefficient as one gets older. Furthermore, since the NDP traditionally draws support from union members, they might be more likely to vote strategically than non-union members.

More substantive variables of interest that we include to address hypotheses two through six are whether the respondent voted for a minor party in the previous election, their level of education, and their level of interest in the campaign. A past predisposition for voting for minor parties might make minor party supporters less likely to defect, while those individuals with more education and interest might be more likely to defect after being exposed to strategic voting cues by elites. We also are able to include a variable capturing one's political efficacy for two of the elections. Since those individuals with less efficacy might feel they have little say in the system, they might be more inclined to stick with the minor party to express their discontent with the political system.

Measures

The dependent variable, Vote Favorite, is constructed from the respondent's self-reported vote intention and feeling thermometers towards the parties and party leaders. The feeling thermometers ask the respondents to rank the party or candidate on a scale of 0 to 100, with 0 being coldest, 50 being neutral, and 100 being warmest. We averaged the two thermometer scores for each respondent to obtain a summary feeling thermometer measure.¹¹ We then constructed the vote favorite measure as follows: if the respondent intended to vote for the party ranked highest in the summary measure, they were coded as 1, and if they intended to vote for a candidate not ranked warmest on the scale, they were coded as 0.

In order to create the multiplicative terms in the model, we need measures of probability and utility. Across all of the years we examine, the Canadian National Election study included questions on the respondents' subjective probability of the party's candidates winning in the respondents' riding.¹² We then normalized the probability measures so that they summed to 100%. To better approximate the probability of a voter being decisive, we followed Abramson et al (2001) and folded the value for each candidate at the victory point of 50%. Thus, a candidate with a 100% chance of winning is given the same value as a candidate with no chance of winning. We can then see that a voter is unlikely to be decisive if a candidate has no chance of winning or if the candidate will win by a landslide. The value for each candidate has a minimum of 0 and a maximum of 0.5.¹³

Following this step, the difference in viability terms were created by subtracting the folded probability of the respondent's first preference winning minus the folded probability of the respondent's second preference winning to arrive at P_{12} . Similarly, P_{13} is the folded probability of the respondent's first preference winning minus the folded probability of the respondent's least preferred candidate winning. Finally, P_{23} and P_{24} are created in the same manner for the respondent's second and third preferred candidates. The value of the variables P_{12} , P_{13} , P_{23} , and P_{24} range from $-.5$ to $.5$.

¹¹ We did this because a vote for a riding candidate counts, indirectly, as a vote for the Prime Minister. In the Canadian system, the Prime Minister is the leader of the party that wins the most seats in the House of Commons. Therefore, one's riding vote choice is often influenced by their preference for Prime Minister. Blais and Nadeau (1996) discuss the importance of including a combination of preferences, although they go further to include preferences about local candidates in their study of the 1988 election. Because of data limitations for some of the elections we are studying, we focus on just the party and leader feeling thermometers.

¹² Some might argue that what should matter is not whether the riding candidate wins but the probability of the party winning in the country as a whole. Unfortunately, this question was not asked across all of the years. However, past research (Blais et al., 2001) has shown that the riding measure outperforms the question about the party winning in the country as a whole. Furthermore, we did test for the performance of both measures for the years in which both questions were asked and confirmed that the riding measure outperforms the question about the party winning in the country as a whole. Theoretically, the riding question should better capture strategic voting because one will not have an incentive to vote strategically if one of the major party candidates will win their riding by a landslide. It is only when the race is competitive at the level of the riding that should matter to the voter. However, it is possible that which party will win the national race will affect the propensity to vote strategically. If one party is projected to win by a landslide, then the minor party supporter might not have an incentive to vote strategically, even if the race is close between the major party candidates in their riding.

¹³ While only a plurality is needed to win each state, it would be difficult to approximate such a measure for each state.

In order to create the multiplicative terms, we also need measures of the utility, or benefit, towards the candidates. For the benefit terms, we use the summary feeling thermometer scales discussed earlier. We then create the difference in utility between the candidate pairs. B_{12} is the difference in utility between one's first and second preference, B_{13} is the difference between one's first and third, and so forth for B_{14} , B_{23} , and B_{24} .

If we combine the utility and viability measures, we are able to create the variables needed to test the expected utility model. PB_{12} is the difference in the folded probability between the respondent's first preference and second preference multiplied by the difference in utility between the respondent's first and second preference, or (folded P_1 -folded P_2)*(U_1-U_2). Similarly, PB_{13} , PB_{14} , PB_{23} , PB_{24} follow the same model (folded P_j -folded P_k)*(U_j-U_k).

For the demographic controls, we created a series of dummy variables for each region. Age is simply the respondent's age in years. We also created a series of dummy variables, where a one indicates being a union member, female, catholic, protestant, and speaking French. For the substantive variables of interest, the variable Vote Third is given a value of 1 if the respondent voted for the NDP in the previous election across all of the years we examine. We also code those who voted for the PC in 1993 and 1997 as voting for a minor party.¹⁴ Education and Political Interest are coded such that higher values indicate higher levels of education and political interest. Finally, political efficacy comes from a question concerning whether the government cares about what people like the respondent think. It is coded such that higher values reflect lower levels of efficacy. Our expectations are summarized in Table 1.

Table 1: Effect of the Independent Variables on the Likelihood of Voting for One's Favorite Candidate

Variable	Expectation
PB_{12}	Positive
PB_{13}	Positive
PB_{14}	Positive
PB_{23}	Negative
PB_{24}	Negative
Age	Negative
Union Member	Negative
Female	No Expectation
Education	Negative
Catholic	No Expectation
Protestant	No Expectation
Speak French	No Expectation
Region Dummies	No Expectation
Vote Third	Positive
Political Interest	Negative
Efficacy	Positive

¹⁴ Because the PC party was nearly wiped out in 1993, it became obvious that it was no longer a major party by 1997.

Results

Descriptive Statistics

Before discussing the results of the model, it is useful to get a sense of the levels of strategic voting across the different elections. Table 2 presents the percentage of respondents who did not intend to vote for their first preference across the four elections and by their first preference. Some of these voters might have been strategic, while others might have been protest voters, because in both situations individuals would not cast a ballot for their first preference. We can see from the table that the lowest levels of such voting occurred in 1993, while the highest level occurred in 2000. This is not surprising since in 1993, the party system underwent a major overhaul. Clarke et al. (1996) note that substantial numbers of citizens switched their partisanship between 1988 and 1993, from the PC and NDP parties to the Liberals (predominantly), Reform/CA, and BQ. General discontent with the PC party and the presence (and regional strength) of the Reform/CA and the BQ meant that voting sincerely in 1993 actually seemed to be the best choice – every party seemed to have a realistic chance of winning in (at least) some ridings. In 2000, the ‘new’ party system configuration had established itself with the Liberals and Reform/CA as the major parties. PC and NDP partisans still existed, however, and now their votes could be decisive in the contest between the right (Reform/CA) and the left (Liberals).

The table also lists the percentage of citizens who did not intend to vote for their favorite candidate broken down by the respondent’s first preference. From the table, it is clear that the highest levels of such voting occur among the trailing parties, the NDP and the PC (starting in 1993). A significant proportion of NDP voters did not vote for their favorite candidate in 1988, 1997, and a very high percentage in 2000. In 1993, only 1.2% of NDP supporters did not vote for their favorite candidate. We also see a gradual increase in the percentage of PC supporters who did not intend to vote for their party over time. Even though they were once one of the major parties, they lost much of their support to the Reform/CA Party and became a trailing party in 1993. As expected, we see lower levels of such voting among Liberal supporters across the four elections. Given that the Liberals are one of the major parties, Liberal supporters who did not vote for their first preference might be engaging in protest voting, though the table does not present concrete evidence of this.

Table 2: Percentage of Respondent’s who did not intend to Vote for Their Favorite Candidate over Time and by one’s First Preference

	1988	1993	1997	2000
All Voters	12.6%	7.7%	15.5%	24.7%
NDP Supporters	19.9%	1.2%	16.4%	46.2%
PC Supporters	9.4%	16.9%	17%	49.6%
Liberal Supporters	8.6%	.98%	15.9%	12.3%
Reform/CA Supporters	-----	1.4%	10.3%	22.1%

We also looked at vote intentions by an individual’s first preference over the four elections, to give us a sense of the proportion of party supporters that stayed with their party and among those who defected, which party they were defecting to. Table 3 presents the results across the elections. The first striking thing is the percentage of

voters that stuck with their preferred party. The percentage of voters who intended to vote for their favorite party is lower for the NDP (with the exception of 1993) and the PC (post 1988), than for the Liberal and Reform parties. Also, as would be expected due to the location of the parties, we see more defections by NDP supporters to the Liberal party. Since the PC supporters are located between the Liberals and the Reform Party (post 1988), we see a significant number of defections to both parties, though more defections to the Liberals than to the Reform party. We also find some defections by major party supporters, and this might be due to either the party not being competitive in the riding or to protest voting.

Table 3: Vote Intentions by First Preference, 1988-2000

	First Preference NDP			
	1988	1993	1997	2000
NDP	69.4%	92.8%	67.5%	35.4%
Liberals	19.3%	5.1%	14.4%	25.2%
PC	11.3%	1.7%	10.7%	6.7%
Reform	-----	.4%	7.4%	4.1%
	First Preference PC			
	1988	1993	1997	2000
NDP	5.2%	.45%	7.6%	5%
Liberals	10.8%	17.5%	15.9%	19%
PC	84%	66.9%	68.2%	34.2%
Reform	-----	15.1%	8.4%	10%
	First Preference Liberals			
	1988	1993	1997	2000
NDP	8.8%	14.2%	8.6%	1.9%
Liberals	81.5%	84.8%	77.4%	84.5%
PC	9.7%	.70%	8.7%	2.7%
Reform	-----	.28%	5.4%	3.6%
	First Preference Reform			
	1988	1993	1997	2000
NDP	-----	.50%	4.6%	1.7%
Liberals	-----	1.7%	8.3%	8.5%
PC	-----	.76%	6.8%	2.7%
Reform	-----	97.1%	80.4%	71.1%

In addition to the importance of utility in the multicandidate calculus of voting, we also examined the expectations among voters of the probability of the different parties winning in the respondents' riding. Table 4 presents the results across the four elections for the whole sample. The most striking part of the table is the eroding perception that the PC party would win in the respondent's riding. They went from being likely to win by a majority to being a trailing minor party in 2000. The subjective perception of the NDP being able to win in the respondent's riding also has eroded over time. As was discussed earlier, the Liberals were expected to form the government because of the anti-PC sentiment in 1993 (and because of being a major party). This support went down slightly in 1997 and 2000, but still constituted a majority thinking the Liberals would win

in their riding. This seems logical in that the Liberals, as the only remaining traditional major party, seemed the only real candidate to govern the country. Finally, approximately the same percentage thought the Reform party would win in their riding in 1993, 1997 and 2000. Given our expectations, the incentives for strategic voting should have been highest among NDP supporters in 1988. However, we found more defections in 2000, which may be explained in part by the multicandidate calculus of voting. With the Reform and PC Party being to the right of the Liberals, it seems that there should have been incentives for strategic voting since 1993, because if they coordinated their votes, then they would have been able to defeat the Liberals. The problem of course is that the PC voters are in between the Reform Party and the Liberal Party, and defect to both sides.

Table 4: Probability of the Party winning in the Respondent's Riding

	1988	1993	1997	2000
PC	59.1%	49.4%	38.6%	23.8%
Liberals	38.7%	61.3%	55.2%	55.9%
NDP	33.5%	27.9%	28.4%	18.2%
Reform	-----	37.4%	35.1%	33.7%

General Results

Given that the dependent variable is dichotomous, we ran probit analysis on our two samples. Table 5 presents the results for 1988, while Table 6 presents the results for the pooled sample, from 1993-2000. Turning first to the model for 1988, PB₁₃ and PB₂₃ are significant and in the expected direction. Furthermore, the political interest variable and the dummy for female are significant. Even though only 18.2% are correctly predicted as not having voted for their favorite, this is not uncommon when dealing with the whole sample of voters.¹⁵

Table 5: Probit on Vote Favorite, 1988

Variables	Coefficient	Standard Error
PB ₁₂	.614	.528
PB ₁₃	2.70**	.370
PB ₂₃	-3.03**	.601
Vote Third	.150	.118
Political Interest	.080*	.047
Age	.002	.003
Union	-.008	.094
Female	.150*	.086
Education	-.027	.021
Catholic	-.175	.137
Protestant	-.072	.127
Speak French	.150	.148
Constant	.859	.245
N	1656	
Chi Squared	174.96	
Pseudo R ²	.139	

¹⁵ Ordeshook and Zeng (1997) argue that the model should perform best for third party supporters. The inclusion of both major party and third party supporters decreases the fit of the model, since major party supporters do not have an incentive to vote strategically.

Percent at 0 correctly predicted	18.2%	
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**Significant at the .05 level. * Significant at the .10 level.

Note: Region Dummies were also included. The dummy for prairies was significant at .05 and had a positive coefficient

If we turn to the results from 1993-2000, we find that many of the interacted probability and utility terms are significant. PB₁₃ and PB₁₄ are positive and significant as expected, reflecting the hypothesis that one should be more likely to vote for their first preference as the race is closer between their first preference and other candidates. PB₂₃ is significant, though the sign on the coefficient is positive, which is contrary to expectations. However, PB₂₄ is significant and negative, as expected. The signs on the year dummies are positive, indicating that individuals were more likely to vote sincerely in 1997 and 2000. Our variable capturing whether the respondent voted for a minor party in the past is also positive and significant, as expected. Many of the control variables are also significant, with older individuals, union members, those with higher education, Catholics, Protestants, and those who speak French being more likely to defect from their first preference. However, those with higher levels of political interest and females were more likely to stick with their first preference. Finally, the percentage correctly predicted at 0 is almost identical to the results for 1988.

Table 6: Probit on Vote Favorite, 1993-2000

Variables	Coefficient	Standard Error
PB ₁₂	.011	.010
PB ₁₃	.032**	.009
PB ₂₃	.026**	.014
PB ₁₄	.024**	.006
PB ₂₄	-.056**	.008
Vote Third	.352**	.060
Political Interest	.026**	.010
Age	-.003**	.002
Union	-.243**	.046
Female	.286**	.046
Education	-.037**	.011
Catholic	-.791**	.063
Protestant	-.207**	.064
Speak French	-.423**	.070
1997	.595**	.086
2000	.245*	.150
Constant	1.058	.185
N	6463	
Chi Squared	1162.43	
Pseudo R ²	.217	
Percent at 0 correctly predicted	18.1%	

**Significant at the .05 level. * Significant at the .10 level.

Note: Region Dummies were also included. They were insignificant.

The results from the probit analysis do not really give us a sense of the substantive effects of the variables, so we calculated the first differences using Clarify, developed by Tomz, Wittenberg and King (2001). The nice advantage of using Clarify is that we are able to hold the utility component of the PB measures constant, while looking at the effect of moving the probability component, and vice versa. Table 7 presents the

substantive effects of the PB terms, first holding the probability component of the PB terms constant and looking at the effect of moving utility and then holding utility constant and looking at the effect of moving the probability component. All other variables are held at their mean.

Turning first to the effect of the PB_{12} term in the equation, when P_{12} is held at the minimum value (or their favored candidate has little chance of winning), an individual is 3.9 percentage points less likely to vote for their favorite candidate as they move from the mean difference in utility between their first and second preferences to the maximum difference in utility between the two in 1988. The comparable figure for the pooled model is 14.9 percentage points. However, we can see that for both samples, when P_{12} is held at the mean or maximum, and we move utility, the individual becomes more likely to vote for their favorite candidate, as expected. When we hold B_{12} at the mean or maximum difference in utility and increase the probability of being decisive between one's first and second preferences, we find a more pronounced increase in the likelihood of voting for one's favorite candidate. There is then a stronger effect of voting for one's favorite when we move the probability component of the model for both samples. We find a similar effect for the PB_{13} and PB_{14} components of the model.

Table 7: Substantive Effects of the Model on Probability Vote Favorite

	1988		1993-2000	
	Effect of Moving B_{12}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P_{12} at Minimum	-3.8%	-3.9%	-1.6%	-14.9%
P_{12} at Mean	.4%	.3%	1.9%	1.1%
P_{12} at Max	2.7%	1.4%	1.3%	3.9%
	Effect of Moving P_{12}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B_{12} at Mean	4.3%	2.2%	1.7%	1.1%
B_{12} at Max	8.5%	3.3%	17.7%	3.9%
	Effect of Moving P_{13}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B_{13} at Max	52.9%	8.9%	58.3%	5.7%
	Effect of Moving B_{23}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P_{23} at Minimum	6.7%	2.2%	-3.2%	-38.3%
P_{23} at Mean	-.4%	-.6%	.2%	1.5%
P_{23} at Max	-15.4%	-32.5%	2.5%	6.1%
	Effect of Moving P_{23}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B_{23} at Mean	-7.1%	-15%	3.4%	2.3%
B_{23} at Max	-10%	-46.8%	43.2%	6.9%
	Effect of Moving B_{14}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P_{14} at Minimum			-13.6%	-26.5%
P_{14} at Mean			2.9%	3.2%
P_{14} at Max			7.7%	4.1%
	Effect of Moving P_{14}			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B_{14} at Mean			16.5%	4.8%
B_{14} at Max			46.2%	5.6%

	Effect of Moving B₂₄			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P ₂₄ at Minimum			5.4%	1.4%
P ₂₄ at Mean			-1.9%	-7.5%
P ₂₄ at Max			-15.6%	-66.9%
	Effect of Moving P₂₄			
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B ₂₄ at Mean			-7.3%	-13.7%
B ₂₄ at Max			-16.3%	-73%

To refresh, the PB₂₃ and PB₂₄ terms should have a negative effect on voting for one's favorite candidate. As the race becomes closer between an individual's second and third or second and fourth candidates and the utility differential increases, they should be more inclined to defect from their first preference. Turning first to the effect of PB₂₃ in 1988, we find that when PB₂₃ is held at the maximum (or the race is closest between one's second and third preferences), and we move from the minimum to the maximum difference in utility, an individual is 15.4 percentage points less likely to vote for their favorite candidate. As we move from the mean to the maximum difference in utility, an individual is 32.5 percentage points less likely to vote for their favorite candidate. If we hold utility constant at the mean, and move from the mean value of PB₂₃ to the maximum value, an individual is 15 percentage points less likely to vote for their favorite. The effect is even more pronounced when the difference in utility is held at its maximum.

Since the sign on the PB₂₃ variable is not in the correct direction in the pooled model, we will focus on the substantive effects of the PB₂₄ variable. The results are similar to those for the PB₂₃ variable in 1988, but they are even more pronounced. If we hold the P₂₄ term at its maximum, and move from the mean to the maximum difference in utility, an individual is 66.9 percentage points less likely to vote for their favorite candidate. When utility is held at its mean value and we move from the mean to the maximum difference in the P₂₄ term, an individual is 13.7 percentage points less likely to vote for their favorite. As with the PB₂₃ term, the effect of moving the probability component is more pronounced than the effect of moving the utility component of the model.

Recall that we also hypothesized that individuals with less political efficacy might be more inclined to stick with their first preference. We were only able to test this hypothesis with the data from 1997 and 2000, since efficacy questions were not asked in 1988 or 1993. The variable was insignificant in 1997, but was significant in 2000. However, contrary to expectations, those individuals with less political efficacy were more likely to defect than those with higher levels of efficacy. This suggests that those who believe their vote can make a difference wanted to express a sincere preference; they may believe that popular vote totals and vocal Members of Parliament can have an impact how influential their preferred party's platform is in parliament. Those with low feelings of efficacy may be only responding to the simple desire not to waste their vote.

Overall, the expected utility variables have strong substantive effects on the likelihood of voting for one's favorite candidate. However, the fit of the model is less than perfect, with only around 18% of both samples being correctly predicted as not having voted for their favorite candidate. One possible reason for this is that the model includes both major party and minor party supporters. There is no incentive for major party supporters to vote strategically, since their favored candidate will have a good

chance of actually winning. We should find that the model does a better job predicting for minor party supporters, since it is less likely that their favored candidate will win. The next section tests this hypothesis by splitting the samples by the respondent's first preference.

Results across minor party verses major party supporters

In order to test the fit of the model across major party supporters and minor party supporters, we ran the same model as in the previous section, but split the sample by the respondent's first preference. Since the NDP has been a stable minor party, the model should perform well for those with the NDP as a first preference in both 1988 and the pooled sample. We should, however, find a different result for the PC. In 1988, they were one of the major parties, but suffered a massive defeat in 1993 and have not recuperated. We should therefore find a poor prediction in 1988, but a much higher percentage correctly predicted as the party changed from a major party to a minor party. Since the Liberals have been a major party throughout the whole sample, the percentage correctly predicted at 0 should be low for those with the Liberals as a first preference. Finally, the Reform party did not enter the fray until 1993 and the model should not perform as well for the Reform/CA as it does for the NDP or PC after 1988.

Table 8 presents the percentage correctly predicted as not having voted for their favorite candidate by the respondent's first preference for 1988 and the pooled sample. The results are supportive of our expectations. We see a big increase in the percentage correctly predicted among minor party supporters, compared to the 18% correctly predicted in the general model. Among NDP supporters, 41.5% are correctly predicted at 0 in 1988 and 54.5% in the pooled sample. As expected, we see a huge increase in the percentage of PC supporters correctly predicted as not having voted for their favorite from 1988 to the pooled sample. Also as expected, the model does worse among those with the Liberals as their first preference.

The percentage correctly predicted at 0 is actually rather high for those with the Reform/CA party as their first preference, though it is lower than for the NDP and the PC in the pooled sample. This may reflect the confusion that individuals with conservative leanings may feel with respect to the Reform/CA, as the party has often been associated with extremism.¹⁶ While many conservatives may be sympathetic to the Reform/CA, they may have questions about the party's ability to lead the country (or keep it united, especially with its hard-line stance regarding Quebec's separatist movement). In this sense, there may be an incentive for those who identify with Reform/CA to cast a ballot for the PC party because of its more moderate (and therefore acceptable) conservative tendencies.

Table 8: Percent correctly predicted at 0 by the respondent's first preference

Years	NDP	PC	Liberals	Reform/CA
1988	41.5%	1.3%	2.2%	-----
1993-2000	54.5%	71.7%	5.4%	46.6%

¹⁶ An example of the party's extremism is revealed in Ellis (2001): he reports that during the final days of the 2000 campaign, Stockwell Day had to engage in damage control regarding some controversial race-related statements made by Alliance members.

In order to illustrate the better fit for minor party supporters, we also calculated the first differences for the models across those with a minor party as their first preference. Table 9 compares the substantive effect of the PB_{23} term for those with the NDP as a first preference in 1988 compared to the substantive effect on the whole sample in 1988. As you can see from the table the substantive effect is slightly higher when we hold P_{23} constant and move the utility component of the PB_{23} term. The difference in the substantive effect is even more pronounced when we hold utility constant and move the P_{23} term. When utility is held at its mean and we move from the mean value of P_{23} to the maximum value (or the race becomes closest between an individual's second and third preference), an NDP supporter is 27.5 percentage points less likely to vote for their favorite, compared to only 15 percentage points for the whole sample. When utility is held at the maximum, the comparable numbers are 64.7 percentage points for NDP supporters and 46.8 percentage points for the whole sample. Thus, the substantive effect of the PB term is higher among minor party supporters, in addition to the fit of the model.

Table 9: Substantive Effect of PB_{23} in 1988 for those with NDP as a First Preference

	NDP		Whole Sample	
	Effect of Moving B_{23}		Effect of Moving B_{23}	
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P_{23} at Minimum	10.1%	2.1%	6.7%	2.2%
P_{23} at Mean	0%	0%	-.4%	-.6%
P_{23} at Max	-27.6%	-37.1%	-15.4%	-32.5%
	Effect of Moving P_{23}		Effect of Moving P_{23}	
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B_{23} at Mean	-10.1%	-27.5%	-7.1%	-15%
B_{23} at Max	-12.1%	-64.7%	-10%	-46.8%

Examining the substantive effects of the model for PC supporters is actually a nice test because they went from being a major party in our 1988 sample to a minor party in our pooled sample. Table 10 presents the substantive effects for the PB_{23} variable among PC supporters in 1988 (when they were a major party), and the effects for PB_{24} in the pooled sample.¹⁷ Even though these are not the same variables, the hypothesized effect is the same for PB_{23} and PB_{24} . As is apparent from the table, the substantive effect of the variable is higher in all cases in the pooled sample, or when the PC lost their status as a major party. For example, when the probability component is held at its maximum and we move from the mean difference in utility to the maximum difference in utility, a PC supporter was 16 percentage points less likely to vote for the PC in 1988 and 43.1 percentage points less likely to vote for the PC party in the pooled sample.

Table 10: Substantive Effect of PB_{23} and PB_{24} for those with PC as a First Preference

	1988		1993-2000	
	Effect of Moving B_{23}		Effect of Moving B_{24}	
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
P_{23}/P_{24} at Minimum	3.2%	2%	5%	3.8%
P_{23}/P_{24} at Mean	0%	-1%	-1.5%	-6%

¹⁷ The sign on the PB_{23} coefficient was insignificant in the pooled model, so we look at the effect of PB_{24} . There were only three nationally competitive parties in 1988, so there is no PB_{24} measure for that election.

P ₂₃ /P ₂₄ at Max	-6%	-16%	-9.4%	-43.1%
	Effect of Moving P₂₃		Effect of Moving P₂₄	
	Min-Mean	Mean-Max	Min-Mean	Mean-Max
B ₂₃ /B ₂₄ at Mean	-3.5%	-5.7%	-6.5%	-7.9%
B ₂₃ /B ₂₄ at Max	-6.2%	-21%	-16.3%	-45%

In sum, we find that the model does perform much better among minor party supporters, as expected. Individuals with a first preference for a major party candidate do not have incentives to change their vote, unless they want to cast a protest vote against their favored party. The results have shown that the fit and substantive effects of the variables perform better among minor party supporters, compared to major party supporters.

Results across levels of sophistication

In addition to the results across minor party verses major party supporters, we hypothesized that the model should perform best for those individuals average in their level of political sophistication. We created a scale of political sophistication by combining the political interest variable with the education variable. We then split this variable into those with low, average, and high levels of political sophistication. Table 11 presents the fit of the model across our three groups for 1988 and the pooled sample.

Table 11: Percent correctly predicted as not having voted for their favorite across levels of sophistication

	Low	Average	High
1988	*	10%	28.8%
1993-2000	13.9%	57.7%	21.9%

*nobody in this group voted for their second preference.

The results for the pooled sample are supportive of our expectations, in that the model correctly predicted a much high percentage for those who did not vote for their favorite among individuals average in sophistication, compared to the low and high groups. However, in 1988, the model performs better for those high in sophistication. It thus appears that overall our results are mixed, though the pooled sample does contain more elections.

Table 12 also summarizes the significant PB terms across levels of sophistication. We find that in 1988, both the PB₁₃ and PB₂₃ terms are significant for those individuals average and high in sophistication. However, in the pooled sample, more of the PB terms are significant among those individuals average in political sophistication. Among those low in sophistication, the PB₁₃, PB₁₄, PB₂₃, and PB₂₄ variables are significant, though the sign on the PB₂₃ variable was again in the wrong direction. Among those individuals average in sophistication, all of the PB terms were significant. Again, we find that the sign on the PB₂₃ term is in the incorrect direction. Finally, among those individuals high in sophistication, only the PB₁₃, PB₁₄, and PB₂₃ terms are significant. One interesting thing is that the sign on the PB₂₃ term is significant for this group. Furthermore, even though the PB₂₄ variable is insignificant, it did have a negative coefficient. Thus, it appears that the expectations of the direction of the PB terms are met best among those high in sophistication.

Table 12: Summary of the Significance of the PB terms across Levels of Sophistication

Level of Sophistication	Significant Variables	
	1988	1993-2000
Low	None	PB ₁₃ , PB ₁₄ , PB ₂₃ *, PB ₂₄
Average	PB ₁₃ , PB ₂₃	PB ₁₂ , PB ₁₃ , PB ₁₄ , PB ₂₃ *, PB ₂₄
High	PB ₁₃ , PB ₂₃	PB ₁₃ , PB ₁₄ , PB ₂₃

*significant, but the sign on the coefficient was opposite of our expectations

Discussion and Conclusions

Our findings lead to several conclusions about strategic voting in Canada. First, it does occur. There were a substantial numbers of voters who did not vote for their most-preferred party. Even though Canada is used as an example that contradicts Duverger’s theory, the psychological effect of not wanting to cast a “wasted” vote does appear to operate among the Canadian electorate. Most importantly, we found strong support for this psychological effect leading minor party supporters to abandon their first preference across the four elections. The variables in the multicandidate calculus were significant and had a substantial impact across many of the models.

Second, we found evidence for each of our model-extending hypotheses. The model does perform much better for minor party supporters than it does for major party supporters. We found that the fit of the model and the substantive effects of the variables were strongest for the NDP and the PC (post 1988) compared to the Liberals and Reform/CA. Furthermore, our natural experiment of the change in the status of the PC showed a much better fit and stronger substantive effects after the party lost their status as a major contender.

We also found some support for our hypotheses concerning one’s level of political sophistication. The fit of the model and the substantive effects were greatest among those individuals average in sophistication for the pooled sample. The lack of elite leadership regarding strategic voting in Canada makes this finding all the more remarkable. However, the results in 1988 showed that the model performed best for those individuals high in sophistication. Even though the results appear somewhat mixed, they lean on the side of positive findings for the hypothesis, especially since the pooled sample contains three elections.

There is mixed evidence for our hypothesis that minor party supporters who have voted for their preferred party in the past election will vote sincerely again. The ‘vote third’ variable is not significant for the 1988 election, but it is for the pooled sample of the 1993-2000 elections. Given the larger sample size for the pooled data, we believe that this provides some support for the idea that some minor party supporters have feelings of loyalty or ideological convictions that prevent them from voting strategically.

Feelings of efficacy, on the other hand, seem to work against incentives to vote strategically. Contrary to our expectations, those who feel less efficacious were more likely to vote strategically than those with higher levels of efficacy. It could be that those

with high levels of efficacy find value in expressing, or registering, their sincere preferences. However, those who feel less efficacious might be more concerned with the outcome of the election, and thus more likely to change their vote.

Our hypothesis about the importance of the number and location of minor parties seems to be refuted. Recall that we expected there to be more strategic voting in 1988, when there was only one minor party that was located to the extreme of a major party. The results in Table 2, however, show that significantly more citizens voted for a party other than their first preference in 2000 than 1988, 1993 or 1997. This likely reflects the crystallization of the 'new' party system in Canada, and the fact that neither the PC nor NDP parties had any real chance of forming the government after 1988. What this finding does not indicate is what type of coordination occurred among strategic voters. As we suggested earlier, when a minor party is located ideologically between two major parties, it is unclear which party will be the recipient of strategic votes. If the supporters of a minor party end up defecting to two different parties their strategic votes might be useless, as they canceling each other out. Minor party supporters do not really affect the election outcome when they do not vote as a coherent block.

This brings us to the most interesting implication of our findings. Since it became obvious that the PC party was no longer the main right-wing contender, there have been attempts by conservative-minded Canadians to form a party that unites Reform/CA supporters with traditional PC supporters. In fact, the transformation of the Reform Party into the Canadian Alliance in the spring of 2000 was part of the United Alternative process, began by Preston Manning, to form such a right-wing party.¹⁸ It appears that the strategy worked to a degree: a survey question that asked respondents to identify the parties according to their placement on a taxes and spending scale revealed that the Reform party was considered closer to the PC party in 2000 than it was in 1997. Unfortunately for conservatives (and fortunately for Liberals), the Canadian Alliance has failed to capture the support of a majority of PC voters because the perception of the location of the Liberal party has also shifted, with PC supporters placing the Liberal party closer to the PC party in 2000. There seems to be hesitation on the part of PC supporters to cast a ballot for a party that many see as extreme and incapable of governing for the whole country. To this end, more PC supporters intended to cast their ballots for the Liberals (19%) than the Canadian Alliance (10%) in 2000 (see Table 3).

While the PC party still claims to be a viable election choice, it appears that there is little hope for a right-wing party governing Canada unless PC supporters defect as a group to support the Canadian Alliance.¹⁹ This might only be possible if the Canadian Alliance becomes more moderate and moves closer to the center to draw in these voters. This strategy may be thwarted, however, as the Liberals can also move their platform closer to the preferences of PC voters, especially because they have no competition for strategic NDP supporters (there is no more extreme left-wing party). Regardless, it may

¹⁸ Ellis (2001:61) notes that the United Alternative process "rested on the assumption that the vast majority of Ontario Conservative voters would automatically flock to a new party if it was perceived to be less Western and less radical in its policy proposals than was Reform." This logic was faulty, however, as "[s]tudies indicated that, largely because of its image, Reform was not necessarily the next choice for most Ontario Conservative voters. In fact, the largest plurality of Ontario Conservative voters would be more likely to choose the Liberals (44 percent) than Reform (18 percent)."

¹⁹ Ellis (2001:61) notes, "Any hopes that the federal Progressive Conservative party would willingly participate in its own demise were quickly dashed when Joe Clark won the PC leadership."

make sense for conservative elites to advertise the importance of casting a strategic vote from the very beginning of a campaign period. Our results indicate that the same individuals Zaller(1992) predicts should be receptive to elite cues are the most likely to strategic vote. The Canadian Alliance should attempt to convince PC voters to coordinate their votes for the Canadian Alliance by depicting themselves as closer to PC preferences than the Liberal party. Unless the PC party decides to sacrifice itself by directing its supporters to vote for the Canadian Alliance, or the Canadian Alliance undertakes a concerted effort to persuade PC voters, there does not seem to be a realistic chance for a conservative government in Canada.

References

- Abramson, Paul R., John H. Aldrich, Phil Paolino, David W. Rhode. 1992. "Sophisticated Voting in the 1988 Presidential Primaries." *American Political Science Review* 86: 55-69
- . 1995. "Third Party and Independent Candidates in American Politics: Wallace, Anderson, and Perot." *Political Science Quarterly* 110: 349-67.
- Abramson, Paul R., John H. Aldrich, Matthew Diamond, Renan Levine, Thomas J. Scotto, and Abraham Diskin. 2001. "Strategic Abandonment or Sincerely Second Best? Strategic Voting in the 1999 Israeli Election." Paper presented at the 2001 Annual Meeting of the Midwest Political Science Association.
- Aldrich, John, Laura Stephenson, Jennifer Merolla and Elizabeth Zechmeister. 2001. "Behind the Eight Ball? Cueing Economic Liberalization in Canada, Mexico, and the United States." Paper presented at the 2001 Annual Meeting of the Southern Political Science Association, Atlanta, Georgia, November, 7-10, 2001.
- Alvarez, R. Michael and Jonathan Nagler. 2000. "A New Approach for Modeling Strategic Voting in Multiparty Elections." *British Journal of Political Science* 30: 57-75.
- Bartels, L.M. 1988. *Presidential Primaries and the Dynamics of Public Choice*. Princeton, NJ: Princeton University Press.
- Black, J.H. 1978. "The Multicandidate Calculus of Voting: Applications to Canadian Federal Elections." *American Journal of Political Science* 22: 609-638.
- Blais, Andre and Ken Carty. 1991. "The Psychological Impact of Electoral Laws: Measuring Duverger's Elusive Factor." *British Journal of Political Science* 21: 79-93.
- Blais, Andre and Richard Nadeau. 1996. "Measuring Strategic Voting: A Two-Step Procedure." *Electoral Studies* 15: 39-52.
- Blais, André, Elisabeth Gidengil, Richard Nadeau, and Neil Nevitte. 1997. *The 1997 Canadian election survey*. Distributor: York University. Institute for Social Research; ICPSR 2593
- Blais, André, Elisabeth Gidengil, Richard Nadeau, and Neil Nevitte. 2000. *Canadian election study, 2000*. Distributor: Université de Montréal. Faculté des arts et des sciences. Département de science politique.
- Blais, Andre, Elisabeth Gidengil, Richard Nadeau, and Neil Nevitte. 2000. *Canadian Election Survey, 2000* [Computer file]. Toronto, Ontario: York University, Institute for Social Research [producer], 1997. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor].
- Blais, Andre, Richard Nadeau, Elisabeth Gidengil, and Neil Nevitte. 2001. "Measuring Strategic Voting in Multiparty Plurality Elections." *Electoral Studies* 20: 343-352.
- Bowler, S and D.J. Lanoue. 1992. "Strategic and Protest Voting for Third Parties: The Case of the Canadian NDP." *Western Political Quarterly* 95: 485-499.
- Cain, Bruce E. 1978. "Strategic Voting in Britain." *American Journal of Political Science* 22: 639-655.
- Campbell, Angus, Philip Converse, Warren Miller, and Donald Stokes. 1960. *The American Voter*. New York: Wiley.
- Clarke, Harold D., Jane Jenson, Lawrence LeDuc and Jon H. Pammett. 1996. *Absent Mandate: Canadian Electoral Politics In an Era of Restructuring* 3rd ed. Toronto: Gage.

- Cox, Gary W. 1994. "Strategic Voting Equilibria under the Single Non-Transferable Vote." *American Political Science Review* 88: 608-621.
- , 1997. *Making Votes Count. Strategic Coordination in the World's Electoral Systems*. Cambridge: Cambridge University Press.
- Curtice, John and Michael Steed. 1988. "Appendix 2." In David Butler and Dennis Kavanagh. *The British General Election of 1987*. New York: St.-Martins Press.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper and Row.
- Duverger, Maurice. 1967. *Political Parties*. London: Lowe and Brydone.
- Ellis, Faron. 2001. "The More Things Change... The Alliance Campaign." In *The Canadian General Election of 2000*, ed. Jon H. Pammett and Christopher Dornan. Toronto: The Dundurn Group.
- Evans, Geoffrey and Anthony Heath. 1993. "A Tactical Error in the Analysis of Tactical Voting: A Response to Niemi, Whitten and Franklin." *British Journal of Political Science* 23: 131-137.
- Fisher, S.L. 1973. "The Wasted Vote thesis: West German Evidence." *Comparative Politics* 6: 295-299.
- Gaines, Brian J. 1999. "Duverger's law and the meaning of Canadian exceptionalism." *Comparative Political Studies* 32(7):835-61.
- Galbraith, John W. and Nicole C. Rae. 1989. "A Test of the Importance of Tactical Voting: Great Britain, 1987." *British Journal of Political Science* 19: 126-136.
- Heath, A., J. Curtice and R. Jowell, et al. 1991. *Understanding Political Change: the British Voter 1964-1987*. Oxford: Pergamon Press.
- Hsieh, John Fuh-Sheng, Emerson M S Niou and Philip Paolino. 1997. "Strategic Voting in the 1994 Taipei City Mayoral Election." *Electoral Studies* 16: 153-163.
- Johnston, Richard, André Blais, Henry E. Brady, Jean Crête. 1988. *The 1988 national election study*. Distributor: York University. Institute for Social Research; ICPSR 9386
- Johnston, Richard, André Blais, Henry E. Brady, Elisabeth Gidengil, and Neil Nevitte. 1993. *1993 Canadian election study incorporating the 1992 referendum survey on the Charlottetown Accord*. Distributor: York University. Institute for Social Research; ICPSR 6571
- Johnston, R.J., and Pattie, C.J. 1991. "Tactical Voting in Great Britain in 1983 and 1987: An Alternative Approach." *British Journal of Political Science* 21: 95-108.
- Kim, Jae-On, and Mahn-Geum Ohn. 1992. "A Theory of Minor-Party Persistence: Election Rules, Social Cleavage, and the Number of Political Parties." *Social Forces* 70:575-99.
- King, Gary, Michael Tomz, and Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretations and Presentation." *American Journal of Political Science* 44: 347-361.
- McKelvey, Richard D. and Peter C. Ordeshook. 1972. "A General Theory of the Calculus of Voting." In *Mathematical Applications in Political Science*, Vol. 6, ed. James F. Herndon and Joseph L. Bernd. Charlottesville: University of Virginia Press.
- Niemi, Richard G., Guy Whitten and Mark N. Franklin. 1992. "Constituency Characteristics, Individual Characteristics and Tactical Voting in the 1987 British General Election." *British Journal of Political Science* 22: 229-254.

- Ordeshook, Peter C. and Langche Zeng. 1997. "Rational Voters and Strategic Voting: Evidence from the 1986, 1980, and 1992 Elections." *Journal of Theoretical Politics* 9: 167-187.
- Peterson, Geoff and J. Mark Wrighton. 1998. "Expressions of Distrust: Third-Party Voting and Cynicism in Government." *Political Behavior* 20: 17-34.
- Popkin, Samuel L. and Michael Dimock. 1996. "Political Knowledge and Citizen Competence." In *Democracy and Citizen Competence*. Ed, Steven Elkins. Pennsylvania: Penn State University Press.
- Riker, William H. and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *American Political Science Review* 62: 24-42.
- Rosenstone, Steven J., Roy L. Behr, and Edward H. Lazarus. 1996. *Third Parties in America: Citizen Response to Major Party Failure*. 2nd edition. Princeton, NJ: Princeton University Press.
- Sniderman, Paul M., Richard A. Brody and Philip E. Tetlock. 1991. *Reasoning and Choice: Explorations in Political Psychology*. Cambridge: Cambridge University Press.
- Spafford, Duff. 1972. "Electoral Systems and Voter's Behavior." *Comparative Politics* 5: 129-134.
- Tomz, Michael, Jason Wittenberg, and Gary King. 2001. "Clarify: Software for Interpreting and Presenting Statistical Results." Version 2.0 Cambridge, MA: Harvard University, June 1. [Http://gking.harvard.edu](http://gking.harvard.edu)
- Whitehorn, Alan. 2001. "The 2000 NDP Campaign: Social Democracy at the Crossroads." In *The Canadian General Election of 2000*, ed. Jon H. Pammett and Christopher Dornan. Toronto: The Dundurn Group.
- Woolstencroft, Peter. 2001. "Some Battles Won, War Lost: The Campaign of the Progressive Conservative Party." In *The Canadian General Election of 2000*, ed. Jon H. Pammett and Christopher Dornan. Toronto: The Dundurn Group.
- Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.
- . 1996. "The Myth of Massive Media Impact Revisited." In *Political Persuasion and Attitude Change*, ed. Diana Mutz, Paul Sniderman, and Richard Brody. Ann Arbor: University of Michigan Press.