

Environmental Voting in Canada: Evidence from the 2006 Canadian Federal Election

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Abstract

One of the most visible changes in post-war public opinion has been the increased concern for the environment. Research on environmental concern has largely focused on measurement issues, as well as links with environmental activities. Remarkably, little has been devoted to how environmental concern impacts voting. This paper contributes to the research by examining the relevance of environmental concern in the 2006 Canadian federal election. The election is particularly conducive to the study of environmental voting as the environment was a campaign minor issue, the election included the presence of the Canadian Green Party, and the results (as was seen in 2004) led to a minority government, enhancing the importance of issue differences between parties. Using data from the 2006 Canadian Election Study competing hypotheses were tested on the expected contribution environmental concern provides to understanding voting behaviour. The values approach suggest that environmental concern leads to vote abstention or to greater support for left-wing parties. Conversely, rational choice theory argues that environmental voting leads to support for brokerage parties. These different assumptions are further applied to two specific situations: riding contestation and time of vote choice. Preliminary results suggest environmental voting exists in the 2006 election, although questions remain as to how the findings fit theoretical assumptions.

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Introduction

A growing environmental concern has developed across many post-industrialized society. In Canada levels of concern are, in part, due to the development of an environmental consciousness. Similar to Popkin's (1994) notion of an economic awareness, Canadian environmental consciousness has been aided by a host of mundane activities and events, including recycling, the purchase of energy efficient products and the presence of smog advisories. This awareness is tangibly seen in the growing rates of concern about the environment. For example, in a series of polls conducted by Nanos¹ since 2005, the environment has been one of the top three issues mentioned, along with jobs/economy and health care. In 2007 almost 35 percent of individuals named it as the most important issue of concern for Canada. Another effect of the Canadian environmental consciousness is political. The Green party has emerged on the national political stage; a remarkable occurrence given the barriers for small, national parties². Further, long-standing parties, such as the Liberals and NDP, have increasingly given more attention to the environment in their policy agendas, as exemplified by the Liberals "Green shift" platform in the 2008 election.

Given the rise in environmental concern and its political implications, it is surprising that little research has examined how environmental concern influences voting behaviour. While the lack of work in Canada may be a function of an absence in quality data, or the fact that past research in other countries has found rather lacklustre findings (Aardal 1990; Guber 2001; 1996), conditions are changing. Data is becoming evermore available as the environment gains in saliency and recent academic work suggests that the minimal relationship between environmental concern and voting may be a premature conclusion (Davis and Wurth 2003; Davis, Wurth and Lazarus 2008).

This paper investigates the relationship between environmental concern and voting in Canada, using the 2006 Canadian federal election as a case study. The 2006 election is particularly useful in that the Green party was an actor, the environment was a small, but relevant campaign issue and the results of the election were close, with a minority Conservative party win, providing issues such as the environment to potentially have a powerful impact.

We begin by providing a theoretical account of environmental voting. Values-based theories offer certain expectations, including the potential to abstain from voting, as well as vote for left-wing parties. These assumptions are contrasted with a rational choice perspective. Second, the nature of the 2006 federal election is outlined, with a particular focus on how the environmental issue was treated. The third section discusses the methodological structure of the analysis, while the fourth part analyzes the pre-conditions required for the presence of environmental voting. Such research (Aldrich et al. 1989) has noted the need for issues to possess saliency and have distinct party differences in order to mobilize and direct voters. Finally, we examine the influence environmental concern has on voting, including its effect when riding contestation and time of vote choice are taken into account.

¹ The Nanos data can be found at: <http://www.nanosresearch.com/library/polls/POLNAT-W09-T364.pdf>.

² In 2006 the Greens gained 4.5% of the national vote. This was a slight increase from the 4.3% they received in 2004. Prior to 2004, the Party had gained less than one percent in any given election.

Theory

Past research has focused on the rise of quality of life issues, such as the environment, arguing they are a product of shifting values and structural changes within the population. A prominent approach to understanding this dynamic comes from postmaterialism (Inglehart 1977; 1990)³. The postmaterial perspective suggests that economic development, coupled with rising educational attainment have altered the experiences and expectations citizens have. Economic development provides a base of security, allowing for greater attention to self-expression and focus on non-material issues (Nevitte 2002: 6-7), while expanding educational opportunities provide the capacity to express one's preferences (Nie, Junn and Stehlik-Barry 1996). Successive birth cohorts integrate these experiences, entrenching expectations. One effect of the structural-value shift has been the rise of an environmental awareness (Inglehart 1995; Pakulski, Tranter and Crook 1998; Olofsson and Ohman 2006; Rohrschneider 1988). Indeed, for many it is the central issue emanating from the values-based literature (Dalton 1988; Dalton and Koechler 1990; Inglehart 1995).

The development of self-expression and the prioritizing of quality of life issues have political ramifications; individuals are more autonomous and less reliant on authority (Inglehart 1997; Gibbins and Reimer 1995; Nevitte 1996). Citizens become less deferential and critical of political authority. The erosion of confidence in traditional politics, particularly politicians and political parties, results in a weakening of traditional party attachments (Dalton 1984). Instead, individuals seek out alternative forms of expression, including participation in interest groups and social movements and support for "new politics" parties (Barnes and Kaase 1979; Kitschelt 1989).

Two expectations concerning the effect of environmentalism on voting are drawn from the values approach. First, those who possess higher levels of environmental concern should be more likely to abstain from voting. As disillusionment with the political process increases, individuals are more apt to see political parties, politicians and the government as incapable of responding to societal demands (Belanger 2004)⁴. Further, as individuals become more cognizant of the political process a realization forms; issues of importance cannot be affected by a single vote. Consequently, individuals are prone to express themselves through non-traditional political outlets and abstain from voting (Hirschman 1970; Lago et al. 2007). This may explain the widespread decline in voter turnout in Canada, as well as other postindustrial states⁵.

³ The postmaterial thesis is perhaps the most prominent development stemming from the values literature. However it is not the only theory based on value change. Beck (1992) puts forth a modernization theory; Douglas and Wildavsky (1982) argue that "cultural bias frames" determine value orientation; Milbrath (1984) advocates a new environmental paradigm (NEP) that challenges the dominant social paradigm; Stern and Dietz (1994) suggest a value-basis theory.

⁴ This is consistent with the overload perspective; state governments are unable to handle the stress placed on them as a result of greater expectations by the public (see King 1975).

⁵ The response to this argument is that the highly educated are not the problem, instead, the decline in voting stems from those without a university degree. Gidengil et al. (2004: 111-112) found that since the 1993 Canadian federal election turnout has dropped by 30 points among those without a highschool diploma and 15 points for those who have completed highschool or some postsecondary school. The

Others suggest that instead of exiting, individuals voice their dissatisfaction by voting for minor parties. Thus, alienation with how traditional parties operate leads to a rejection of “politics as usual” (Mudde 1996) and can provide an avenue for voters to send a message by voting for third parties without abandoning the democratic process. Minor parties act as “safety valves”, allowing voters to express anti-party sentiments (Abramson et al. 2000; Poguntke 1996; Belanger 2003).

While the alienated voter helps explain third party support, it is a fleeting type of support. An alternative perspective proposes that new minor parties represent the values and expectations of post-industrial individuals (Dalton 2002; Kitschelt 1989). It is argued that new politics parties are particularly successful if they incorporate characteristics consistent with changing demands, including anti party rhetoric, grassroots structures and “new politics” policies. Thus, those concerned about the environment are more apt to vote for third parties. This perspective suggests voter support is more stable and that environmental issues are an integral component of the party. Thus, those focused on environmental issues should be attracted to, and vote for, new parties (Burchell and Williams 1997).

Kitschelt (1988), for example, argues that support for Green parties reflect a commitment to individual autonomy combined with notions of social equality and an opposition to economic growth. Green Party supporters are not only environmentally conscious, but also hold consistent beliefs that relate to personal autonomy and concern for equality. This is consistent with work on the Green party supporters in Canada (Brown 2008). The New Democratic Party (NDP) is another party with similar traits. While the NDP might be associated with traditional political structures due to their longevity, they fit Kitschelt’s “new party” classification. The NDP filled the social and economic leftist role during the rise of the new parties found in Europe during the 1970s and 1980s and continue that trend, incorporating new issue stances attractive to the environmentally concerned.

While the values approach suggests that the environmentally concerned abstain or vote for postmaterial parties, rational choice theory provides an alternative view on environmental voting. Downs’ (1957) work on political parties is particularly relevant as he suggests that parties seek to maximize electoral support (see also Enelow and Hinich 1984; Ordeshook 1986). While other types of party goals have been put forth (Ström 1990; Wolinetz 2002), the most successful parties in Canada have followed the vote seeking path.

The Liberal Party of Canada has traditionally been characterized as brokerage parties, or modern cadre parties, who possess ideological flexibility, limited substantive roles for party members and shifting policy positions (Young and Cross 2002)⁶. Unlike more ideological or policy-driven parties, brokerage parties are preoccupied with putting together coalitions cross-cutting inherent political cleavages (Cross 2005; Clarke et al. 1996; Carty et al. 2000). As quality of life issues become more salient, brokerage parties

highly educated possess rather stable rates of turnout. These individuals are thought to be “democratically enlightened”, recognizing the importance in maintaining electoral accountability and a check against corruption and abuse of power by the political elites (Nie, Junn and Stehlik-Barry 1996: 139). However, education may not be the sole influence, other factors, such as values, have not been addressed.

⁶ The Conservatives may be less of a brokerage party since their merger with the Alliance Party in 2003.

act accordingly and take over the issue space as a means of mobilizing support (Bean and Kelley 1995). Much research supports the claim that environmental concern has been absorbed into traditional politics (McAllister and Vowles 1994; Dalton 2009; Carter 2006; McAllister and Studlar 1995). Such a perspective was surmised in the 1990 Australian national election, where Bean and Kelley (1995: 353) noted: "...the evidence here indicates that new politics issues are to a large degree dependent for their success on old politics parties taking them on board." Traditional parties, irrespective of whether or not they share deep intrinsic values with the voters, look for short-term gains by altering their policy agenda.

Second, for rational choice theorists, individuals who possess personal environmental concerns have a greater likelihood of voting for traditional parties, as these parties have greater chances of winning elections. This is often associated with strategic voting (McKelvey and Ordeshook 1972). For strategic voting to occur a voter must be willing to vote for their second most preferred party, only if their preferred party is unlikely to win. In Canada the idea of strategic voting is well researched (Black 1978; Blais and Nadeau 1996; Blais et al. 2001). The 2006 election appears to be conducive to strategic voting as the Conservatives were the only party to oppose the Kyoto Accord, yet also threatened to win a majority government. This would provide environmentally concerned voters incentive to vote for the party the Conservatives were most often in direct opposition against, the Liberals. The combination of strategic voting and brokerage parties provides an expectation that if environmental concern is to have an influence it will be seen in voting for the Liberals.

The expectations from the values and rational choice approaches thus far have assumed a direct link between environmental concern and voting behaviour. However, much work has noted the rather weak relationship between environmental attitudes and environmental behaviour (Azjen and Fishbein 1980; Rajecki 1982) and more specifically, the lack of evidence of environmental voting (Aardal 1990; Guber 2001). Instead, the attitude-behaviour relationship is often found to exist under specified conditions (Oskamp et al. 1991; Guagnano et al. 1995; Blake 2001). From this vantage point it may be that the link between environmental concern and voting is reliant on conditional effects. Two potential moderating scenarios found in elections, and consistent with both theoretical approaches are time of vote choice and the nature of the electoral competition in a riding. Those who possess early beliefs on who they will vote for or who live in ridings with little competition are more likely to use values based environmental voting as they are less susceptible to campaign effects and more apt to vote because of moral obligations, both conducive to values based voting. Conversely, those in highly competitive races or those who decide how to vote during the campaign are prone to strategic voting, as campaign influences are much greater. Thus, the original expectations based on the values and rational choice literature may be most appropriate when looking at specific situations.

2006 Canadian Election

The January 2006 Canadian federal election is an interesting case study for analyzing the electoral effects of environmental concern. On one hand it has been suggested that the environment was given little attention during the election. Complaints were made that the issue was ignored in the campaign, exemplified by the lack of questions asked about the environment in the leader's debates. Instead, more focus was paid to issues of crime, taxes, child care and the "sponsorship" scandal. Additionally, even though the Green party emerged on the political landscape in 2004, it was largely limited to the background during the campaign, even being described as an "invisible player" (Macaluso 2006: A2). Electoral regulations also undermined the ability to debate the merits of environmental policies. Canada Revenue Agency rules restricted many environmental groups from participating in the election as they faced losing their charitable status if found to be too partisan during the campaign. Groups were prohibited from doing anything that constituted "direct or indirect support of, or opposition to, any political party or candidate for public office" (Welsh 2008: A1; Bueckhart 2006). As such, many environmental groups were muted during the 2006 campaign.

Yet, there does appear to be evidence that the environment had some presence in the election. The campaign began against the background of the Kyoto Protocol meetings in Montreal. At the conference, the Liberal government reaffirmed their goal of reducing greenhouse gas emissions by 6 percent below 1990 rates by 2012. This commitment stood in stark contrast to the Conservatives, who argued for a "made in Canada" approach, which was widely criticized as being anti-environmental (Hamilton 2006; Woods 2006).

Along these lines the Liberal leader, Paul Martin, made appeals to voters at the end of the campaign to strategically vote. Martin campaigned for NDP supporters, as well as those that shared quality of life values, to vote Liberal as they were the only party to have a chance at preventing a Conservative victory at the polls (Kennedy 2006). Further, while some suggest that the Green party had little impact, they received record amounts of money and staff to build party infrastructure (Camcastle 2007). This allowed for the party to develop its roots at the community level (Bueckert 2006). Therefore, while the party and its environmental agenda may have gained little media attention at the national level, a more sustained effort may have been seen at the local, or constituent, level.

The 2006 election provides a means of testing the hypotheses developed from theory. First, we can test the different perspectives on environmental voting outlined by the values and rational choice literature. In particular, the environmentally concerned, from a values approach, are more likely to abstain or vote for the Green or NDP. Conversely, rational choice theory suggests the Liberals have the most to gain from the environmentally concerned. Second, the campaign dynamics allow us to examine the conditional nature of environmental voting. If values drive environmental concern it should be reflected in those who choose who to vote for prior to the election campaign, with the NDP benefitting⁷. Those who decide how to vote during the campaign are more

⁷ The Greens are omitted in the riding and timing analyses as the sample was too small.

likely to pick up campaign cues resulting in a more strategic voting approach for those environmentally concerned. Similarly, those voting in closely contested ridings are thought to be more strategic. As a result, it is hypothesized that in close ridings Liberals will gain from an environmental consciousness. Finally, safe ridings provide, if anything, a more value based vote as the duty to vote becomes more relevant. In these ridings left-wing parties are expected to benefit.

Data and Methods

The 2006 Canadian Election Study was used for the testing of these hypotheses. The survey is well-suited for this analysis as it focuses on the voting behaviour of individuals and the influences contributing to vote decision-making. The project consists of two survey waves, one asked of respondents prior to the election, and a second one given to those same individuals shortly after the elections was held⁸.

The primary dependent variable measures vote choice for the 2006 election. The paper focuses on those who voted for the Liberals, Conservatives, NDP and Greens. Respondents from Quebec were omitted as voting behaviour in Quebec is fundamentally different than that found in the rest of the country⁹. Multinomial logistic regression is used as vote choice is a categorical variable with more than two alternatives.

The crucial independent variable in this analysis is environmental concern, measured through a question on respondent's beliefs as to whether or not government spending¹⁰ on the environment should increase¹¹. Measurement of environmental concern is consequential given the lack of consensus in the field of study. Early research on environmental concern tended to be quite individualistic. Guber (1996), for example, notes that "researchers were developing questionnaires independently and administering them locally, they tended to use environmental measures which were very different." (p. 646). Dunlap and Jones (2002: 498) note that "only a small proportion [of environmental concern studies] employ pre-existing measures, it follows that several hundred varying operational definitions have been employed."¹²

While the CES suffers from a lack of environmental measures, the use of the spending question appears appropriate as it speaks to a wanting to give more (or less) focus on the environment. While one may critique the ideological nature of the question,

⁸The survey consists of 4058 respondents who were first surveyed in late 2005. These individuals were approached again after the election in a mail-back survey. Of those originally surveyed, 3250 completed the mail-back survey.

⁹ This approach is often taken in Canadian research (see for example, Blais et al. 2003).

¹⁰ Those who thought spending should be maintained or decreased where collapsed into a single category.

¹¹ The other questions about the environment both deal with the most important issue of the election. However, the coding and small sample size of those noting the environment precludes us from using the questions. Further, they provide a measure of saliency that we address later on in the paper.

¹² Some research focused on specific environmental issues (Lounsbury and Tornatzky 1977; Tognacci et al. 1972), others on general environmental concern (Buttel and Flinn 1976; Maloney, Ward and Braucht 1975), and yet others on government spending (Dillman and Christianson 1972), support for policy reform (Buttel and Johnson 1977) and environmental behaviour (Milbrath 1984; Schwartz and Miller 1991).

specifically the role and degree of government, Ladd and Bowman (1995: 28) suggest that support for spending on the environment is an expression “of a broad and genuine commitment to a clean environment, not a specific endorsement of higher spending.”

In addition to these primary variables, the analysis controls for a wide range of social background and attitudinal variables known for their potential effects on Canadian electoral behaviour (see Blais et al. 2002)¹³. The model includes several demographic indicators, values and attitudes, economic evaluations, party identification and a series of issue variables, including environmental concern.

The analysis of environmental voting is captured in three stages. The first considers the saliency of the environment. Researchers have noted the importance of both the availability of an issue for individuals as well as its accessibility (Aldrich et al. 1989; Guber 2001). Further, individuals must be able to distinguish between parties on the issue. We focus on the latter point by examining the ability of individuals to distinguish parties on the environmental spending issue. This involves testing the influence environmental concern has on feeling “thermometers” for each of the parties. Both magnitude and directionality are important in determining the importance of environmental concern.

The second stage examines the focal point of the paper: Does environmental concern affect vote choice and how so? The analysis attempts to examine how the environment influences one’s vote for a party over another, as well as the probability of voting for a party against all others.

Finally, given the increase in “conditional” research on the link between attitudes and behaviour, as well as the nature of the 2006 election, the paper examines environmental voting under two different situations. First we look at the timing of one’s vote. As suggested, it may be that exposure to campaign discourse provides greater salience for the environment making it more relevant for the Liberals due to the party’s attention to the topic and their competitiveness. Measurement of vote time was based on a single question asking at which point the respondent decided on who they would vote for: prior to the campaign, during the campaign or on election day¹⁴.

Second, as both the 2004 and 2006 elections resulted in minority governments the fight over closely contested ridings became an extremely important affair. The competitiveness of the election was accompanied by a concerted effort by Paul Martin to attract other party supporters to vote Liberal as a means of preventing victory for the Conservatives. The relevance of close ridings, along with clear pleas for strategic voting may have led to environmental concern having a larger effect on Liberal voting in closely contested ridings compared to safe seats. The measurement of riding type is developed through the 2004 results. Ridings that were won by 10 percent or less in 2004 were categorized as closely contested ridings. While not a perfect measure, it does give a proximate measure of riding contestation¹⁵.

¹³ Control variables included: gender, age, education, income, religion, place of residence, marital status, province, social conservatism, cynicism, religiosity, party identification, economic status, as well as views on gay marriage, death penalty, immigration, sponsorship scandal and health care.

¹⁴ During the campaign and on election day were combined into a single category.

¹⁵ The measure suffers from two factors. It may be that in 2006 some of the ridings became “safe”, while others were closely contested. Second, it is impossible to measure if individuals within these ridings

Analysis

A. Pre-Conditions for Environmental Voting

A substantial body of work posits that a series of pre-conditions are required to be met in order for issue voting to occur, including a relative importance given to the topic and clear political stances taken by political parties (Alridich, Sullivan and Borgida 1989; Campbell et al. 1960; Higgins and King 1981; Chaiken 1987). The foundation for environmental concern's influence on voting, therefore, can only be developed through issue salience, and individual's ability to distinguish party differences on environmental issues.

Due to the lack of questions measuring environmental saliency in the CES, it is difficult to determine the intensity of these concerns. However, it appears, on the surface, that Canadians are giving greater attention to the environment over time; a consistent, although modest, increase in concern has developed. The percentage of respondents who provided, unprompted, that the environment was the most important issue, doubled between 2004 and 2006¹⁶. Further, as Figure 1A shows, when asked to select one of five policy options as the most important election issue, over 21 percent of individuals indicated that the environment was their first or second priority in 2006. Slightly more than 16 percent of residents gave this priority in 2004. The increase in environmental concern was the largest found out of all five issue areas.

-FIGURE 1A ABOUT HERE-

Another condition to meet is the ability of individuals to differentiate between parties on environmental issues (Guber 2001). A preliminary step is to look at which party individuals think is best at handling environmental problems. While the findings denote a growing divergence, with the NDP and Greens as most trustworthy¹⁷, another more sophisticated measure is how important the environment is in explaining individuals' feelings toward the parties. This can be done two ways. First, we can run a regression on thermometer scores of each party and determine if, among several variables¹⁸, environmental concern matters. Second, we can take the differences in feelings towards pairs of parties and run a regression on the difference. By doing this we are able to see more directly the importance of the environment when individuals account for their likes and dislikes of parties.

-TABLES 2A & 3A ABOUT HERE-

recognized the nature of the competition. Some may not realize the nature of the riding competition, while others may equate it to the broad national campaign.

¹⁶ 2.4 percent of respondents suggested the environment was the most important issue in 2006. In 2004 it was 1.2 percent (source CES).

¹⁷ Findings not included.

¹⁸ The control variables used are the same as those for the vote choice model.

Both methods reveal evidence that individuals are cognizant of differences in capability of the political parties. In particular, pro-environmental attitudes lead to positive views about the NDP and Greens and negative perceptions of the Conservatives (see Tables 2A & 3A). Isolating the environmental variable coefficient, a number of patterns emerge. First, the environmental coefficient is positive for the Liberals, NDP and Greens, while negative for the Conservatives. Thus, those who believe that more spending is required provide higher ratings for the Liberals, NDP and Greens. Conversely, those who believe more spending is needed have lower ratings for the Conservatives.

The findings are even clearer when we examine differences in evaluations of competing parties. A stark environmental spectrum is developed. The Greens are the most linked to environmental concern, followed by the NDP and Liberals. The Conservatives are negatively linked with environmental concern no matter which party is the comparison. Only two environmental concern coefficients are insignificant, however the Conservative-Liberal coefficient approaches significance at .076¹⁹.

In sum, voters appear capable of distinguishing between candidates based on environmental concern. Yet, it still remains as to whether or not the environment actually has an influence on voters' choices at the polls.

B. Environmental Voting

The first hypothesis undertaken is that those concerned about the environment do not vote. Survey data on voter turnout have to be interpreted cautiously because of social desirability effects: voting tends to be over-reported (Granberg and Holmberg 1991). The CES relies on data collected in the immediate aftermath of the elections and so they are likely to contain more reliable respondent reporting of voting and non-voting. Nonetheless, the evidence is that CES data also tend to under-report non-voting²⁰.

The results presented in Table 1B challenge the non-voter hypothesis. Instead, those most concerned about the environment are more likely to vote than those who think that spending on the environment should be curbed. This directional relationship approaches statistical significance.

-TABLE 1B ABOUT HERE-

The results contradict the idea that those worried about the environment see traditional politics as unable to solve environmental problems. Instead, it appears that individuals concerned about quality of life issues, such as the environment, are willing to continue to participate in traditional politics. It may be that such individuals recognize that elections persist as being the only means for citizens to decide the policy direction of the country

¹⁹ It may be that individuals look at leader qualities rather than the party in general. If we look at the feelings toward each of the leaders, rather than parties, similar results are found. In particular, the direction of the environmental concern coefficients is exactly as seen with the parties. Fewer significant relationships are found, however, suggesting that individuals see parties and leaders somewhat differently.

²⁰ Of eligible voters, 64.7% voted in 2006. Yet, in the CES survey 90.6% indicated that they voted in the 2006 election.

(Klingemann and Fuchs 1995). Alternatively, individuals may see voting as a moral obligation (Riker and Ordeshook 1968), particularly given the broad support of voting as a civic duty in Canada (Blais 2000). Thus, the link between environmental concern and voting remains uncertain..

C. Vote Choice

We employ the same model used to predict thermometer feeling scores to estimate the impact of the environment on voter's candidate choice. Vote choice replaces thermometer scores as the dependent variable. Our first step was to run a multinomial logistic model to determine whether and to what extent environmental spending factors into the decision to vote for the Conservatives as compared to each of the other parties. The results suggest that environmental spending was a significant predictor in the choice between each of the parties and the Conservatives. Greater concern for environment increased the likelihood of voting for the Liberals, NDP or Greens compared to the Conservatives (see Table 2B). If we expand past the base Conservative party and examine other relationships we find that environmental concern is a strong predictor of voting for the Greens versus the Liberals and the NDP. Clearly, the likelihood of voting for the Greens is strongly linked to a preference for greater spending on the environment (see Table 3B). The differences between the NDP and Liberals are small and insignificant.

-TABLES 2B & 3B ABOUT HERE-

The findings are important for several reasons. First, it suggests environmental concern, even after controlling for several other influences, is a significant contributor to vote choice in Canada. Second, supporting greater environmental spending consistently hinders Conservative support. This finding gives support to campaign effects, as the Conservatives were criticized for their environmental policies. Third, it is not entirely clear how the environment interacts with voting for brokerage parties (the Liberals) and parties often seen on the left. While significant differences do present themselves for the Greens, environmental concern does not affect the relationship involving the Liberals and NDP. From this it is difficult to determine if either the NDP or Liberals possess issue ownership of the environment. Conversely, the Greens appear to have a strong hold on the environment as an issue in 2006.

As a means of clarifying how environmental concern influenced voting for each party, without considering an explicit choice set, we calculated the probability of voting for each party at different levels of environmental concern from 0 (less/no spending) to 1 (more spending). As seen in Figure 1B, the predicted changes in vote choice are in an expected direction with vote probability for the NDP, Greens and Conservatives. As we go from less spending on the environment to more spending, the probability of voting for the NDP or Greens significantly increases, while the likelihood of voting for the Conservatives decreases. The probability of voting for the Liberals modestly rises as the need for environmental spending increases, however the findings are not significant.

Thus, it appears that environmental attitudes are an important issue consideration for voters, significantly advantaging the NDP and Greens, while disadvantaging the Conservatives.

-FIGURE 1B HERE-

D. Time of Vote Choice

As noted, the Liberal leader, Paul Martin, made an appeal toward voters on the left to vote for them as a means of preventing the Conservatives from winning. Martin also made particular references to the environment and how it would be undermined. By raising the issue, and exploiting it for their own purposes, environmental concerns may have gained in saliency. Indeed, traditional parties are often thought to aid in the prominence of issues during a campaign. Meguid (2005) argues that major parties decide which issues to compete on and the position they will take, thus shaping the importance of a topic.

If accurate, new politics issues remain hostages of the campaign whims of dominant political forces who control the electoral agenda. This perspective implies that the Liberals campaign generated an increase in environmentally motivated voting. As such, we hypothesize that concern for the environment had a stronger impact for Liberals voters who made their final vote choice during the election campaign compared to those who made up their choice beforehand. Further, to the extent that the campaign highlighted the environmental issue generally, it may also be that environmental concern had a stronger negative impact on Conservative votes among electors who delayed their vote choice decision until the campaign was underway.

Figure 1C suggests that a campaign phenomenon was present²¹. This can be seen in a number of ways. The probability of voting Conservative declined no matter the time one chose who they would vote for. However, the decline was much more apparent during the campaign. Second, while the relative chances of voting for the Liberals, based on the model, were higher for campaign voters, the influence of environmental concern was negligible for the Liberals for both time periods. Instead, probability of voting for the NDP increased at a higher rate as spending demands rose. This was especially true for those who decided during the campaign. It may be that the rise in attention to the environment by the Liberals led to an increased salience, aiding in the NDP's vote potential, while hurting the Conservatives (Meguid 2005; Bean and Kelley 1995).

-FIGURE 1C ABOUT HERE-

²¹The results generated from the riding contestation and time of vote analysis may suffer from small sample sizes. Long (1997: 54) suggests that "It is risky to use [maximum likelihood] with samples smaller than 100, while samples over 500 seem adequate." While the samples are above 100, they are below 500.

E. Riding Contestation

It is possible that across the entire electorate the impact of environmentalism might not have been as great as found in certain sets of ridings. In particular, closely contested ridings, where the results are at least somewhat in doubt may enhance the rational choice model of environmental voting, while values based environmental voting is stronger in safe ridings, those that lack strong competition.

Figure 1D highlights the effects of riding contestation. The results show that environmentalism had few tangible influences in close ridings. The only beneficiary were the NDP; an increase in support for environmental spending increased the probability of voting for the NDP. For the Liberals, the environmental spending coefficient was negative, although highly insignificant. Similar results, although more stark, were found with the probability of voting Conservative. The findings are contrary to the expectation that in tight races those concerned with the environment are likely to side with the brokerage party. Thus, Martin's pleas appear to have fallen on deaf ears where it mattered most.

-FIGURE 1D ABOUT HERE-

In safe ridings the biggest effect environmental concern had was on the probability of voting Conservative. Those who were more likely to believe in greater spending on the environment were much less willing to vote Conservative. Conversely, the NDP gained voters as environmental concern grew. Again, environmental concerns had little role in explaining the probability of voting Liberal. As such, preliminary evidence supports the notion that in safe ridings quality of life issues are important.

Discussion

The objective of the paper was to examine the nature of the relationship between environmental concern and voting. While research in other countries has delved into this relationship, little has been done in Canada. Rising public concerns, as well as increasing attention given to the environment by political parties suggest an analysis of environmental voting is warranted.

Past Canadian Election Study research has noted the rather minimal role issues have had in explaining vote choice in Canada. However, a small role can be rather integral to elections in Canada. As Blais (2002b: 153) and colleagues have noted: "gaining or losing one or two percentage points can mean a lot for a party, especially in a "First-Past-the-Post" system". While this paper is not arguing that the environment was the only, or even dominant, factor in the election, it does appear to have a role, at least in the 2006 election. The data analyzed indicates a rather consistent environmental influence in voting behaviour. Support was found for a degree of pre-conditional attributes held by individuals, including a growing saliency and party differentiation. In terms of actual voting influence, environmental concern was a stable contributor even after controlling for historically dominant factors. In particular, levels of concern aided the left-wing parties and constrained Conservative support.

The implication of these findings is multi-fold. At the broad level the Liberals seem to have been successful in using their brokerage style to enter the issue space of the environment. While differences remain between the Greens and Liberals, the data suggest no differences between the NDP and Liberals. This is significant given that the NDP are a more entrenched and competitive party compared to the Greens. However, when examining the role of environmental concern on voting for Liberals, versus all other parties, the story changes; the Liberals gain no advantage from the environmentally concerned. This is also seen when introducing the impact of riding contestation and time of vote. Instead, environmental concern appears to be much more relevant for the NDP and Conservatives.

The Conservatives are at a clear disadvantage when it comes to the environment, indicating that their status as a brokerage party is in doubt. This is consistent with the development of the party in recent years which saw a merger between the Alliance and the more ideologically moderate Progressive Conservatives. The NDP, on the other hand, consistently benefited from the rise in environmental worry, no matter the situation. These findings give credence to the values literature and the emergence of quality of life issues as a viable election domain. Strategic voting, at least based on environmental concern, had little influence. Expectations that the Liberals would benefit did not surface and instead the NDP gained. It may be that strategic voting, or environmental concern, lacks coherency where it matters most. This may have changed in 2008, when organizations directly appealed to environmental strategic voting by highlighting particular ridings for voters to strategically vote²².

How do we understand the nature of the Green party? Clearly supporters see the party as a leader on the environment. However, as the NDP and Liberals become more entrenched in the environmental issue space one must question the party's viability. The NDP appear to be a threat to the Green's survival from a values perspective, while the Liberals threaten the Greens through their strategic positioning.

²² The main contributor to environmental strategic voting was voteforenvironment.ca

Appendix A: Tables and Figures

Figure 1A. Saliency of Environmental Concern in Canadian Elections

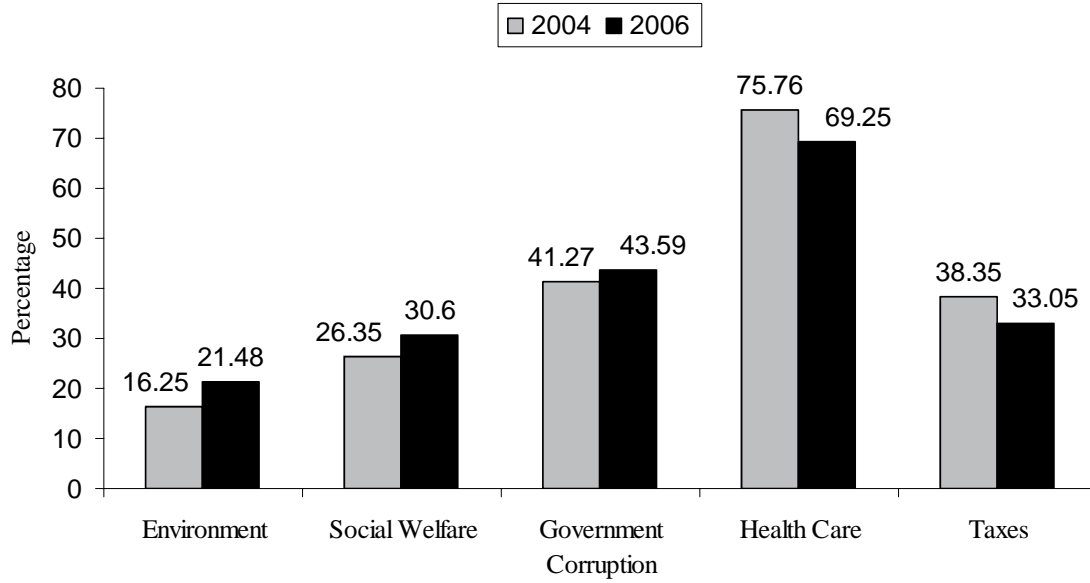


Table 1A Predicting Party Thermometer Scores+ (OLS Results)

| | Conservative | Liberal | NDP | Green |
|-----------------------|---------------|---------------|----------------|---------------|
| Environmental Concern | -2.47 (1.48) | .84 (1.36) | 2.80 (1.40)*** | 7.13 (1.82)* |
| Constant | 42.77 (4.25)* | 67.35 (3.91)* | 65.96(4.04)* | 46.13 (5.14)* |
| R ² | .40 | .47 | .28 | .16 |
| N | 950 | 959 | 951 | 739 |

Note: first coefficient is the regression coefficient with the standard error in parentheses. Table omits control results.

*p<.001 **p<.01 ***p<.05

Table 2A Predicting Party Thermometer Differences+ (OLS Results)

| | Liberal vs. Conservative | Liberal vs. NDP | Liberal vs. Green | NDP vs. Conservative | NDP vs. Green | Green vs. Conservative |
|------------------------------------|-----------------------------|--------------------|----------------------|-------------------------|--------------------|---------------------------|
| Environmental Concern [^] | 3.29 (1.93) | -1.82 (1.67) | -6.03 (2.29)** | 5.03 (1.81)** | -4.17 (1.93)*** | 9.53 (2.33)* |
| Constant | 24.86 (5.57)* | 2.06 (4.83) | 20.13 (6.47)** | 22.90 (5.22) | 18.38 (5.47)* | 4.07 (6.60) |
| R ² | .59 | .35 | .31 | .53 | .11 | .38 |
| N | 948 | 949 | 738 | 944 | 738 | 738 |

Note: first coefficient is the regression coefficient with the standard error in parentheses. Table omits control results.

*p<.001 **p<.01 ***p<.05

Table 1B. Predictors of Non-Voting (Logit Results)

| | Coeff (SE) | Coeff (SE) |
|-------------------------------|--------------|-------------------|
| Male | -.17 (.30) | -.02 (.32) |
| Age | -.86 (.26)* | -1.10 (.29)* |
| Education | -.07 (.19) | -.05 (.20) |
| Income | -.65 (.24)** | -.54 (.25)*** |
| Catholic | -.07 (.30) | .01 (.32) |
| Married | -.34 (.33) | -.41 (.36) |
| Employed | 1.09 (1.04) | .96 (1.05) |
| Unionized | -.40 (.31) | -.41 (.33) |
| Religious | -.01 (.30) | -.19 (.33) |
| Urban | .51 (.30) | .58 (.33) |
| Social Conservative | | .33 (.32) |
| Environmental Spending | | -.57 (.32) |
| Constant | -1.96 (1.09) | -1.76 (1.12) |
| Pseudo R-Square | .09 | .11 |
| N | 713 | 680 |

*p<.001 **p<.01 ***p<.05

Table 2B Predictors of Party Vote (Multinomial Logit Results)

| | Liberal vs. Conservative | NDP vs. Conservative | Green vs. Conservative |
|-------------------------|-----------------------------|-------------------------|---------------------------|
| | Coeff (SE) | Coeff (SE) | Coeff (SE) |
| Demographics | | | |
| Male | -.37 (.26) | -.26 (.27) | .23 (.44) |
| Age | .29 (.19) | .11 (.20) | .09 (.33) |
| Education | -.01 (.27) | -.22 (.29) | .75 (.47) |
| Income | -.31 (.19) | -.13 (.20) | -.14 (.33) |
| Catholic | .05 (.25) | .14 (.28) | .27 (.44) |
| Married | -.29 (.30) | .10 (.32) | -.19 (.51) |
| Atlantic | .50 (.35) | .66 (.38) | -2.33 (1.13)** |
| West | -.78 (.28)** | .01 (.29) | -.25 (.44) |
| Urban | -.41 (.26) | -.23 (.27) | .20 (.44) |
| Values/Attitudes | | | |
| Social Conservatism | -.10 (.26) | -.35 (.29) | .48 (.47) |
| Cynicism | -2.68 (.62)* | .21 (.69) | 1.45 (1.14) |
| Religious | -.53 (.27)*** | -.44 (.29) | -.01 (.46) |
| Party ID | | | |
| Liberal | 1.86 (.29)* | .33 (.33) | -.62 (.49) |
| Conservative | -3.03 (.49)* | -1.92 (.37)* | -4.16 (1.07)* |
| NDP | .55 (.56) | 2.76 (.45)* | .10 (.78) |
| Prosperity | | | |
| Economically Well-off | 1.05 (.41)** | .84 (.42)*** | 1.43 (.72)*** |
| Issues | | | |
| Gay Marriage | -1.02 (.34)** | -1.60 (.36)* | -2.86 (.65)* |
| Death Penalty | .25 (.27) | .02 (.29) | .49 (.47) |
| Immigration | -.18 (.41) | -.43 (.42) | -.67 (.67) |
| Sponsorship Scandal | -1.27 (.26)* | -.39 (.27) | -.63 (.44) |
| Health Care | -.53 (.25)*** | -.86 (.27)* | -.66 (.42) |
| Environment | .52 (.25)*** | .88 (.28)** | 2.17 (.66)* |
| Constant | 2.38 (.71)* | .03 (.78) | -3.02 (1.45)*** |
| Pseudo R-square | .43 | | |
| Sample Size | 857 | | |

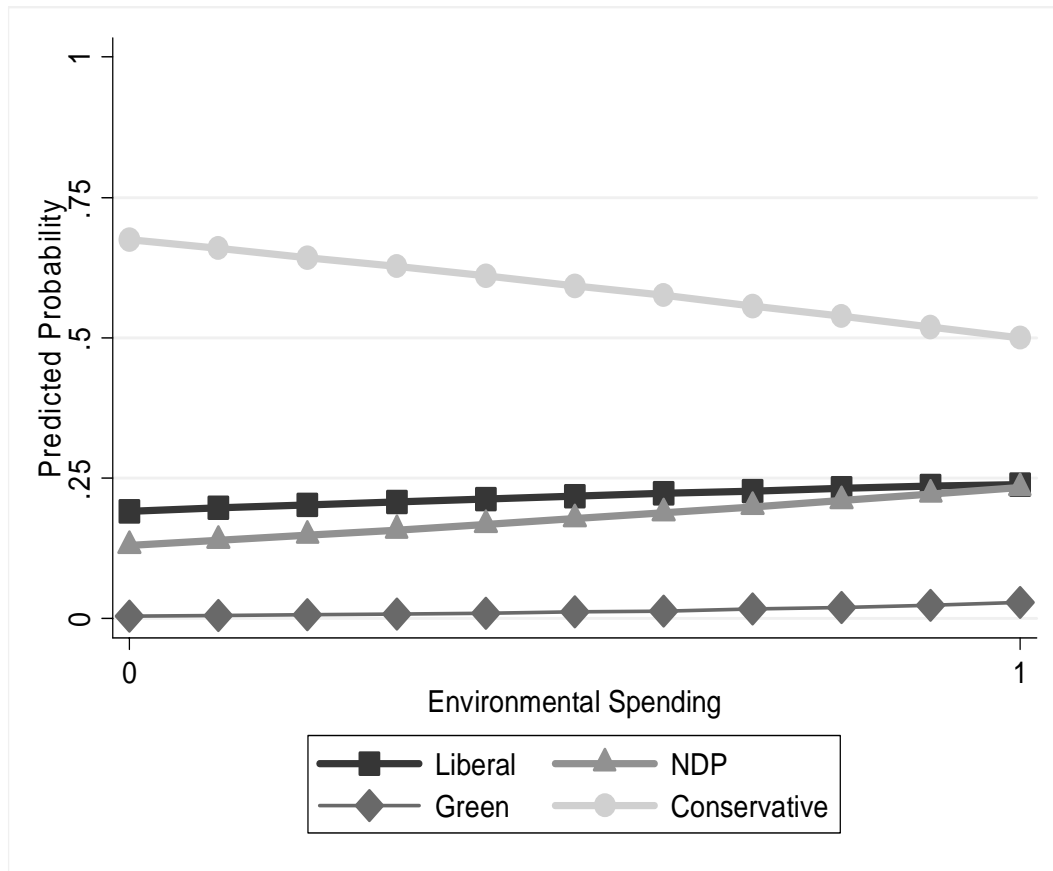
*p<.001 **p<.01 ***p<.05

Table 3B Predictors of Party Vote (Multinomial Logit Results)

| | Coeff |
|-------------------|---------|
| NDP vs. Liberal | .36 |
| Green vs. Liberal | 1.65** |
| Green vs. NDP | 1.29*** |

*p<.001 **p<.01 ***p<.05

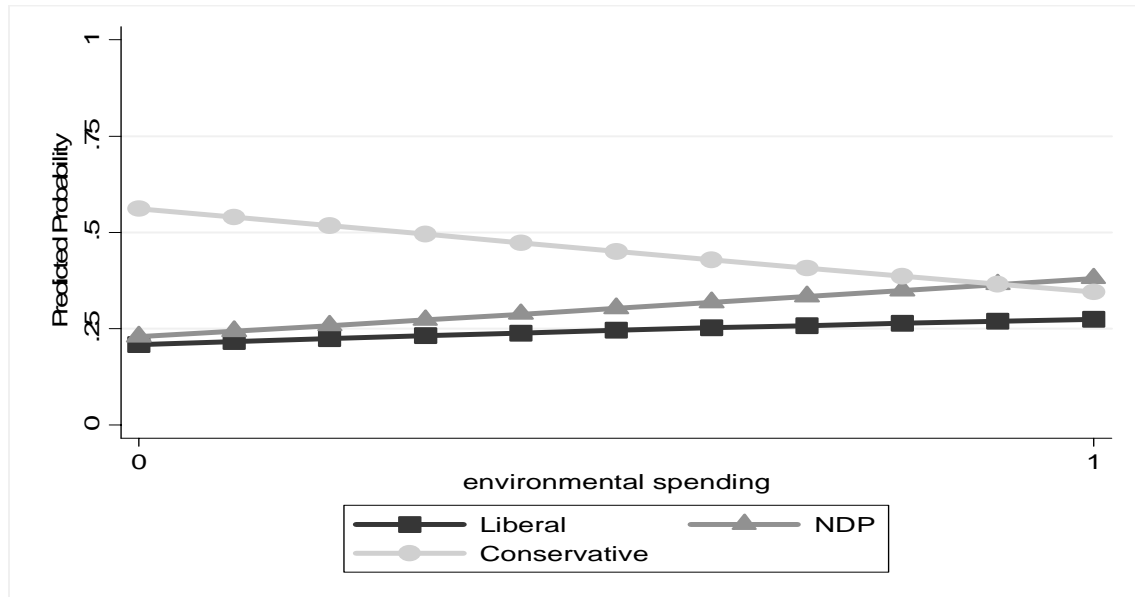
Figure 1B Predicted Probabilities of Vote Choice By Spending on the Environment



| | Reduce/Maintain Environmental Spending | Increase Environmental Spending | Change | 95% Confidence Interval for Change |
|--------------|---|------------------------------------|--------|---------------------------------------|
| Liberal | .19 | .24 | .05 | -.03, .12 |
| NDP | .13 | .23 | .10 | .03, .17 |
| Green | .01 | .03 | .02 | .00, .05 |
| Conservative | .67 | .50 | -.17 | -.28, -.07 |

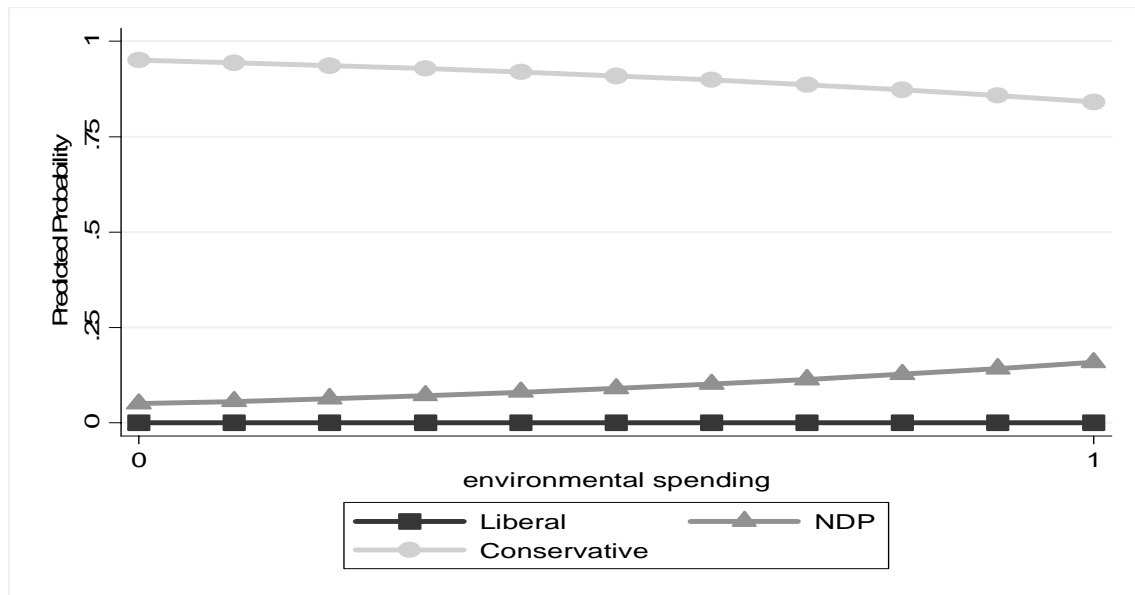
Figure 1C Predicted Probabilities of Vote Choice By Spending on Environment

A. Vote Choice During Campaign



| | Reduce/Maintain Environmental Spending | Increase Environmental Spending | Change | 95% Confidence Interval for Change |
|--------------|--|---------------------------------|--------|------------------------------------|
| Liberal | .21 | .27 | .06 | -.04, .17 |
| NDP | .23 | .38 | .15 | .03, .27 |
| Conservative | .56 | .35 | -.21 | -.35, -.08 |

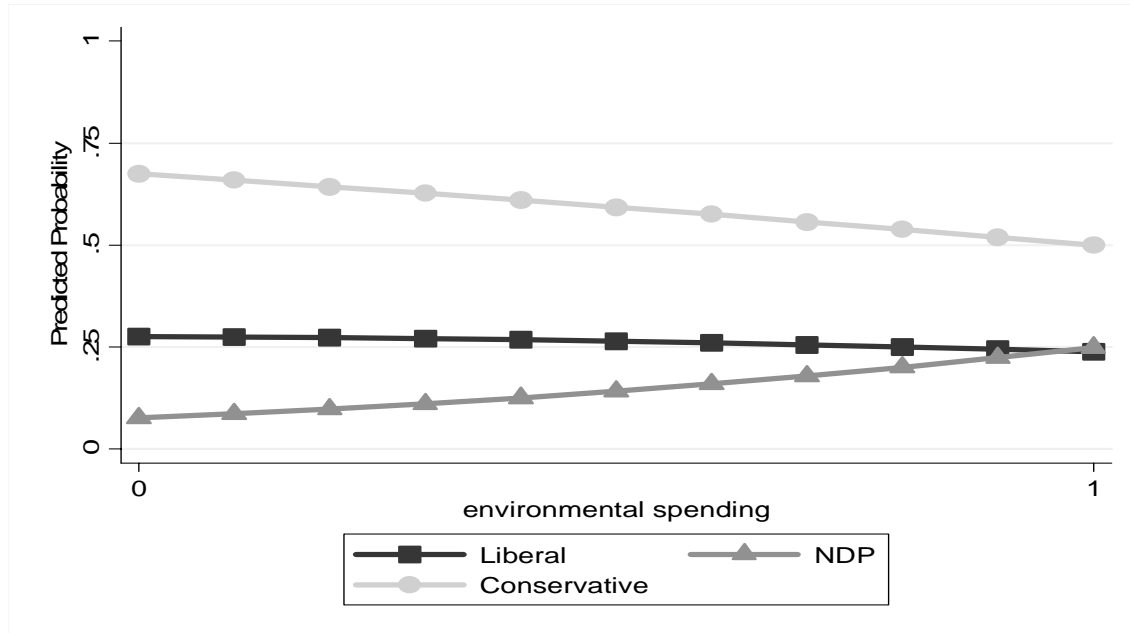
B. Vote Choice Prior to Campaign



| | Reduce/Maintain Environmental Spending | Increase Environmental Spending | Change | 95% Confidence Interval for Change |
|--------------|--|---------------------------------|--------|------------------------------------|
| Liberal | .00 | .00 | .00 | -.29, 0.29 |
| NDP | .05 | .16 | .11 | -.17, 0.39 |
| Conservative | .95 | .84 | -.11 | -.21, -.01 |

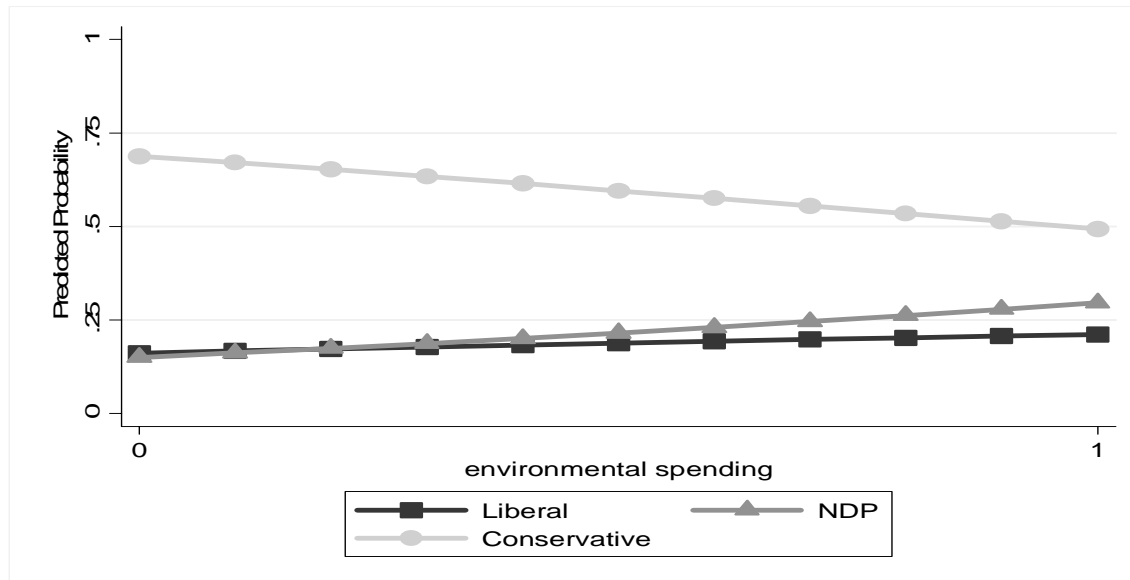
Figure 1D Predicted Probabilities of Vote Choice By Spending on Environment

A. Contested Seats



| | Reduce/Maintain Environmental Spending | Increase Environmental Spending | Change | 95% Confidence Interval for Change |
|--------------|--|---------------------------------|--------|------------------------------------|
| Liberal | .28 | .24 | -.04 | -.23, .16 |
| NDP | .08 | .25 | .17 | .04, .31 |
| Conservative | .65 | .51 | -.14 | -.35, .08 |

B. Safe Seats



| | Reduce/Maintain Environmental Spending | Increase Environmental Spending | Change | 95% Confidence Interval for Change |
|--------------|--|---------------------------------|--------|------------------------------------|
| Liberal | .16 | .21 | .05 | -.03, .13 |
| NDP | .15 | .30 | .15 | .06, .24 |
| Conservative | .69 | .49 | -.20 | -.32, -.07 |

Appendix B: Variable Construction

1. Employment Status: 0(Unemployed)- 1(Employed)
 2. Gender: 0(Female)- 1(Male)
 3. Year of Birth: 0(under 41), 1(41-60), 2(66+)
 4. Education: 0(High School or less), 1(College), 2(University)
 5. Income: 0(under \$40,000), 1(\$40,000-79,999), 2(\$80,000+)
 6. Province of Residence: 0(Atlantic), 1(Quebec), 2(Ontario), 3(West)
 7. Religion: 0(Other)- 1(Catholic)
 8. Marital Status: 0(Not Married), 1(Married/Common Law)
 9. Area of Residence: 0(Urban)- 1(Rural/Urban Fringe)
 10. Unionization: 0(Non-Union Member)- 1(Union Member)
 11. Moral Conservatism: Used the question: Society would be better off if more women stayed home with the Children. Those who disagreed or somewhat disagreed were coded as 0, while those who agreed or disagreed were coded as 1.
 12. Cynicism: The variable was constructed using four variables:
 - a. Politicians are ready to lie to get elected
 - b. I don't think the government cares much what people like me think
 - c. The longer a party is in power the worse they get
 - d. All parties are basically the same
- Those that strongly agree with the statement were coded as 1, while those who strongly disagreed were coded as 0. Each variable was added together to form a scale ranging from 0-4. Alpha score: .62
13. Religiosity: 0(Not very/not at all religious)- 1(Very Religious)
 14. Economic Prosperity: 0(Those worse off economically compared to a year ago)- 1(Those better economically than they were a year ago)
 15. Gay Marriage: 0(Favour)- 1(Oppose)
 16. Death Penalty: 0(Oppose)- 1(Support)

17. Immigration: 0(More immigration should occur)- 1(Less immigration should occur)

18. Sponsorship Scandal: 0(Not very angry/Not at all angry)- 1(Very angry)

19. Health Care: 0(Oppose privatization)- 1(Favour Privatization)

20. Environmental Spending: 0(Spend less/same)- 1(Spend more)

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