

**HETEROGENEITY IN POLITICAL DECISION-MAKING:  
THE NATURE, SOURCES, EXTENT, DYNAMICS, AND CONSEQUENCES OF  
INTERPERSONAL DIFFERENCES IN COEFFICIENT STRENGTH**

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Abstract

There is mounting evidence that the public's political decisional processes are heterogeneous (Rivers, 1988; Sniderman, Brody & Tetlock, 1991; and Johnston, Blais, Gidengil & Nevitte, 1996). All citizens do not reason the same way about politics: they rely on different considerations, or they give different weights to similar considerations. However, our understanding of this phenomenon remains sketchy, in many regards. I address the conceptual and empirical ambiguity by exploring the nature, the sources, the extent, the consequences, and the campaign dynamics of interpersonal heterogeneity in political decision-making. The analysis relies on Canadian and American public opinion survey data.

The evidence reveals that heterogeneity is a very important phenomenon. Relationships between dependent and explanatory variables are rarely stable and consistent across the entire population. Most political decisions (especially the more common ones) and most independent variables exhibit interpersonal diversity in coefficient strength. Hypothesis-testing and explanation-building can be led astray if researchers limit their analyses to the whole citizenry. Normatively, heterogeneity is responsible for individual and aggregate deviations from enlightened preferences.

Heterogeneity, however, is a very complex phenomenon. One can not deal with it in any simple way. A researcher can not simply capture it, take it into account, and move on to other concerns. Heterogeneity permeates through our models of political behaviour in significant, pervasive and perplexing ways.

This research raises concerns about the complexity of political behaviour and our ability to understand citizens, campaigns, elections, and democracy. The world is not a simple, straightforward and easily comprehensible subject. It is much more intricate and difficult to grasp than we currently believe. In order to understand reality, our approaches, theories, and models need to be as complex and multidimensional as reality. Striving for oversimplification can only lead to misconceptions and fallacies.

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In political behaviour research, we are accustomed to talking about the public as a single entity. It may be composed of individuals who hold different attitudes and opinions, but we generally believe they think and behave in more or less the same way. For instance, the traditional way of explaining a particular election is to construct a single model where the behaviour of the entire electorate is constrained to follow the same form, where each independent variable has the same impact on the decision of all voters. Any two citizens, whether they are liberal or conservative, Catholic or Protestant, man or woman, might hold divergent beliefs about the qualifications of each party leader and about the policies that government should implement; but we presume that both citizens make up their minds in a similar fashion, that they consider the competence of leaders and the parties' issue positions to the same extent. The underlying assumption of this approach is causal homogeneity.

It is becoming apparent, however, that the public does not think with only one mind. There is mounting evidence that the public's political reasoning processes are, in fact, heterogeneous.<sup>1</sup> People do not reason the same way about politics: they rely on different considerations, or they do not give the same weight to similar considerations. For example, some individuals base their vote decision on ideological considerations, while other voters rely more on their evaluations of party

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<sup>1</sup> For the most recent demonstrations, see Sniderman, Brody, & Tetlock, 1991; and Johnston, Blais, Gidengil & Nevitte, 1996.

leaders. It is therefore misleading to think of the public as a single entity. Fortunately, the discipline is becoming increasingly aware of this phenomenon and of the perils associated with ignoring it: explanatory models which assume that the entire electorate thinks and behaves exactly alike may be fundamentally flawed and may lead to fundamentally erroneous conclusions. However, our understanding of this phenomenon remains sketchy, in many regards. We know very little about the fundamental aspects of heterogeneity: specifically its nature, sources, extent, dynamics, and consequences.

What is heterogeneity? Strictly speaking, heterogeneity refers to coefficients between independent and dependent variables which vary in strength across subgroups of the population. Such results are generally interpreted as evidence of different decision rules: people weigh different considerations or similar considerations differently when making up their minds (Rivers, 1988; Sniderman, Brody, & Tetlock, 1991). Several other explanations, however, can account for such results, and these competing explanations have never been adequately addressed.

What are the sources of heterogeneity? It has not been ascertained who thinks differently about political decisions, and why do they do so. Conceptually, differences in political sophistication are cited as the source of heterogeneity. Empirically, various factors have been found to produce interpersonal differences in behaviour (education, political interest, political knowledge, and various combinations of the preceding and other factors), but the relative importance of each factor in generating heterogeneity has not been determined. Furthermore, other factors have not been considered.

How widespread is heterogeneity? We do not know whether heterogeneity is found among all types of political decisions, whether all political decisions exhibit similar amounts of heterogeneity, and which explanatory variables experience interpersonal variation in coefficients.



The current body of evidence provides hints of answers, but these questions have not been systematically examined.

How sensitive is heterogeneity to changes in the political context? Specifically, what happens to the level of heterogeneity during political campaigns? We do not know whether the gaps between citizens are minimized or compounded by the progress of campaigns, or whether they remain intact.

Why should we worry about heterogeneity? Does it undermine the explanatory power of our models? Does it derail the conclusions of hypothesis-testing and explanation-building? Does it have normative consequences for the electoral process and the political system? Again, we are essentially left in the dark.

This study addresses the conceptual and empirical ambiguity which surrounds the phenomenon by exploring the nature, sources, extent, campaign dynamics, and consequences of interpersonal heterogeneity in models of political decision-making. The analysis relies on Canadian and American survey data: the 1992/1993/1997 Canadian Election Studies, and the 1987 American General Social Survey.

Chapter 1 discusses what interpersonal differences in coefficients signify, and what can account for their existence. It also demonstrates how to measure the strength and significance of differences in coefficients and their improvement of model fit statistics. It then considers the relevance of heterogeneity for the predictive power of our explanatory models and for the conclusions of hypothesis-testing and explanation-building. Finally it raises the possibility of normative implications which will be more thoroughly considered later (Chapter 5).

Chapter 2 focuses on the determinants (i.e., sources) of heterogeneity. It identifies various potential determinants, and then measures and compares the levels of heterogeneity produced by

these factors among several political decisions. The list of potential determinants of heterogeneity includes five cognitive factors: political information, interest in politics, media attention, education, and intelligence.

Chapter 3 ponders whether heterogeneity is ubiquitous and extensive. Four separate questions are tackled: 1) Do we encounter heterogeneity among all types of political decisions? 2) How much heterogeneity is there, and how does it change our explanation of these decisions? 3) Are there similar levels of heterogeneity among different types of political decisions? 4) What types of interpersonal differences does the data reveal? The analysis compares the levels of heterogeneity present among various political decisions (vote in national elections, vote in a national referendum, and support for the sovereignty of Quebec).

Chapter 4 examines the effect of political campaigns on heterogeneity. It ascertains whether levels of heterogeneity increase, decrease, or remain the same during the unfolding of campaigns. The analysis covers three Canadian campaigns: the 1992 constitutional referendum, and the 1993 and 1997 federal elections.

Chapter 5 explores the nature and extent of the most serious consequences of heterogeneity: individual and aggregate deviations in vote choice. Bartels (1996) has uncovered that people of identical sociodemographic profiles who only differ in their levels of political information do not vote similarly, and these individual 'errors' in voting translate into 'inappropriate' electoral outcomes. This chapter determines which types of individual and aggregate deviations from enlightened choices exist among the decisions analysed in this study, and whether they are affected by the same phenomena as heterogeneity.

Chapter 6 recaps the conclusions and implications of the study, a study which reveals much about citizens, campaigns, elections, democracy, and our ability to understand these objects.

## Chapter 1

### THE NATURE, MEASUREMENT, AND RELEVANCE OF HETEROGENEITY

Novel subjects of study sometimes take considerable time to establish a distinct identity and nomenclature for themselves. Academic disciplines do not quickly recognize and adopt the use of specific labels. Heterogeneity in decision-making is not a new phenomenon, but it has garnered little attention until very recently. The phenomenon has not only gone unnamed for a while, it shares its new label with a variety of other research topics. Heterogeneity, which literally means diversity or difference, has been used, in political science alone, to describe differences in the variance of an individual's survey responses (Alvarez & Brehm, 1995, 1997), in Supreme Court judgments (Zorn, 1998), in perceptions of economic conditions (Jones, Willerton & Sobel, 1998; Duch & Palmer, 1999), in the individual stability of party identification (Box-Steffensmeier & Smith, 1996, 1997), and in the individual likelihood of experiencing an event of interest (Box-Steffensmeier & Zorn, 1999).

None of these phenomena actually represent the topic of this study. Here, the term heterogeneity is used to describe interpersonal diversity in the strength of relationships between a political decision and its correlates. This association of label and concept was first coined by Rivers (1988). The term has since continued to surface attached to the same meaning (Sniderman, Brody & Tetlock, 1991; Berinsky, 1997; Glasgow, 1997, 1999).

## **Heterogeneity in Political Decision-Making**

“Heterogeneity or the presence of a variety of decision rules in a population has usually been ignored in voting research” (Rivers, 1988: 737). Its opposite, causal homogeneity, has been “a nearly unchallenged assumption about how reasoning about political choices should be analysed. (...) It is simply assumed that people tend to make up their minds in more or less the same way, so much so that only one causal model is required - one set of causal factors, the same for all members of the public, arranged in one causal sequence, the same for all” (Sniderman et al., 1991: 19).

The reason behind the widespread acceptance of causal homogeneity is difficult to grasp, particularly since this presumption is rarely explicitly justified. It may stem from a concern for theoretical parsimony, and it may be sustained by excessive confidence in previous research which embraced homogeneity (what some might call scientific inertia or laziness). The adoption of homogeneity as a causal premise is also quite astonishing, considering some of the most influential analyses of political behaviour have emphasized the notion of heterogeneity. Most notably, the Michigan school (Campbell, Converse, Miller, & Stokes, 1960; Converse, 1964) identified four subgroups of the American electorate which possessed fundamentally distinct ways of conceptualizing politics. The first subgroup consists of citizens who have a fairly abstract and conceptual understanding of politics which could be labelled an ideology. The second subgroup is formed of individuals whose political deliberations revolve around concrete group interests. The third subgroup involves people with the ability to link the party in power to the ‘nature of the times’ or very narrow policy considerations. The last subgroup contains citizens who evaluate politics without any reference to policies or issues. These four levels of conceptualization were found to

influence attitude consistency, strength of partisanship, partisan defection, and turnout. For as much as the Michigan studies have marked the agenda of political behaviour research in the last forty years, their concern for heterogeneity in political decision-making has garnered astoundingly little attention (Rivers, 1988).

Nevertheless, the assumption of causal homogeneity has not totally dominated political behaviour research. A significant number of studies have reported the existence of its violation, heterogeneity. For instance, Stimson (1975) observed that citizens' belief systems were not organized to the same extent. The belief systems of the more cognitively able (as measured by a combination of education and political knowledge) were more constrained and more complex than the belief systems of the less able.

Several similar differences in decision-making have been found. There are reports of interpersonal diversity in the determinants of political participation<sup>2</sup>; in susceptibility to agenda-setting, framing and priming effects<sup>3</sup>; in vulnerability to persuasion and attitude change; in ideologically-guided attitude consistency<sup>5</sup>; in information processing<sup>6</sup>, and in issue voting<sup>7</sup>. Most notably, Rivers (1988) used the term heterogeneity to describe interpersonal differences in the weight

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<sup>2</sup> Verba & Nie, 1972; Klingemann, 1979; Inglehart, 1979.

<sup>3</sup> Erbring, Goldenberg & Miller, 1980; Iyengar, Peters, & Kinder, 1982; Iyengar & Kinder, 1987; Kinder & Sanders, 1990; Krosnick & Kinder, 1990; Krosnick & Brannon, 1993; Miller & Krosnick, 1996.

<sup>4</sup> Scott, 1963; Petty & Cacioppo, 1979, 1984; Chaiken, 1980; Chaiken & Baldwin, 1981; McGraw & Hubbard, 1996; Miller & Krosnick, 1996; Zaller, 1996.

<sup>5</sup> Nie, Verba, & Petrocik, 1976; Chong, McCloskey, & Zaller, 1983; Judd & Krosnick, 1989; Judd & Downing, 1990; Jacoby, 1991.

<sup>6</sup> Lodge, McGraw, & Stroh, 1989; Fiske, Lau, & Smith, 1990; McGraw, Lodge, & Stroh, 1990; McGraw & Pinney, 1990; McGraw & Steenbergen, 1995.

<sup>7</sup> Miller & Miller, 1976; Wyckoff, 1980; Knight, 1985; Rivers, 1988; Krosnick, 1988, 1990; Luskin & Ten Barge, 1995; Berinsky, 1997; Glasgow, 1997, 1999.

allocated to partisan identification and ideology in voting decisions.

This accumulating evidence of heterogeneity has recently culminated with an argument suggesting that mass political decisions are systematically heterogeneous. Sniderman, Brody, & Tetlock (1991) demonstrate the presence of interpersonal differences in decision-making among a myriad of political decisions, including attitudes toward the civil rights of AIDS victims, support for racial equality policies, ideological identification, support for the principle and specific issues of tolerance, and voting in American presidential elections. Moreover, unlike many of the studies cited above, the heterogeneity unveiled by these authors does not only consist of different levels of cognitive organization, it represents different ways of thinking, closing the circle with the Michigan school. For example, the presidential choice of less educated voters is most appropriately characterized as a retrospective judgment of the incumbent's performance, while the decision of the more educated reflects a comparative assessment of both candidates' competence (Sniderman et al., 1991: 170-178).

The consequences of heterogeneity are also becoming apparent. First, interpersonal differences in coefficient strength lead to misspecification errors. Estimates of relationships among the whole population do not capture the interpersonal variation, and they constitute misrepresentations of the true relationships. The full extent of these misspecification errors will be demonstrated in one of the following sections in this chapter.

The second consequence of heterogeneity is more serious, but less intuitive. It is generally acknowledged that citizens possess dismally low levels of political information (Converse, 1964; Luskin, 1987; Smith, 1989; Delli Carpini & Keeter, 1996; Sniderman, 1993). Several studies, however, have tried to show that voters do not need much information to know which candidate or

party they favour in an election and to vote appropriately. They invoke two broad lines of argument: low-information rationality and aggregationist claims. On one hand, some scholars contend that citizens use various cues to identify the candidate which is closest to their own issue preferences (McKelvey & Ordeshook, 1986; Lupia, 1992). They can triangulate this information at a very low cost by using public opinion polls and intervenor endorsements. Other scholars argue that citizens employ heuristics, affect-driven reasoning schemes to organize and simplify political choices, and to determine what they approve and disapprove (Popkin, 1991; Sniderman, Brody & Tetlock, 1991). On the other hand, aggregationists assert that averaging many individual survey responses eliminates the random and offsetting fluctuations of individual opinions and the distorting effects of measurement error (Page & Shapiro, 1982, 1992; Stimson, 1991). Thus, the collectively correct outcomes prevail, even if many individuals choose the wrong side. Conceptually, aggregationist claims derive from the Condorcet Jury Theorem which states that "the group, deciding on the basis of majority rule, is more competent than the average individual and, quite possibly, more competent than the 'best' (most competent) individual" (Miller, 1986: 17; Lahda, 1992). Bartels (1996), however, did not find empirical support for low-information rationality and aggregationist claims. Low levels of political information have important consequences, they lead to substantial interpersonal differences in decision quality. These deviations from informed decisions and their link to heterogeneity are discussed further in a later section about the relevance of heterogeneity, and in Chapter 5.

Although there is an increasing amount of evidence indicating the existence of heterogeneity in models of political decisions, heterogeneity has not yet become a staple assumption of the discipline. Most studies still ignore it and conduct analyses of the entire electorate as a single

homogeneous body. One study even contests its accuracy (Rahn, Aldrich, Borgida, & Sullivan, 1990).<sup>8</sup> Part of the reluctance to take heterogeneity seriously may stem from the fact that our understanding of some fundamental aspects of the phenomenon remains sketchy. Previous research on this subject has generally been more concerned with trying to document the existence of heterogeneity, rather than providing a full narrative of the phenomenon. As a result, it is still not clear what the symptoms of heterogeneity actually signify, how much heterogeneity affects different political decisions and different explanatory variables, what are the determinants of heterogeneity, whether heterogeneity is static or dynamic, and why we should worry about heterogeneity.

There is a need for a more thorough and extensive study which presents a complete picture of heterogeneity and all of its facets. This study fills that gap. This first chapter tackles three issues which have not been sufficiently addressed. It first discusses the nature of heterogeneity: what it is and what it means. It then ponders the empirical measurement of the phenomenon. Finally, it examines the relevance of heterogeneity for the study of political behaviour and for democracy.

### **What is Heterogeneity?**

Heterogeneity in political decision-making is more a symptom than a phenomenon in itself. Strictly speaking, heterogeneity only refers to the presence of interpersonal variation in the strength

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<sup>8</sup> Wendy Rahn and her colleagues argue that "the rich and often redundant flow of political information in a presidential election year, combined with the relative simplicity of a choice between two presidential candidates, leads to relatively similar assessment and decisional processes for most individuals" (Rahn, Aldrich, Borgida, & Sullivan, 1990). Their model of candidate appraisal showed few signs of heterogeneity: partisanship had a slightly greater impact on the decision of the less sophisticated, while ideology had a slightly greater impact for the more sophisticated.



of relationships between independent and dependent variables.<sup>9</sup> So there is heterogeneity when the link between a political opinion and one of its correlates fluctuates across certain individuals. Take Figure 1.1, for example. The homogeneous model suggests that all three independent variables exhibit a regression coefficient of .40. If we assume all three variables have an identical scale, then all variables appear to have a similar impact on the vote for party A. However, we come with a different picture if we split up the respondents into three subgroups according to their level of political information, and estimate separate regression coefficients for each subgroup. The heterogeneous model indicates that the independent variables do not all have a similar effect on the decision to vote for party A. The effects of two variables are inconsistent across the three subgroups. Ideology's impact on the vote amplifies as information increases (i.e., the effect of ideology is weaker among the less informed and stronger among the more informed), while the impact of leader evaluations diminishes as information increases. Only party identification possesses the same effect among all three subgroups. The latter is the only variable whose influence is accurately captured by the homogeneous setup. In group terms, the estimates of the homogeneous model only correspond to the behaviour of the subgroup with a medium level of information. The homogeneous model overestimates the use of ideology and underestimates the reliance on leader evaluations among the less informed individuals. Conversely, the more informed voters are more ideological and less leader oriented than the traditional design indicates.<sup>10</sup>

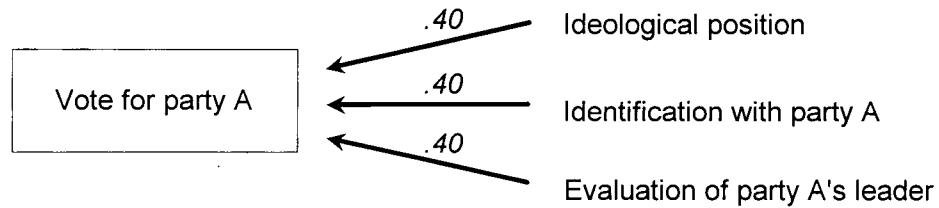
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<sup>9</sup> Heterogeneity should not be confused with heteroscedasticity. Heterogeneity refers to a form of model misspecification: the failure to capture relationships of different strength between X and Y. Heteroscedasticity, the fact that the residuals of a fit between X and Y are not constant across all values of X, is often thought of as a classic diagnostic for specification error. Although, heterogeneity can produce heteroscedasticity, heterogeneity is not the sole cause of heteroscedasticity, nor does heterogeneity necessarily produce heteroscedasticity.

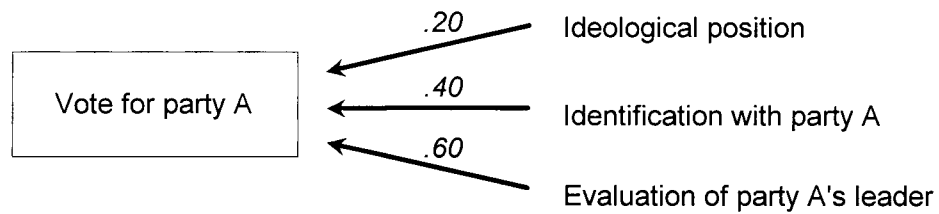
<sup>10</sup> It should be clear that differences in decision-making do not imply that there are good or bad ways of reasoning. Different decisional processes may not lead as efficiently to the correct decision (a topic I will return to in a following section of this chapter), but they are not inherently good or bad.

Figure 1.1 Example of Heterogeneity in a Model of Voting Behaviour

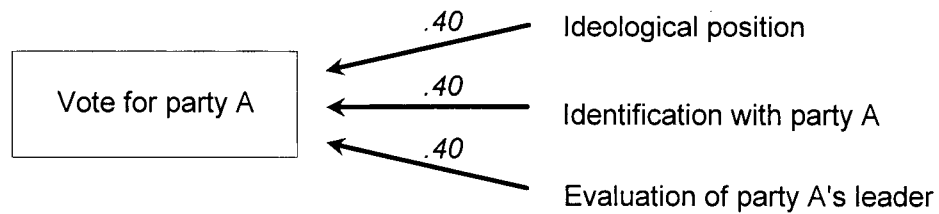
**Homogeneous Model** *All Respondents*



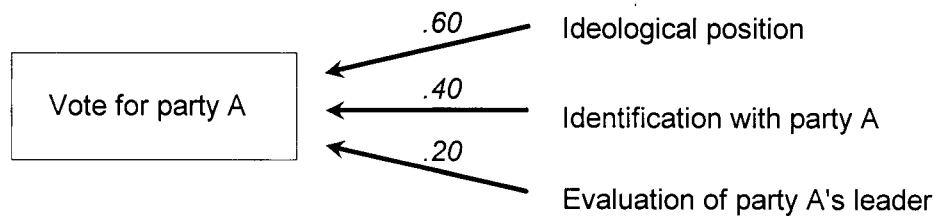
**Heterogeneous Model** *Subsample 1: Less Informed Respondents*



**Heterogeneous Model** *Subsample 2: Average Informed Respondents*



**Heterogeneous Model** *Subsample 3: More Informed Respondents*



*Note: the numbers above the arrows represent hypothetical regression coefficients*

Saying coefficients vary in strength across certain individuals, however, does not say much. The traditional understanding is that differences in the strength of coefficients represent differences in decision rules: people relying on different considerations to form their opinions (Rivers, 1988; Sniderman et al., 1991). For instance, if the relationship between party leader evaluations and the vote is stronger among the less informed, then those individuals simply give more weight to that consideration when making up their minds. Presumably, people rely on different considerations because they may differ "in sensitivity to external stimuli, diversity and precision of political perceptions, information-processing strategies, access to shared understandings of politics, and integrative ability" (Bartels, 1996: 202). Also, they may not "enumerate potentially relevant considerations with the same exhaustiveness; or frame alternative considerations with the same precision; foresee consequences of alternative choices with the same distinctiveness; or coordinate calculations, both about alternative means and alternative ends, with the same exactness" (Sniderman, Brody & Tetlock, 1991: 165-6).

However, another explanation can account for interpersonal differences in the strength of relationships: they may also be due to interpersonal differences in the levels of measurement error. While most studies assume that diversity in decision rules is the valid explanation for heterogeneity, this other explanation is equally plausible. Discussions about measurement error are generally concerned with the comparative validity and reliability of two indicators across the entire population. Rarely do these discussions pay attention to the varying validity and reliability of one indicator across subsets of the population. Yet, it is reasonable to believe there are interpersonal differences in the susceptibility to survey effects (wording, ordering, etc.), in the propensity to rationalize, and in the capacity to recall accurate information. Each of these phenomena would result in interpersonal

variation in measurement error. Since statistical coefficients are strongly affected by measurement error (Berry & Feldman, 1985; King, Keohane & Verba, 1994), interpersonal heterogeneity may be driven by different levels of measurement error among subsets of respondents. For instance, if ideology has a weaker impact on the vote choice of the less informed than on the decision of the more informed, it could be due to the fact that ideology is measured with greater error among the less informed, and not because they rely less on ideology when making up their mind.

Previous evidence of interpersonal differences in measurement error, however, is scant. Krosnick (1988) conducted three-wave panel reliability analyses (Wiley & Wiley, 1970) to ascertain whether interpersonal differences in measurement error could explain the greater extent of issue voting among individuals who feel that the issue is important. He found less error in the measurement of issue positions of the high salience group than among the low salience group, but not enough to account for the coefficient differences in issue voting between the two groups.<sup>11</sup>

Furthermore, this study reveals the existence of patterns of heterogeneity which exceed the intensity of any pattern for which measurement error could account. Beyond differences in the strength of relationships, I have evidence of reversal in the direction of relationships. Certain variables have a significant positive link to the decision of one subgroup, but are negatively correlated with the decision of another subgroup. My sense is that differences in measurement error (whether attributable to differences in susceptibility to survey effects, in propensity to rationalize, or in capacity to recall accurately) would only be compatible with relationships of varying strength, not relationships of different directions. I believe that different decision rules is the only

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<sup>11</sup> It is not possible to conduct similar reliability analyses with the data used here to examine interpersonal differences in measurement error. There are no fundamental attitudes measured in a short three-wave panel which are relatively unaffected by the passage of time.

explanation compatible with these few exceptional instances of interpersonal heterogeneity in coefficients.

Ultimately, sorting out these competing explanations conclusively may prove impossible. A debate has raged for decades within the discipline: do haphazard links between ideas stem from weak belief systems or from survey response instability (see, e.g., Converse, 1964; Achen, 1975; Luskin, 1987; Zaller, 1992). On one hand, some claim we accurately measure poorly constrained attitudes, while others assert we inaccurately measure highly constrained attitudes. Sniderman, Brody & Tetlock (1991) note that the debate over the nature of political attitudes is mostly ontological: we can not conclusively ascertain which side is right, everything stems from underlying assumptions. Presuming voters are unsophisticated leads to one conclusion, while presuming they are sophisticated leads to the opposite conclusion. The nature of interpersonal heterogeneity may be part of this unresolvable ontological debate. Thus, we may not be able to determine conclusively whether the differences in coefficients are actual differences in the level of constraint (i.e., different decision rules) or measurement problems with attitudes equally constrained.

In summary, the nature of heterogeneity is not conclusively resolved. Interpersonal variation in coefficient strength could be the result of different decision rules and of different levels of measurement error. Some of the evidence presented here does support the common interpretation that heterogeneity stems from different decision rules. But the issue remains unsettled. In order to keep the interpretation of results vivid and flowing, I will not stray from the common interpretation and I will treat interpersonal differences in coefficient strength as an indication of differences in the weight allocated to considerations throughout the rest of this study.

## Modelling and Measuring Heterogeneity

All the analyses performed in this study require a quantitative measure of heterogeneity. Without the capacity to gauge the level of heterogeneity, one can not deal satisfactorily with key issues such as the determinants, the extent, and the dynamics of heterogeneity. By my count, there are three methods one can employ to expose heterogeneity.

First, Rivers (1988) recommends the use of an econometric specification which uses complete preference orders to correct for the presence of interpersonal heterogeneity. This method accounts for heterogeneity in the estimation of the average influence of ideology and partisanship on vote choice, but it does not assess the magnitude of heterogeneity at work. Since it does not estimate a quantifiable level of heterogeneity, this method is therefore inappropriate to settle queries of this study.<sup>12</sup>

The second method, the most frequently used, involves splitting the electorate into separate samples (according to a group discriminator such as information), and estimating a separate explanatory model for each subgroup.<sup>13</sup> Since it estimates separate sets of parameters, this method is quite effective at uncovering differences in coefficient strength. However, since coefficient variation is not integrated into a single model, this setup does not permit calculation of the statistical significance of differences in parameter strength, nor evaluation of the total impact and importance of heterogeneity in contrast with a homogeneous model.

The third method is proposed by Bartels (1996): an interactive form where the scale of a

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<sup>12</sup> Glasgow (1997) presents a variation of this method.

<sup>13</sup> Notable examples of this practice include Sniderman et al. (1991), and Johnston et al. (1996).

group discriminator (e.g., information) and its reverse interact with every explanatory variable, thereby producing high and low information sets of coefficients in the same model. This technique allows us to measure differences in coefficient strength, differences in model fit between a heterogeneity-sensitive setup and a traditional homogeneous design, and the level of statistical significance of both these differences. Unfortunately, the analysis of the magnitude of heterogeneity in process is complicated by the nonprobabilistic nature of the Probit equation, by the collinearity resulting from the redundant setup, and, more importantly, by the less than straightforward specification (each respondent's behaviour is a weighted function of the high and low sets of coefficients). The setup also restricts coefficient variation to be linear (i.e., the coefficients increase or decline in strength monotonically with information), an assumption which is theoretically and empirically problematic.<sup>14</sup>

I propose a fourth method: a setup where three dummy variables from one group discriminator (low, medium, and high information, for instance) interact with all independent variables, generating three distinct sets of parameters. The decision to divide the distribution into three tiers is arbitrary. It allows multiple types of nonlinear coefficient variation to manifest themselves, yet the presentation and interpretation of results remains simple. This setup is illustrated

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<sup>14</sup> Zaller (1992, 1996) argues that the level of political awareness is not linearly linked to susceptibility to political communication and persuasion. Awareness is positively correlated with exposure to a message, but it is negatively correlated with its acceptance. The most aware are likely to receive the message, but they are unlikely to be influenced by it. In contrast, the less aware would likely accept the message, but they are unlikely to ever receive it in the first place. As a result, the moderately aware are most susceptible, because they possess average levels of exposure and resistance. The extension to heterogeneity is that interpersonal differences in coefficient strength should not necessarily be of a linear form. For instance, the impact of leader evaluations on vote choice may not simply gain or lose strength as information increases, the greatest or weakest effect may be found among the moderately informed. Bartels acknowledges this point but argues that experimentation with alternative monotonic and nonmonotonic specifications did not improve the fit of the model in the case of presidential voting in the United States (1996: 207-208). I believe that a more flexible setup which permits the coexistence of linear and nonlinear coefficient variation would eliminate the necessity to test alternative specifications by allowing heterogeneity to take various forms in the same model.

by the second of the following equations, the first equation represents the traditional homogeneous model:

$$Y = a + b1(G_x) + b2(X_a) + b3(X_s) + e \quad (\text{Equation 1})$$

$$Y = a + b1(G_x) + b2(G_{x1} * X_a) + b3(G_{x2} * X_a) + b4(G_{x3} * X_a) + b5(X_s) + e \quad (\text{Equation 2})$$

Where Y is a dependent variable such as vote choice;  $G_x$  is a group discriminator;  $G_{x1}$ ,  $G_{x2}$ , and  $G_{x3}$  are three dummy variables (low, medium, high) constructed from group discriminator  $G_x$ ;  $X_a$  is a set of attitudinal independent variables (such as party identification, issues positions, and leader evaluations); and  $X_s$  is a set of sociodemographic independent variables.

Note that the three subgroups' sets of interactions are included simultaneously, but the main effects of the attitudinal independent variables are not present in the model. Doing so permits the model to be identified, and minimizes the collinearity. Also note that, in keeping with the spirit of decision rules, the group discriminator dummies do not interact with the sociodemographic variables. They only interact with the attitudinal variables.

This method combines the advantages of the previous two (the sample-splitting technique and Bartels' interactive setup). First, it estimates a distinct set of parameters for each subgroup of individuals, hence replicating the straightforwardness of the splitting technique in identifying differences in coefficient strength.<sup>15</sup> Second, by integrating all coefficient variation into a single model, this method allows me to measure the statistical significance of the differences in parameter

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<sup>15</sup> In fact, the estimates of this interactive design resemble quite remarkably those produced by three separate estimations where the sample is split according to the three dummies. Slight differences are due to the single constant and the direct effect of the group discriminator in the interactive design.



strength and the influence of the heterogeneous setup on the fit of the model. Furthermore, it allows both non linear and linear coefficient variation to be identified, and it does not entail any loss in efficiency as those generated by small samples or redundant setups.

The heterogeneous results for the 1993 Liberal vote reported in Table 1.1 were generated by this method.<sup>16</sup> These results clearly indicate that there is a considerable coefficient variation, but to settle the issues identified previously, we need to quantify the level of heterogeneity present in the model.

This method allows me to assess the level of heterogeneity in two different ways. First, a simple and straightforward technique is look at the gaps between the subgroups' coefficients. If homogeneity prevails, if every citizen relies on the same considerations similarly, then the gaps between coefficients should be small, even nonexistent (i.e., within the bounds of sampling error). In contrast, if there are significant interpersonal differences in decision-making, then large coefficient gaps should be encountered.

Two empirical indicators are useful here: 1) the number of statistically significant gaps between coefficients, and 2) the total of absolute gaps between coefficients of all subgroups for every single independent variable. The statistical significance of gaps between coefficients can be calculated with a slight modification of Equation 2:

$$Y = a + b1(G_x) + b2(G_{x1} * X_a) + b3(X_a) + b4(G_{x3} * X_a) + b5(X_s) + e \quad (\text{Equation 3})^{17}$$

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<sup>16</sup> The variables contained in this model are described in Appendix 1.

<sup>17</sup> Again, Y is a dependent variable;  $G_x$  is a group discriminator;  $G_{x1}$ ,  $G_{x2}$ , and  $G_{x3}$  are three dummy variables (low, medium, high) constructed from group discriminator  $G_x$ ;  $X_a$  is a set of attitudinal independent variables; and  $X_s$  is a set of sociodemographic independent variables.

Table 1.1: Homogeneous and Heterogeneous Models, 1993 Liberal Vote (OLS Unstandardized Coefficients)

	Homogeneous Model	Heterogeneous Model	
<i>Partisan Identification</i>	.30 ***	Low Information	.43
		Medium Information	.30 ***
		High Information	.25
<i>Values</i>			
Populism	-.18 *	Low Information	.06 •
		Medium Information	-.36 *
		High Information	-.21
Feeling for Minorities	-.21 **	Low Information	-.41 •
		Medium Information	.04
		High Information	-.20
Feeling for French	.00	Low Information	.04
		Medium Information	-.06
		High Information	.04
Feeling for Other Minorities	.09	Low Information	.10
		Medium Information	.13
		High Information	-.08
Welfare State	.08	Low Information	.07
		Medium Information	.03
		High Information	.18
Capitalism	-.12	Low Information	-.05 •
		Medium Information	-.47 **
		High Information	.19 ••
Continentalism	-.07	Low Information	.07
		Medium Information	-.06
		High Information	-.19
Macroeconomics	-.06	Low Information	.18
		Medium Information	.08
		High Information	-.35 ••
Unionism	.03	Low Information	.04
		Medium Information	.17
		High Information	-.09
Moral Traditionalism	.20 *	Low Information	.06
		Medium Information	.18
		High Information	.34
(Continued)			

Table 1.1: (Continued)

	Homogeneous Model	Heterogeneous Model	
<i>Economic Perceptions</i>			
Personal Retrospective	.02	Low Information	.02
		Medium Information	.06
		High Information	-.05
National Retrospective	.09	Low Information	.14
		Medium Information	.04
		High Information	.07
<i>Leader Evaluations</i>			
Brian Mulroney	-.08	Low Information	-.03
		Medium Information	-.01
		High Information	-.03
Kim Campbell	-.16 *	Low Information	-.20
		Medium Information	-.22
		High Information	-.14
Jean Chrétien	.90 ***	Low Information	.63
		Medium Information	.88 ***
		High Information	.90
Preston Manning	-.56 ***	Low Information	-.83 •
		Medium Information	-.44 **
		High Information	-.44
Andrey McLaughlin	.02	Low Information	.19
		Medium Information	-.15
		High Information	.02
<i>Sociodemographics</i>			
Atlantic	-.04		-.08
British Columbia	-.10 *		-.08
Prairies	-.07		-.08 *
18 to 24 years	-.06		-.08
40 to 49 years	.01		.00
50 to 65 years	-.08 *		-.10 *
65 years or more	-.00		-.00
Woman	-.05		-.05
Catholic	.02		-.00
(Continued)			

Table 1.1: (Continued)

	Homogeneous Model	Heterogeneous Model
<i>Sociodemographics (continued)</i>		
Other Religion	.06	.07
No Religion	-.01	-.02
French	.10	.08
North European	-.12 *	-.13 *
Non European	-.05	.03
East European	-.02	-.01
South European	-.12	-.16
Unemployed	.09	.06
Union Household	.02	.03
Married	.02	.02
Under 30 000 \$	.04	.06
Over 60 000 \$	.08 *	.08 *
Political Information	-.12 *	-.10 *
Media Attention	.10	.12
Political Interest	-.12 *	-.12
Education	.06	.10
Constant	.32 *	.34
Number of Cases	788	788

Statistical significance of medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Statistical significance of difference from medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Note: Quebec respondents are excluded (see presentation of model in Chapter 2 for justification).

In this setup, the main effects of the independent variables are included instead of one of the three sets of interactive effects. As a result, the two sets of interactive effects estimate the differences in coefficients between two subgroups and a reference subgroup. The standard errors of these differences is used to assess the statistical significance of the coefficient gaps between the two subgroups and the reference subgroup. I do not assume that any subgroup has the *right* relationships between independent and dependent variables, I simply use the medium subgroup as the convenient reference point.

The second indicator is measured as the total of absolute gaps between low and medium coefficients ( $b_2$ - $b_3$  of Equation 2), between medium and high coefficients ( $b_3$ - $b_4$  of Equation 2), and between low and high coefficients ( $b_2$ - $b_4$  of Equation 2) for all attitudes. To assure that all forms of interpersonal differences in coefficient strength are captured, this indicator takes into account the gaps between all possible subgroup combinations (low/medium, low/high, medium/high). Whether interpersonal differences grow in linear or nonlinear fashions, the total absolute gaps should capture all the heterogeneity present between the three subgroups. Even nonmonotonic heterogeneity would be assessed (i.e., both low and high respondents behave similarly while the medium subgroup differs).

Table 1.2 reports the absolute gaps in coefficients produced by the heterogeneous model of Table 1.1. Both summary statistics, the number of significant gaps and the total of absolute gaps, are reported at the bottom of the table. There are large differences in coefficients between all subgroups. Six of the differences between the medium information subgroup and the other two subgroups are statistically significant. The total absolute gaps reaches 9.62.

In and of themselves, these statistics do not mean much, especially the latter. But in the following chapters, these indicators of heterogeneity are integrated into tests that fit the particular requirements of each analysis. The sources of heterogeneity in political decisions will be identified by comparing the levels of heterogeneity generated by several group discriminators (Chapter 2). The relative extent of heterogeneity in different political decisions will be identified by comparing the levels of heterogeneity among each decision (Chapter 3). The campaign dynamics of heterogeneity will be identified by comparing the levels of heterogeneity present during successive portions of campaigns (Chapter 4).

Table 1.2: Absolute Gap Statistics for the Heterogeneous Model of Table 1.1

	Low/Medium	Medium/High	Low/High <sup>1</sup>
<i>Partisan Identification</i>	.13	.05	.18
<i>Values</i>			
Populism	.42 •	.15	.27
Feeling for Minorities	.45 •	.24	.21
Feeling for French	.10	.10	.00
Feeling for Other Minorities	.03	.21	.18
Welfare State	.04	.15	.11
Capitalism	.42 •	.66 ••	.24
Continentalism	.13	.13	.26
Macroeconomics	.10	.43 ••	.53
Unionism	.13	.26	.13
Moral Traditionalism	.12	.16	.28
<i>Economic Perceptions</i>			
Personal Retrospective	.04	.11	.07
National Retrospective	.10	.03	.07
<i>Leader Evaluations</i>			
Brian Mulroney	.02	.02	.00
Kim Campbell	.02	.08	.06
Jean Chrétien	.25	.02	.27
Preston Manning	.39 •	.00	.39
Andrey McLaughlin	.34	.17	.17
Number of Significant Gaps	4	2	-
Subtotal of Absolute Gaps	3.23	2.97	3.42
Total Number of Signif. Gaps		6	
Total of Absolute Gaps		9.62	

Level of statistical significance: •• < .01; • < .05; • < .1

1: The level of statistical significance was not computed for the low/high gaps (see Equation 3)

Under certain circumstances, the summary statistics will sometimes need to be adjusted, downplayed, and even disregarded. The number of significant gaps, for instance, can be misleading because it is particularly sensitive to the number of cases in each of the three subgroups. So one has

to be careful when comparing items (whether they be decisions, periods, or subgroups) when the number of cases involved is not the same. The total of absolute gaps can be used unaltered to compare the level of heterogeneity generated by different group discriminators among one decision and to compare the level of heterogeneity among one decision during different campaign periods. However, comparison across decision models composed of different explanatory variables is problematic. Some comparability across models can be attained by performing a crude modification: dividing the total of absolute gaps by the number of independent variables yields the average absolute gap in coefficients. I will discuss more fully each analysis' tests, their advantages, and their drawbacks as they are presented in subsequent chapters.

Secondly, I look at the improvement in model fit provided by the interactive model (Equation 2) over the basic homogeneous model (Equation 1). There should be a relationship between the level of heterogeneity among a decision and the power of the homogeneous explanatory model (where the impact of each independent variable is constrained to be uniform). *Ceteris paribus*, high heterogeneity should lead to low model fit. An average coefficient which does not accurately reflect the behaviour of two different subgroups should lead to inefficient predictions for both subgroups. Of course, an heterogeneity-sensitive specification would correct for the interpersonal variation and generate more efficient predictions. So, the greater the differences in decision rules, the larger the model improvement of the interactive setup should be over the homogeneous specification.

As measure of model fit, I use the R-squared. This indicator is a simple and well understood indicator. It is notorious for increasing with the addition of any variable or parameter, even if it does not significantly contribute to the explanation of the dependent variable. The R-squared should therefore 'overreact' to the addition of numerous parameters by the heterogeneity-sensitive design.

However, the R-squared permits a test of the statistical significance of the improvement in model fit provided by a change in specification: the F-test. The F-test is the ratio of the difference in R-squared over the unexplained variance (Koutsoyannis, 1977: 164):

$$F\text{-test} = \frac{(R^2_b - R^2_a) / (K - M)}{(1 - R^2_b) / (N - K)}$$

Where  $R^2_a$  is the R-squared of regression A,  $R^2_b$  is the R-squared of regression B, M is the number parameters in regression A, K is the number parameters in regression B, and N is the number of cases. Since this test controls for the number of parameters supplemented by a change in specification, it will take into account the large number of interactions added by the heterogeneous design when assessing its contribution. The F-test can not be used with the Adjusted R-squared.

Table 1.3 presents model fit statistics for the homogeneous and heterogeneous models of Table 1.1. As expected, the interactive terms of the heterogeneous setup enhance the fit. The R-squared for the homogeneous model is surpassed by that of the heterogeneous model. The difference between the two R-squared is .043. The F-test reveals that this difference does reach statistical significance.

Table 1.3: Model Fit Improvement Statistics for the Models of Table 1.1

Homogeneous OLS $R^2$	Heterogeneous OLS $R^2$	Difference in $R^2$	F-Test of Difference
.417	.460	.043	1.61 *

Statistical significance of F-Test: \*\*\* < .001; \*\* < .01; \* < .1



Again, this indicator of heterogeneity will be integrated into tests that fit the particular requirements of each subsequent chapter. For instance, in the analysis of the sources of heterogeneity, the test will compare the improvement in model fit provided by each group discriminator's set of interactions over the homogeneous model (Chapter 2). The analysis of heterogeneity's campaign dynamics will follow a similar form, but instead of comparing the model improvement of different group discriminators at one point in time for each decision, it will compare the model improvement of one group discriminator across campaign periods for each decision (Chapter 4).

Although all the dependent variables analysed in this study are dichotomous, I will only report the results of OLS regressions. First, OLS coefficients are simpler to understand and interpret than the non-probabilistic logistic coefficients, and they are more easily comparable across different models (with variables of the same range). Second, logistic model fit measures also do not lend themselves to comparison across different models, nor to a F-test on the significance of the difference between two model specifications. Every single estimation reported in this study, however, was replicated with logistic regression (results not reported here). These replications certify that the OLS results are genuine and robust. They notably confirm that the three measures of heterogeneity provide an accurate picture of the interpersonal differences in coefficient strength.

It should be noted that this study only examines differences in the ultimate impact of independent variables. It does not consider differences in the causal ordering of independent variables. For instance, it will assess whether individuals rely more or less on ideology and leader evaluations, but not whether ideology influences leader evaluations or vice-versa. First, I believe that the specific weight of considerations on the decision is more important than the organization of

considerations. Moreover, I am not convinced that current statistical methods (e.g., structural equation models such as Lisrel) allow us to identify the true causal ordering of independent variables. Although these techniques have some undeniable advantages<sup>18</sup>, my own experience suggests that they often easily confirm theoretical expectations about the causal ordering of variables, when in fact several completely different variable structures would produce similar model fits by accounting for all covariation between variables.

### **The Relevance of Heterogeneity**

Why should we worry about heterogeneity? We know that interpersonal heterogeneity in decision rules biases the estimates produced by a homogeneous model about the average effects that exist among the entire population (Bartels, 1988; Berinsky, 1997; Glasgow, 1997, 1999). But there are more profound consequences. First, my research highlights the substantial scientific perils associated with models of individual behaviour which assume causal homogeneity. The presumption of homogeneity generally leads to inaccurate explanatory models which, by estimating the behaviour of the 'average' citizen, systematically misconceive the behaviour of both sophisticated and unsophisticated citizens. When you estimate a coefficient for the relationship between an independent variable and vote choice for the entire population, it is quite likely that you overestimate the relationship of some voters and underestimate the relationship of other voters, and that the average coefficient effectively applies to very few individuals. Such models may still be able to

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<sup>18</sup> Notably, structural equation models can measure unobserved latent variables, and estimate complex models with exogenous variables, endogenous variables, indirect effects, and reciprocal effects.

predict aggregate outcomes quite accurately, but they fail at the task of understanding the decision-making psychology of most citizens.

Take, for instance, the decision to vote for the Liberal party in 1993 (Table 1.1). The traditional homogeneous setup suggests that the key explanatory variables are partisan identification, populism, feeling against minorities, moral traditionalism, and ratings of Chrétien and Manning. Does the interactive design come to the same conclusions? First, the heterogeneous design indicates that the relationships between these six variables and the Liberal vote are not consistent across individuals. Some of these relationships vary linearly in strength across the subgroups. For instance, the impact of partisan identification declines as information increases: the impact is strongest among the less informed and weakest among the more informed. The variation in the link between the vote and two similar variables, evaluations of Chrétien and Manning, can even be in opposite directions: ratings of Chrétien gain strength as the information level climbs while ratings of Manning lose power. So these variables' homogeneous coefficients, by averaging relationships of different strength into a single coefficient, do not accurately represent the true effects of the variables on vote choice.

Three of the six variables highlighted by the homogeneous specification suffer from even more inconsistency. The homogeneous coefficients for populism, attitudes against minorities, and moral traditionalism all manage to get almost perfectly right the strength of the relationships among one subgroup. But they also underestimate by half the relationships among another subgroup and overshoot the final subgroup where the variables are practically not related to Liberal voting. These are blatant examples of homogeneous averaging. For example, the homogeneous coefficient of feelings against minorities (.21) matches the more informed subgroup's coefficient (.20), but it

represents half the effect that exist among the less informed (.41) and it is off the mark about the medium information subgroup's nonexistent link (.04).

The averaging effect of homogeneous coefficients can also completely mask the subgroups' true relationships. If two correlations of similar strength work in opposite directions, one positive and one negative, then a homogeneous coefficient estimate may conclude there is no relationship at all. The 1993 Liberal vote model contains three explanatory variables which the traditional specification erroneously considers insignificant predictors of voting for the Liberals. Capitalism, continentalism, and macroeconomics have contrary effects among some subgroups which are obliterated by the homogeneous design. For instance, macroeconomics is strongly negatively related to the vote of the more informed (-.35), slightly positively correlated to the medium information subgroup's decision (.08), and moderately positively connected to the choice of the less knowledgeable (.18). Macroeconomics' homogeneous coefficient cancels out these reverse patterns and results in a barely negative and not statistically significant coefficient.

Ultimately, any subgroup's actual decisional determinants are quite different from the picture painted under the assumption of causal homogeneity. The key explanatory variables of the more informed behaviour do include the six variables identified by the conventional design (party identification, populism, feelings against minorities, moral traditionalism, and evaluations of Campbell, Chrétien and Manning). But they also contain four other variables equally or even more important which had gone unnoticed (welfare state, capitalism, continentalism, and macroeconomics). The list of determinants of Liberal voting among the less informed would consist of four of the six variables from the homogeneous list (party identification, feelings against minorities, and evaluations of Chrétien and Manning) and two new variables (macroeconomics and

national retrospective economic assessments).

Such discrepancies are considerable. Explanatory models which do not reflect such interpersonal diversity in decision roles are inadequate. They would fail to identify the determinants of the decision of most members of the electorate. Heterogeneity is especially damaging for a hypothesis-testing approach, where one focuses solely on very few coefficients. One could be led to inaccurate conclusions about hypotheses if the averaging effect of homogeneity masks contrary relationships or relationships which apply to very few individuals.

Secondly, and more normatively, interpersonal heterogeneity in decision-making is responsible for inefficient political choices and outcomes. Bartels (1996) demonstrates that informational deficiencies seriously affect individual choices and electoral outcomes, they lead to significant individual and aggregate deviations from full information in American presidential voting behaviour. Uninformed voters do not mimic the choices of informed voters with similar sociodemographic profiles. They do not vote the way they would have voted if they had been fully informed. So all the means reportedly available to citizens to overcome informational disparities and to reach the right decision (polls, cues, cognitive and affective shortcuts) do not perform that role, at least not perfectly (McKelvey & Ordeshook, 1986; Popkin, 1991; Sniderman et al., 1991; Lupia, 1992).<sup>19</sup>

Furthermore, at the aggregate level, these individual 'errors' are not random, they do not cancel each other out, they are systematic. So, the aggregationist claims are not vindicated: simply summing up the imperfect individual preferences does not produce the collectively legitimate

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<sup>19</sup> This result confirms evidence about the failure of feelings and cues to "close the gap, in translating interests into expressed preferences, between the poorly and well-informed" (Johnston et al., 1996).

outcome (Miller, 1986; Lahda, 1992; Page and Shapiro, 1992). This means that actual electoral outcomes do not correspond to hypothetical outcomes where the same electorate is fully informed. Bartels reports that, on average, American presidential incumbents receive five percentage points more than they would under full information, while Democrat presidential candidates do about two percentage points better.

Beyond their common focus on interpersonal diversity, there is a strong link between heterogeneity and Bartels' individual and aggregate deviations from full information.<sup>20</sup> People of identical sociodemographic profiles with different levels of political information do not vote similarly *because* they rely on different considerations which do not all lead to the same judgment as effectively. Heterogeneity in decision-making is a necessary (but not sufficient) condition for individual deviations in decisions. Thus, similar voters who reason differently about politics will not necessarily reach different decisions, they may still get to the same decision. However, individual deviations can not occur without the presence of heterogeneity. Similar individuals simply can not reach different choices unless their decision is motivated by different considerations. The causal sequence follows the following form: reliance on considerations of different efficiency favour the emergence of individual 'errors' in behaviour which, in turn, are generally not nullified by the aggregation of opinions and translate into biased electoral outcomes. Therefore, heterogeneity possesses serious normative consequences.

Following Bartels' lead (1996), high information behaviour is applied to the entire population

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<sup>20</sup> This position is implicit in the following citation, stated before Bartels uncovers deviations in decisions: "Given the variety of demonstrable differences between well-informed and less well-informed citizens in sensitivity to external stimuli, diversity and precision of political perceptions, information-processing strategies, access to shared understandings of politics, and integrative ability, it hardly seems outlandish to entertain the possibility that disparities in political information lead to systematically different vote choices by citizens in otherwise similar political circumstances" (Bartels, 1996: 202).

on the grounds of similar sociodemographic variables only. I use the following heterogeneous sociodemographic model:

$$Y = a + b1(G_x) + b2(G_{x1} * X_s) + b3(G_{x2} * X_s) + b4(G_{x3} * X_s) + e \quad (\text{Equation 4})^{21}$$

Deviations are based on the difference between each respondent's predicted value from the complete sociodemographic model (equation 4) and the corresponding predicted value computed from the high information set of coefficients (b4 of equation 4). To generate the most precise predicted values, logistic regression was employed. An average individual deviation is the mean of all absolute deviations:

$$\frac{\sum \left| \left[ \text{Predicted value from } Y = a + b1(G_x) + b2(G_{x1} * X_s) + b3(G_{x2} * X_s) + b4(G_{x3} * X_s) + e \right] - \left[ \text{Predicted value from } Y = a + b1(G_x) + b4(X_s) + e \right] \right|}{N} \quad (\text{Equation 5})$$

An average individual deviation exposes the mean difference expressed in percentage points between each individual's actual probability of voting Y and his or her predicted probability had he or she been highly informed. A score of 10 % indicates that each individual's probability of voting Y was different by 10%, on average, from what it would have been had everyone behaved like sociodemographically similar but informed voters. It can be interpreted as the average individual 'error' in behaviour attributable to low information.

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<sup>21</sup> Again, Y is a dependent variable;  $G_x$  is a group discriminator (i.e., information);  $G_{x1}$ ,  $G_{x2}$ , and  $G_{x3}$  are three dummy variables (low, medium, high) constructed from group discriminator  $G_x$ ; and  $X_s$  is a set of sociodemographic independent variables.

An aggregate deviation is the mean of all signed deviations:

$$\frac{\sum \{ [ \text{Predicted value from } Y = a + b1(G_x) + b2(G_{x1} * X_s) + b3(G_{x2} * X_s) + b4(G_{x3} * X_s) + e ] - [ \text{Predicted value from } Y = a + b1(G_x) + b4(X_s) + e ] \}}{N} \quad (\text{Equation 6})$$

An aggregate deviation reveals the difference expressed in percentage points between the entire electorate's actual choice and the hypothetical highly informed outcome. A score of 10% indicates that the actual outcome was 10 percentage points higher than it would have been had everyone behaved like sociodemographically similar but informed voters. A score of -10% indicates that the actual outcome was 10 percentage points lower than it would have been under high information. It can be interpreted as the aggregate bias in collective behaviour attributable to low information.

These are actually variants of Bartels' individual and aggregate deviations from full information. Instead of calculating deviations from a hypothetical condition where the electorate is perfectly informed, I estimate deviations from a hypothetical situation where everybody behaves as the top third of the information distribution, a less dramatic but more plausible scenario.

There are problems with comparing people based only on their sociodemographic characteristics. Two individuals with similar sociodemographic profiles could still have different priorities and different interests. However, using attitudes would be even more problematic. As Bartels notes, attitudes "may themselves be affected by levels of political information, rendering problematic any imputation of vote choices from more informed people to less informed people with the same measured attitudes. By contrast, since demographic and social characteristics (...) are essentially fixed, they provide a firmer base for imputing the hypothetical 'fully informed' voter



choices of less informed people from the observed choices of more informed people with similar characteristics” (1996: 208).

Table 1.4 presents the individual and aggregate deviations from high information for the 1993 Liberal vote.<sup>22</sup> The average individual deviation is an indicator of the ability of uninformed people to reach the same decision as sociodemographically similar informed persons. If we assume that informed behaviour is more enlightened, as Bartels does, individual deviations from high information behaviour could be labelled as individual ‘errors’ in decision-making.<sup>23</sup> The results indicate that there are discrepancies between the predicted vote of informed and uninformed voters. The deviation of 12.7 indicates that each individual’s probability of voting for the Liberals in 1993 was, on average, 12.7 percentage points different from the probability of similar informed voters. Considering that there are no individual deviations among the high information subgroup (the two predicted values of Equation 5 are identical for those people), the average error in behaviour of the two less knowledgeable subgroups is much higher than 12 percentage points.

Table 1.4: Deviations from Informed Outcome, 1993 Liberal Vote (percentages)

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Average Deviation	Aggregate Deviation
12.7	-10.0

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<sup>22</sup> The Equation 4 logistic estimates on which these results are based are not reported.

<sup>23</sup> It is a common and legitimate assumption. Political information “assists citizens in discerning their individual and group interests, in connecting their interests to broader notions of the public good, and in effectively expressing these views through political participation” (Delli Carpini & Keeter, 1996: 1).

The aggregate deviation highlights the most serious implication of heterogeneity: the departure of the actual outcome from a hypothetical high information outcome. Again, if we assume that informed behaviour is more enlightened, this aggregate deviation could be labelled as the bias of the actual outcome with respect to the more legitimate outcome. The score of -10% signifies that the actual level of support for the Liberals in 1993 was 10 percentage points lower than it would have been in a hypothetical outcome where all voters behave like sociodemographically similar individuals with high levels of information. This hypothetical outcome would not have meant a change in the results of the 1993 Federal election, the Liberals would still have been the most popular party and would still have formed the government. But the Liberal government would have benefitted from a much larger share of parliament seats had they garnered the 10 percentage points which uninformed voters 'erroneously' conferred to other parties. This actual 'inappropriate' outcome stems from the fact that individuals think differently about politics, and reach their decisions differently. Thus, heterogeneity possesses significant normative consequences. Understanding this phenomenon thoroughly is of major importance.

## **Conclusions**

This chapter tackled three questions. First, what is heterogeneity? Causal heterogeneity refers to the notion that relationships between independent and dependent variables are not uniform across all individuals. More specifically, heterogeneity in political decision-making refers to interpersonal diversity in the strength of the links between a political choice and its correlates. The evidence suggests that different decision rules are responsible for the presence of heterogeneity in models of political decisions. People do not think similarly about politics, they rely on different

considerations when making up their minds about decisions such as whom to vote for. However, the evidence is not conclusive. Differing levels of measurement error could, to a certain extent, also account for the differences in coefficient strength among the electorate. Ultimately, this becomes an ontological debate.

Second, how should heterogeneity be measured? I recommend the use of an estimation design which relies on extensive use of interactive terms to capture variation in coefficient strength. In effect, this is the equivalent of splitting respondents into three subgroups and estimating a separate set of coefficients for each subgroup. But whatever technique is employed, the key is to permit *all* independent variables to have varying impacts on the dependent variable. It is only by allowing all interpersonal diversity in the strength of relationships to manifest itself that the full extent of heterogeneity can be ascertained. The three-tiers split allows linear and nonlinear variation in coefficient strength to emerge, but it is arbitrary. Other specifications would probably produce different levels of heterogeneity. The important point is that there are considerable interpersonal differences in coefficient strength. The following chapters further document this phenomenon.

Finally, why is heterogeneity important? On one hand, the assumption of causal homogeneity can result in misspecification errors. The averaging effect of the traditional homogeneous design can induce a researcher to conclude that a relationship does not exist while it actually does for a portion of the public, and that another exists while it does not apply to part of the citizenry. On the other hand, heterogeneity leads to individual and aggregate deviations from informed choices. Similar people who rely on different decision rules do not necessarily reach the same decisions. And these individual deviations do not cancel each other out collectively, they produce aggregate deviations from hypothetical high information outcomes.

## Chapter 2

### THE SOURCES OF HETEROGENEITY

We do not have a clear understanding of the sources of heterogeneity. Studies link heterogeneity to differences in political sophistication. Empirically, various factors have been found to produce interpersonal differences in coefficient strength, some of which are not appropriate measures of political sophistication (notably education). Moreover, the relative importance of these and other factors has not been determined. A thorough and systematic examination of the potential sources of heterogeneity is needed. This chapter fills that gap.

First, the chapter presents potential determinants of heterogeneity: education, political interest, media attention, political information, and intelligence. It discusses the reasons why we could expect these factors to be sources of heterogeneity, and it talks about various scenarios of pattern which the results might exhibit. Secondly, the chapter presents the results of an analysis which assesses the relative importance of these factors in generating heterogeneity among several political decisions.

## Political Sophistication and Heterogeneity

When discussing the source of heterogeneity in political decisional processes, the majority of studies have explicitly linked heterogeneity to differences in political sophistication, although the actual terminology varies (Sniderman et al., 1991; Johnston et al., 1996). A citizen's level of political sophistication is defined by the size, range, and constraint of his or her political belief system (Luskin, 1987). "A person is politically sophisticated to the extent to which his or her political cognitions are numerous, cut a wide substantive swath, and are highly organized, or 'constrained'" (Luskin, 1990: ). As Luskin (1987) and Neuman (1986) argue, the term political sophistication is effectively synonymous with political expertise (e.g., Fiske, Lau, & Smith, 1990), political competence, political awareness (e.g., Zaller, 1992), and political involvement.

However, much of the research that claims to find empirical support of this link is problematic. Various factors have been found to produce interpersonal differences in coefficient strength: education (Sniderman et al., 1991), political interest, political information (Johnston et al., 1996), and various combinations of the preceding and other factors. Studies which use education or political interest as an indicator of sophistication can not be interpreted as evidence for a link between sophistication and heterogeneity, because these two factors are considered inappropriate measures of political sophistication (Hamill, Lodge, & Blake, 1985; Hamill & Lodge, 1986; Neuman, 1986; Luskin, 1987; Fiske, Lau, & Smith, 1990; Zaller, 1990). "Education is not the same as, nor should it be cavalierly substituted for, either intelligence or sophistication" (Luskin and Ten Barge, 1995: 9). In contrast, the use of information conforms to the established conception about the nature of political sophistication. Although sophistication is a function of many factors, some

of which are difficult to measure (i.e., level of conceptual organization), it is closely correlated to information holding (Luskin, 1987; Fiske et al., 1990; Zaller, 1990).

Nevertheless, it remains to be determined that political sophistication is actually responsible for heterogeneity in political decisions. The relative and the specific importance of information and the other factors has not been determined. Moreover, other factors have not been considered. A simultaneous examination of the potential sources of heterogeneity is needed.

### **The Potential Determinants of Heterogeneity**

I examine five potential cognitive generators of heterogeneity: education, political interest, media attention, political information, and intelligence. I group these factors under the label cognitive. This label distinguishes them from an individual's physical, biographical, sociological, and cultural attributes. At first glance, these factors might appear more than kindred. They might be construed as analogous. It might be assumed that these factors are comparable or complimentary indicators of a single grand concept which one could label political sophistication. Such assumptions would in fact be incorrect. Studies have shown that these factors are not all suitable indicators of political sophistication (Hamill, Lodge, & Blake, 1985; Hamill & Lodge, 1986; Neuman, 1986; Luskin, 1987; Fiske, Lau, & Smith, 1990; Zaller, 1990). Education, political interest, media attention, political information, and intelligence all deal with psychological engagement with politics, but they are not different sides of a single object. The best way to understand these cognitive factors is to keep in mind a typology proposed by Luskin (1990):

As a very general matter, the conditions that promote any particular behavior can be grouped under the headings of *opportunity*, *ability*, and *motivation*. Bedouins in the Sahara do not become champion swimmers; ordinary people who enjoy music do not compose great symphonies; professors with research assistants do not do their own leg work. They lack the opportunity, the ability, and the motivation, respectively (Luskin, 1990: 335, emphasis in original).

Empirically, each of these three conditions possess a distinct impact on several political choices. Ability (intelligence) influences political tolerance and turnout; while opportunity (political information) and motivation (political interest) affect political participation and the impact of issue positions on vote choice (Luskin & Ten Barge, 1995). This logic may be extended to heterogeneity. People might think differently about politics because they differ in their levels of opportunity, ability, or motivation with regards to politics. Next, I discuss why ability, opportunity, and motivation should be potential sources of heterogeneity in political decisional processes?

The type of *ability* that applies to political decision-making is intelligence. There is so much disagreement about how intelligence should be defined that some say "no one knows what intelligence is" (Scarr & Carter-Saltzman, 1982: 799). To avoid any controversial statement, I subscribe to a very general definition of intelligence: the level of cognitive functioning, where "cognitive functioning refers to such activities as perceiving relationships, comparing and judging similarities and differences, coding information into progressively more abstract forms, classification and categorization, and memory search and retrieval" (Estes, 1982: 216).

Psychological studies have shown that individuals with greater cognitive abilities perform better in tests of deductive and inductive reasoning skills (for a review, see Sternberg, 1982). These performance differences between levels of intelligence increase with the degree of complexity and

novelty of the tasks and information involved. Furthermore, research on the political socialization of children demonstrates a link between cognitive ability and complex political thinking. As intelligence increases, so does the capacity to comprehend and to link general and abstract political concepts, to think probabilistically, to extrapolate, to speculate, to theorize, and to make cost-benefit assessments (Adelson & O'Neil, 1966; Adelson, 1971). Finally, the level of intelligence is also positively linked to the capacity to learn, retain, and retrieve information, especially complex information (Renshon, 1977; Estes, 1982; Graber, 1984; Campione, Brown & Bryant, 1985). Since smarter citizens tend to handle complex material more effectively and tend to make more of the information they have at hand, they may rely on different decision rules. This might be especially true about politics, "because politics is more abstract and remote - simply 'harder material' - than, say, sports or cooking" (Luskin, 1990: 336). The political realm may constitute a particularly complex subject where cognitive ability has a strong incidence on heterogeneity in decision-making. These arguments should hold whether intelligence is biologically or environmentally determined.<sup>24</sup>

The second condition that affects behaviour is *opportunity*. In the case of political decision-making, opportunity refers to exposure to and holding of information, operationalized as media attention and information. "Reasoning may be characterized as an attempt to combine elements of old information to form new information" (Sternberg, 1982: 235). One needs to know something about politics to be capable of reasoning about it. More importantly, the amount of information a citizen possesses should influence the way he or she thinks about politics. More knowledgeable individuals, by having a more extensive number of elements to combine, should make decisions

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<sup>24</sup> On the debate over the inheritability and environmental facilitation of intelligence, see Cancro (1971) and Guilford (1967).



based on different considerations than those of the less knowledgeable.

There already exists ample evidence of the impact of the quantity of political information on individual political decision making. Most notably, it plays a pivotal role in Zaller's (1992) model of political preferences: the level of political information is positively associated to the reception of political communication, but negatively associated with its acceptance.<sup>25</sup> Moreover, Johnston and his colleagues (1996) reveal that information affects the impact of substantive ideas and intervenor evaluations on a referendum vote, the response to polls, and the general precision of the choice. The key is to ascertain whether political information surpasses ability and motivation as a source of interpersonal heterogeneity.

Opportunity also refers to exposure to new information. Holding information constant, greater exposure to campaign coverage and rhetoric may affect the way individuals deliberate about their voting decisions. Although exposure to political information would represent the ideal variable, the available data imposes the use of an acceptable proxy, general media attention.

Differences in decision-making may not stem from the inherent complexity of political cognition or divergences in exposure to or holding of political information, they may emanate from disparities in *motivation*. If an individual is totally indifferent to politics, he or she is less likely to pay serious attention to the political arena, and to gather information useful to the development of political opinions (Luskin, 1990). Research on the concept of involvement confirms that individuals which are personally engaged by a political issue conduct more thoughtful deliberations about that issue (Petty & Ciacoppo, 1986). More thoughtful deliberation may, in turn, lead to reliance on

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<sup>25</sup> Although Zaller refers to political awareness, he operationalizes this concept with measures of factual political knowledge. His scales also contain various other variables, including interviewer rating of respondent knowledge.

different considerations. The effect of interest is perhaps independent of intelligence, information, and media attention: equally able, attentive and informed citizens who differ in their degree of interest may reason differently about politics.<sup>26</sup>

Education may straddle ability, opportunity, and motivation. First, education should correlate with ability since it sorts individuals by prior cognitive functioning, and it provides training in cognitive functioning. Second, education surely promotes opportunity by fostering erudition. Finally, education may favour a sense of civic duty which makes people think differently about politics (Johnston et al., 1996). As the factor traditionally employed to produce heterogeneity, education is the defending champion who will try to outperform challengers which capture each psychological condition more specifically.

Despite the argument and evidence cited earlier in this chapter, a person could still believe that these group discriminators are not different conceptually, that they represent aspects of a larger phenomenon, and that an indicator which captures all these dimensions would therefore perform more effectively than any single aspect. I will test this possibility with an additive index containing all group discriminators of any given model.<sup>27</sup>

This study only considers the cognitive characteristics of respondents as potential sources of heterogeneity. It does not examine sociodemographic and cultural factors, such as gender, age, religion, and post-materialism, which could also interact with individuals' attitudes to produce

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<sup>26</sup> General political interest is not be the only motivational moderator of decision processes, interest in particular issues is also be relevant. Studies have shown that voters tend to rely more on issues which they find important than those which they find unimportant when developing evaluations of political candidates (Krosnick, 1988, 1990; McGraw, Lodge, & Stroh, 1990; Fournier, Blais, Nadeau, Gidengil & Nevitte, 2000). However, such factors are not systematic sources of heterogeneity, they only entail heterogeneity for a few variables, not the entire model.

<sup>27</sup> Reliability analyses showed that all group discriminators fit quite well together in each model, and that more restrictive variable combinations would not fare any better.

differences in decision-making. I concentrate on the cognitive capacities of citizens, with political sophistication at the forefront, because these factors have been identified as the ones which go to the heart of rationality, democratic theory, and the quality of individual and aggregate decisions (Sniderman et al., 1991; Johnston et al., 1996; Bartels, 1996).

### Scenarios of Results

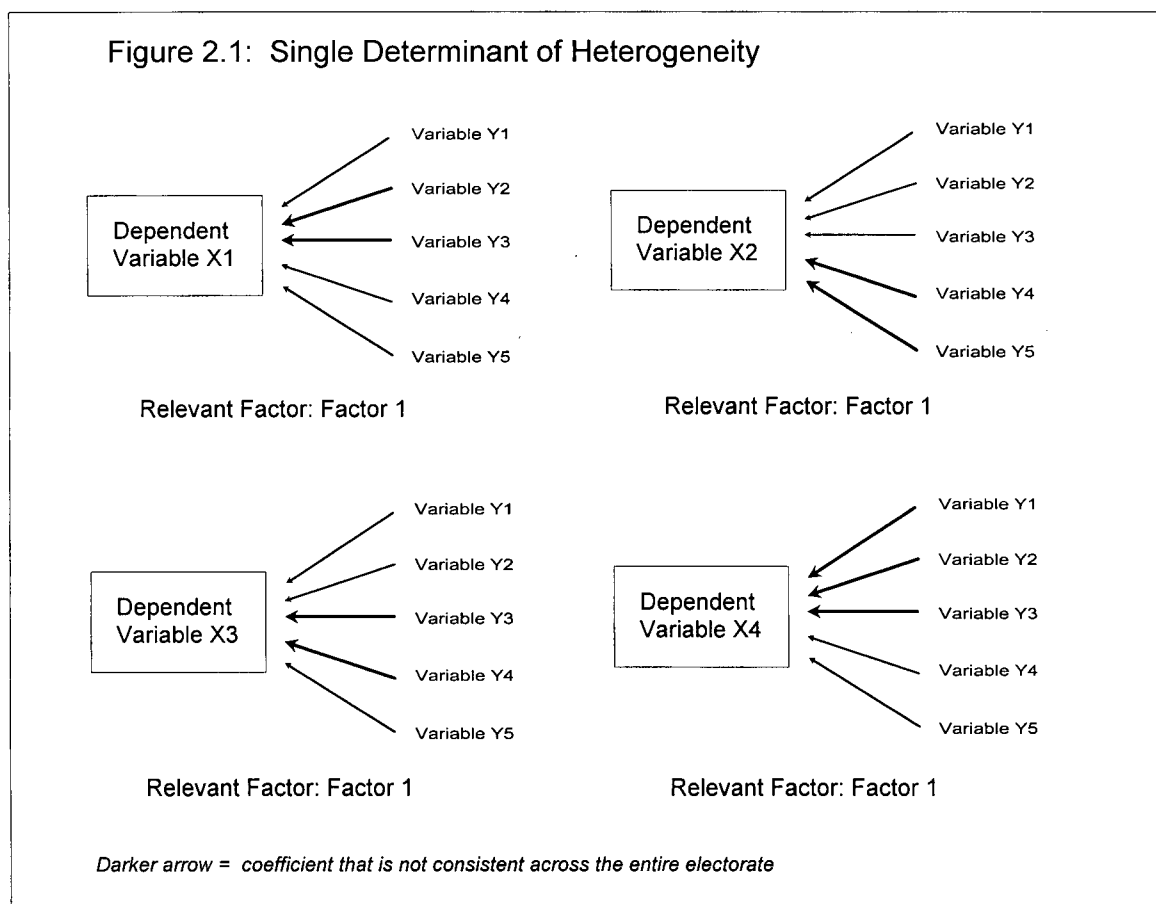
Various scenarios about the determinants of heterogeneity are plausible. First, it is possible that one factor is consistently the single most important determinant of heterogeneity across various political decisions. This scenario is illustrated by Figure 2.1. Factor 1 is simply the top source of heterogeneity for all four models, even though the differences in coefficient strength are located among different independent variables in each model.

Let's speculate about a concrete example. One can expect that both intelligence and information are moderators of ideological thinking. On one hand, political socialization's link between intelligence and abstraction capacity suggests that the less astute may have difficulty relying on ideological identification and issue positions to make political evaluations. Work on schema theory has also demonstrated that the more cognitively able have a greater tendency to hold information of an ideological and partisan nature as opposed to general class information (Hamill, Lodge, & Blake, 1985; Hamill & Lodge, 1986).<sup>28</sup> On the other hand, to be able to link ideological labels to political parties and candidates, a voter needs to have sufficient information about the past

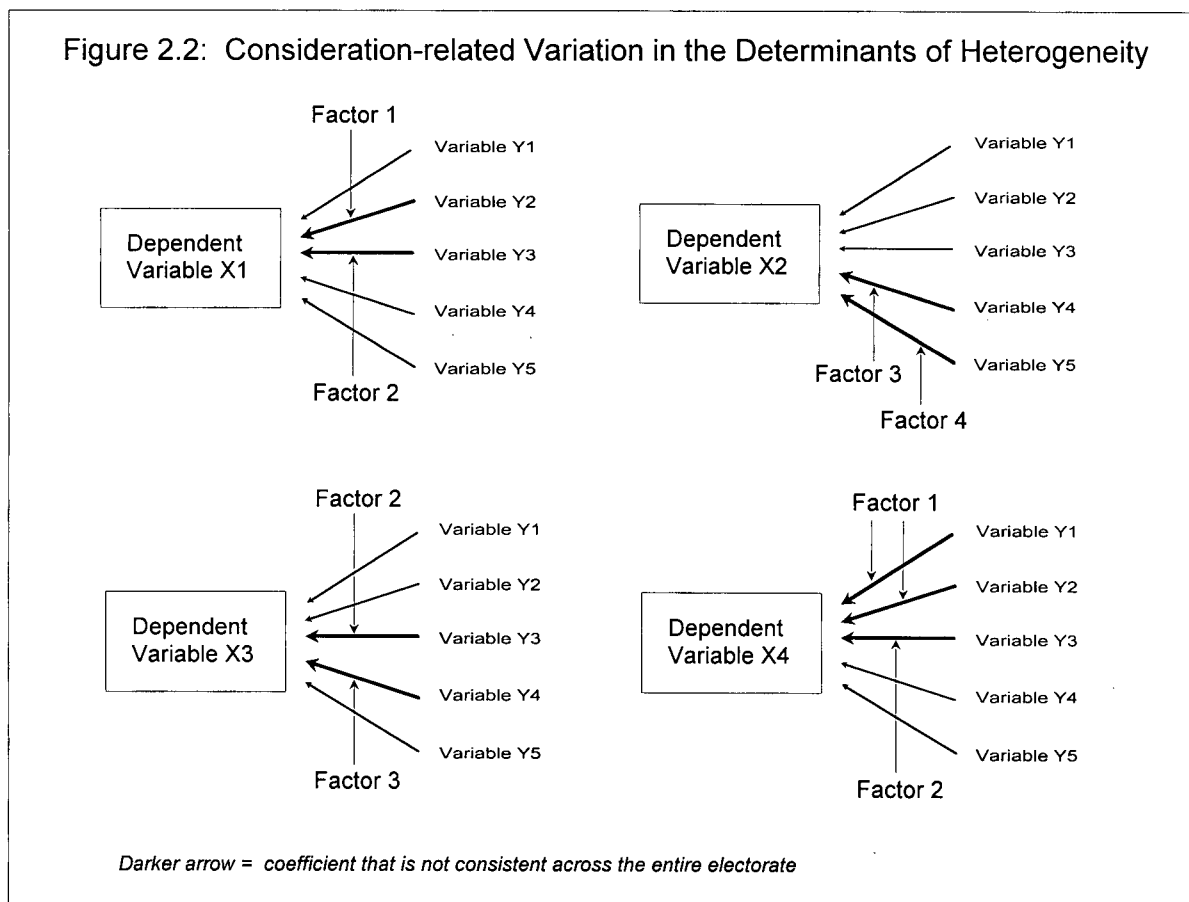
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<sup>28</sup> However, it must be noted that Luskin & Ten Barge (1995) also argued that intelligence should have an impact on the relationship between ideological issue positions and vote choice, but did not find any empirical support for this assertion in the presence of various controls.

behaviour and the issue positions of those competitors. The more knowledgeable are also more likely to assess incoming information more critically and, as a result, more likely to develop consistent attitudes (Zaller, 1992). It is therefore reasonable to find that information levels influence the correlation between political preferences and ideological identification and issue positions (Zaller, 1992; Luskin & Ten Barge, 1995). However, if this first scenario is vindicated, then one of the preceding relationships will appear much stronger than the other, and that factor will be the top source of heterogeneity among all considerations, not just ideological reasoning. For instance, information may have shown signs of heterogeneity only because it is correlated to intelligence. Once you consider intelligence's influence on heterogeneity, information's effect may simply be outmatched.



Another scenario is conceivable: consideration-related variation in the determinants of heterogeneity. Several factors might generate structures of heterogeneity which are different in nature, rather than different in degree, because each of these factors interacts with the particularities of certain decision processes. Concretely, this would translate into different group discriminators being responsible for heterogeneity among different considerations. Figure 2.2 illustrates such a scenario. Across all decisions, Factor 1 produces the most heterogeneity among Variables Y1 and Y2. Similar links exist between Factor 2 and Variable Y3, between Factor 3 and Variable Y4, and between Factor 4 and Variable Y5.

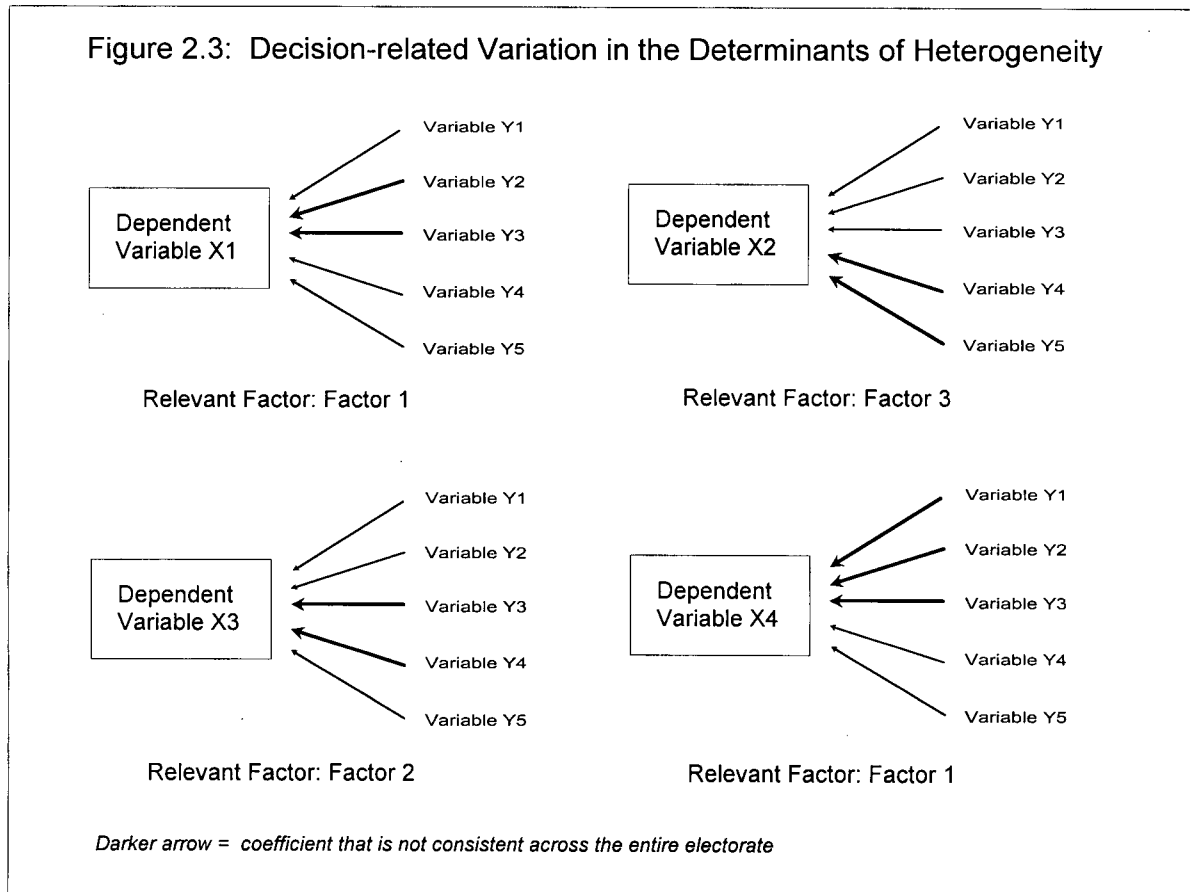


For instance, intellect may cause heterogeneity in the ideology/vote relationship, while information might induce differences in the voter's reliance on cues. Considering the complexity and abstractness of politics, the use of ideology may depend on the capacity to draw inferences and to extrapolate, tasks which psychological studies have found to be related to intelligence. In contrast, other decision processes hinge on access to particular elements of information: the capacity to respond to cues provided by polls and intervenors may be decisively associated with levels of political information. So, in any decision, there may be several factors (two or more) responsible for heterogeneity among different considerations.

I also have to consider a third scenario: decision-related variation in the determinants of heterogeneity. In this pattern, the source of heterogeneity varies according to the political decisions which citizens face. In Figure 2.3, we see that Factor 1 is responsible for all the heterogeneous relationships in the models of Variables X1 and X4. For other decisions, different factors matter: Factor 3 for Variable X2, and Factor 2 for Variable X3. There is an example of this in the literature. In a setup that did not allow much heterogeneity to surface, Luskin & Ten Barge (1995) uncovered evidence that ability, opportunity, and motivation mattered differently in decisions relating to political participation, vote choice, and political tolerance.

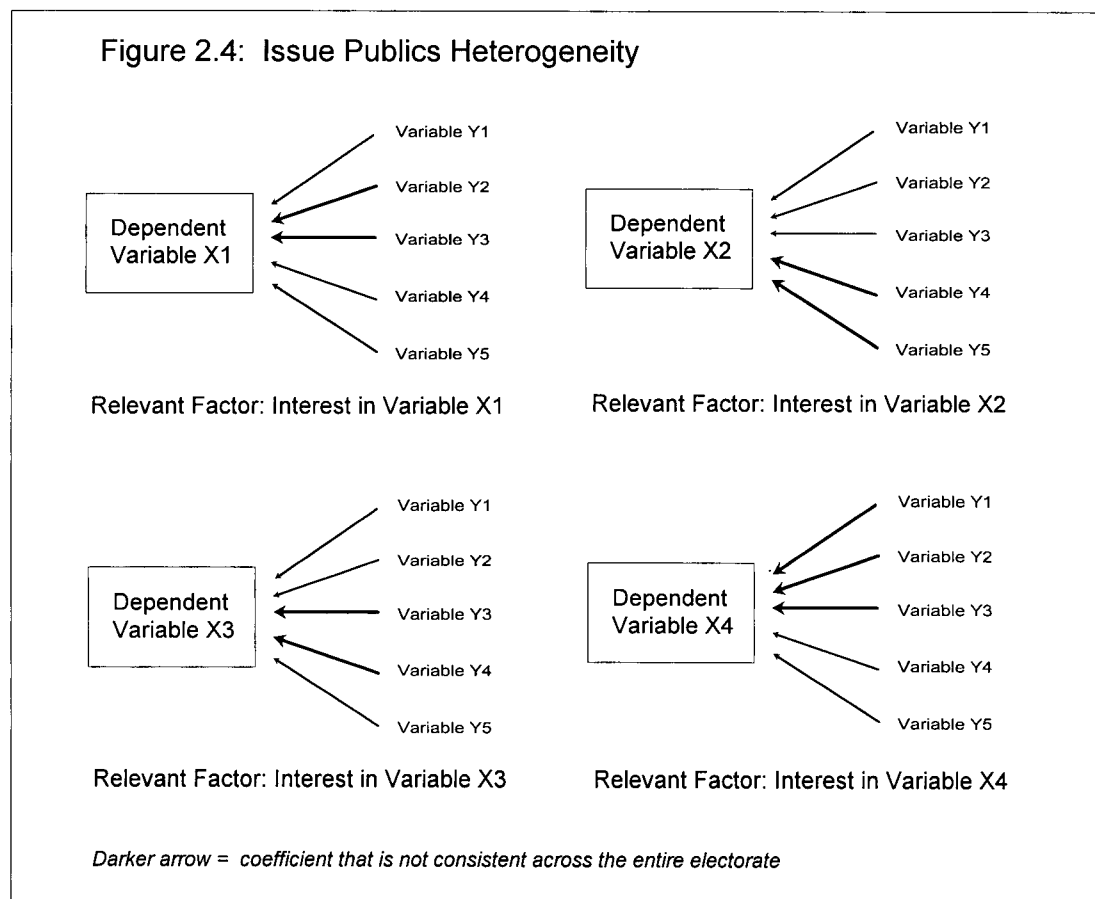
This empirical analysis examines various political decisions. Several electoral choices are studied: the vote in the 1993 and 1997 Canadian federal elections, and the vote in the 1984 American Presidential Election. The list of non-electoral decisions includes the vote in the 1992 Canadian Referendum on the Charlottetown Constitutional Accord, and support for Quebec sovereignty. These decisions cover a wide range in terms of importance and complexity. In ascending order of importance, one finds voting decisions, the 1992 constitutional referendum decision, and support for

Quebec sovereignty. With regards to complexity, the contrast is exemplified by the 1992 referendum decision of non-Quebec respondents (a difficult decision) and attitudes toward Quebec sovereignty among Quebecers (a relatively simple decision).



Finally, a fourth scenario is suggested by the issue publics model. This theory states that citizens are only knowledgeable and sophisticated when they deal with issues that concern and interest them (Neuman, 1986; Elkins, 1992). This shifting specialization of the electorate implies that voters should not consistently be on the same side of heterogeneity gap. As illustrated by Figure 2.4, this implies that voter's interest in a particular decision determines their different behaviour concerning that decision. So, interest for Variable X1 is the most important source of heterogeneity

in Variable X1's model, interest for Variable X2 determines heterogeneity in Variable X2, etc. Here, I refer to a different variable than interest in politics which was presented earlier, but interest in the decision also captures the motivational dimension.



Also, these four scenarios do not cover every eventuality. It is possible that the results do not exhibit a clear pattern, and that heterogeneity represents a chaotic and unmanageable phenomenon. The results could also take a bewildering form, such as combining two scenarios. For instance, decision-related and consideration-related variation in the source of heterogeneity could come intertwined.



It is possible to summarize the anticipations of this chapter with hypotheses. If the first scenario is vindicated, then hypothesis H1 would be confirmed. Hypothesis H2 would be validated if the second scenario is supported. If the third scenario turns out to be the most accurate, then hypothesis H3 would be vindicated. Finally, hypothesis H4 would be affirmed if the evidence supports the fourth scenario.

- H1:** There is a single determinant of heterogeneity, a factor which generates more heterogeneity than all other factors among each decision.
- H2:** There is consideration-related variation in the determinants of heterogeneity: in any decision, different factors are responsible for heterogeneity among different considerations.
- H3:** There is decision-related variation in the determinants of heterogeneity: different factors are responsible for heterogeneity among different decisions.
- H4:** Heterogeneity is driven by issue publics: interest in the particular political decision determines the heterogeneity in any given decision.

### **The Study**

This chapter evaluates the sources of heterogeneity by comparing the level of heterogeneity generated by the group discriminators among five political decisions: the vote in the 1992 Canadian referendum on the Charlottetown Accord, the vote in the 1993 and 1997 Canadian federal elections, support for the sovereignty of Quebec, and the vote in the 1984 American presidential election.

Essentially, these decisions were chosen because they assure the use of quality data consistently throughout the study. Relying on the same data through the different analyses facilitates matters for both the reader and myself. I draw on major national public opinion surveys: the 1992/1993 and 1997 Canadian Election Studies, and the 1987 American General Social Survey. The wide variety of attitudinal variables contained in these surveys allows me to construct very detailed explanatory models. They also hold all the group discriminators discussed previously as potential sources of heterogeneity.<sup>29</sup> Some of these surveys possess a temporal component which spans the course of a campaign (they will be of great use for Chapter 4). The selection of these five decisions (as opposed to other political choices available in the data) stems from a concern of Chapter 3 to have decisions which show some affinities and some differences. On one hand, they all represent a voting decision, an act which embodies the role of citizens in a democracy. On the other hand, they differ in complexity and in importance.

The models of these decisions consist of different samples of respondents, and of different sets of explanatory variables. Two models deal with the 1992 Canadian referendum on the Charlottetown constitutional accord. Following common practice, Quebec and non-Quebec respondents are treated separately. Behaviour in the 1993 Canadian federal election is divided into several models, one for each of the major parties. Since the number of Quebec respondents in the complete models is not sufficiently large to split into three subgroups, the analysis is restricted to the non-Quebec sample, and to the three most important parties outside Quebec (the Liberal, Conservative, and Reform parties). The situation is the same for the 1997 Canadian federal election: three models for the non-Quebec sample (Liberal, Conservative, and Reform voting). Finally, one

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<sup>29</sup> For instance, the 1987 GSS is the only political survey to include an IQ test.

model represents the vote in the American presidential election of 1984 (Mondale versus Reagan). Details on the variables contained in these models and the data from which they are drawn can be found in Appendix 1.

As for the measurement of group discriminators, the indicators used are listed in Table A.1 of Appendix 1. Two factors deserve particular attention: political information and intelligence. Following the lead of previous work on information, I sought measures of general factual knowledge.<sup>30</sup> Information is operationalized by a different measure in each decision model.<sup>31</sup> For the 1992 referendum models, I use an index of respondents' knowledge of the stance of six intervenors on the Charlottetown Accord.<sup>32</sup> For the 1993 models, I rely on an index of awareness of the major parties' principles election stands.<sup>33</sup> For the 1997 election models and the support for Quebec sovereignty model, I rely on a scale composed of four general political facts, and three items about the major campaign promises and stances of parties.<sup>34</sup> For the 1984 American model, I utilize an index of correct identification of the state's governor, the district's member of the House of Representatives, and the head of the local school system.

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<sup>30</sup> Various authors recommend using general factual knowledge (Luskin, 1987; Fiske et al., 1990; Zaller, 1990). For instance, Delli Carpini & Keeter conclude that political information is unidimensional, "that measures of national political knowledge in one domain can provide reasonably good - though not ideal - measures of overall knowledge about national politics" (1993: 1185).

<sup>31</sup> Again, details on the construction of these measures can be found in Appendix A.

<sup>32</sup> The Quebec index evaluates awareness of the position of two proponents (Claude Castonguay, and the business community) and four opponents (Trudeau, Allaire, unions, and the women's movement); while respondents outside Quebec are classified according to their knowledge of the stance of three proponents (Peter Lougheed, the business community, and unions) and three opponents (Trudeau, Manning, and the women's movement).

<sup>33</sup> I.e., spend more on public works (Liberal), eliminate the deficit in 3 years (Reform), eliminate the deficit in 5 years (Conservative), opposes NAFTA (NDP), opposes the GST (NDP/Liberal), supports the GST (Conservative).

<sup>34</sup> The four general facts are the names of the U.S. President, the provincial Premier, the first woman Prime Minister of Canada, and the federal Minister of Finance. The three campaign promises are lower income taxes by 10% (PC), cut unemployment in half (NDP), and against distinct society status for Quebec (Reform).

To obtain a measure of intelligence, I use the 1987 American General Social Survey which contains a 10-item Gallup-Thorndike vocabulary test and a 13-item Cattell verbal IQ test. Just as the definition of intelligence is far from settled, scholars have not yet agreed on the best measurement of intelligence. However, wide-range vocabulary tests appear to constitute an acceptable indicator. For instance, Hunt (1978) found that performance of several cognitive tasks was related to verbal ability. In the case of political cognition, verbal ability may be more than appropriate: since most political information presents itself in the form of discourse, verbal ability should be critically important in the determination of differences in political decision-making.

From each group discriminator, dichotomous variables were created for each third of the resulting distributions (low, medium, and high). These three dummy variables interact with every attitudinal independent variable in the models to produce a separate set of coefficients for each subgroup (Equation 2 from Chapter 1). The unmodified group discriminator scales (0-1) are also included in the models to capture the direct impact of each group discriminator on the dependent variable.<sup>35</sup>

The analysis concentrates on the type of results introduced in the previous chapter: the homogeneous/heterogeneous regression results, the number of significant gaps in coefficients, the total absolute gaps in coefficients, and the model improvement statistics. The unaltered version of the three summary measures of heterogeneity is appropriate for the analysis conducted in this chapter.

The key aspect of the analysis is that I present results of various group discriminators for each decision model. It should be noted that this technique does not allow me to assess the specific

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<sup>35</sup> Including two of the three dummies could also have captured the direct impact of the group discriminators on the dependent variable, but the loss in degrees of freedom is not outbalanced by greater explanatory power.

importance of each group discriminator multivariately. Since heterogeneity is an aggregate phenomenon -- there is no such thing as one respondent's score on heterogeneity--, no multivariate setup is possible.<sup>36</sup> So comparing the measures of heterogeneity produced by the group discriminators can only identify the relative, but not the specific, importance of each factor in generating heterogeneity.

## **The Results**

The complete heterogeneous estimation results are reported in Appendix 2 (Tables A.2.1 through A.2.10). To simplify matters, the interpretation concentrates on the summary measures of heterogeneity.<sup>37</sup> Table 2.1 presents the number of significant gaps in coefficients generated by each group discriminator in all decision models. No single factor consistently reveals the greatest quantity of heterogeneity across all decisions. For half the decisions, the greatest number of significant coefficient gaps are produced by education (1992 referendum outside Quebec, 1992 Quebec referendum, 1993 Reform, 1997 Reform, and support for sovereignty). Information and media attention each cause the most numerous significant gaps among three decisions (1993 Conservative, 1997 Liberal, and 1997 Conservative for information; 1993 Liberal, 1993 Conservative, and support for sovereignty in the case of media attention). Political Interest is responsible for the highest total among one decision (1984 presidential vote). In its sole appearance (the 1984 presidential vote choice), intelligence is surpassed by political interest.

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<sup>36</sup> The design is certainly multivariate within any given factor and any given decision.

<sup>37</sup> The total absolute gaps can only be compared across group discriminators of a same decision model. They can not be compared across decisions, since they involve different sets of variables.

Table 2.1: Cognitive Sources of Heterogeneity, Number of Significant Gaps in OLS Unstandardized Coefficients

	Information	Media Attention	Political Interest	Education	Intelligence	Index
1992 Refer. Vote outside Quebec	7	9	-	<b>10</b>	-	9
1992 Quebec Referendum Vote	2	5	-	<b>8</b>	-	3
1993 Liberal Vote	6	<b>9</b>	-	8	-	9
1993 Conservative Vote	7	7	-	4	-	6
1993 Reform Vote	5	3	-	<b>6</b>	-	6
1997 Liberal Vote	<b>12</b>	6	6	9	-	11
1997 Conservative Vote	<b>16</b>	10	12	12	-	5
1997 Reform Vote	8	9	9	<b>15</b>	-	5
1997 Support for Que. Sover.	0	1	0	1	-	1
1984 Presidential Vote	3	2	<b>6</b>	2	3	0

Table 2.2 compares the total absolute coefficient gaps generated by each group discriminator. Again, the results indicate great variation in the top source of heterogeneity. The greatest gaps between coefficients are produced by education among five decisions (1992 referendum outside Quebec, 1992 Quebec referendum, 1993 Liberal, 1993 Reform, and 1997 Reform), and by information among three decisions (1993 Conservative, 1997 Liberal, and 1997 Conservative), while media attention and political interest each lead among one decision (support for sovereignty and 1984 presidential vote, respectively). Intelligence ranks in the middle of the pack among discriminators of the American vote choice.

Table 2.2: Cognitive Sources of Heterogeneity, Total Absolute Gaps in OLS Unstandardized Coefficients

	Information	Media Attention	Political Interest	Education	Intelligence	Index
1992 Refer. Vote outside Quebec	7.06	7.00	-	<b>7.36</b>	-	7.08
1992 Quebec Referendum Vote	5.10	5.38	-	<b>6.48</b>	-	4.90
1993 Liberal Vote	9.62	8.42	-	10.48	-	9.89
1993 Conservative Vote	<b>8.31</b>	7.02	-	7.00	-	7.00
1993 Reform Vote	8.32	7.32	-	8.94	-	7.66
1997 Liberal Vote	<b>7.40</b>	5.38	6.92	7.32	-	6.10
1997 Conservative Vote	<b>7.14</b>	5.46	5.38	7.04	-	5.14
1997 Reform Vote	5.56	4.74	4.34	5.97	-	4.08
1997 Support for Que. Sover.	1.06	<b>1.80</b>	0.98	1.30	-	1.52
1984 Presidential Vote	3.20	4.40	<b>4.82</b>	3.28	3.38	2.66

Table 2.3 examines the model improvement provided by each discriminator's heterogeneity-sensitive specification over the basic homogeneous setup. All discriminators' set of interactions improve the model fit, but one particular factor is responsible for slightly larger model improvements among each decision. Education is the top source of heterogeneity among five decisions (1992 Quebec referendum, 1993 Liberal, 1993 Reform, 1997 Conservative, and 1997 Reform). Information ranks first among three decisions (1992 referendum outside Quebec, 1993 Conservative, and 1997 Liberal). Media attention does so among two decisions (support for sovereignty, and 1984 vote choice). Political interest generates the greatest gain in model fit among one decision (1984 presidential vote). Finally, intelligence does not outperform the other discriminators in the 1984 presidential vote choice.

Table 2.3: Cognitive Sources of Heterogeneity, Differences in R-squared (F-test)

	Information	Media Attention	Political Interest	Education	Intelligence	Index
1992 Refer. Vote outside Quebec	<b>.050 ***</b>	.042 ***	-	.039 **	-	.042 ***
1992 Quebec Referendum Vote	.031 *	.032 *	-	<b>.045 ***</b>	-	.029 *
1993 Liberal Vote	.043 *	.038 *	-	<b>.053 ***</b>	-	.034
1993 Conservative Vote	<b>.052 **</b>	.040 *	-	.036	-	.032
1993 Reform Vote	.030	.030	-	.032	-	.024
1997 Liberal Vote	<b>.046 *</b>	.036	.035	.035	-	.034
1997 Conservative Vote	.069 ***	.061 **	.060 *	<b>.078 ***</b>	-	.054 *
1997 Reform Vote	.034 *	.027	.024	<b>.037 **</b>	-	.022
1997 Support for Que. Sover.	.005	.011 *	.004	.006	-	-.002
1984 Presidential Vote	.013	<b>.018 *</b>	<b>.018 *</b>	.011	.013	.004

Statistical significance of F-test: \*\*\* < .001; \*\* < .01; \* < .1

The summary measures of heterogeneity for the composite index, which constitutes an additive scale of all group discriminators in any given model, are reported in the last column of Tables 2.1 through 2.3. On three instances, the index's number of significant gaps matches the number produced by each decision's top source of heterogeneity. In all models, the index's total absolute gaps are substantial, but they never depict the highest level of heterogeneity in any decision. The composite index notably improves the model fit of the homogeneous setup, but it never rivals the top discriminators. All in all, this is not an impressive performance.



## Discussion

Do the different tests concur about the source of heterogeneity? There is a strong congruence between the number of significant gaps, the total absolute gaps, and the model improvement statistics. For seven of the ten decisions, all three measures of heterogeneity point to the same factor as the top source of heterogeneity for that decision. For instance, information is responsible for the greatest number of significant gaps, the greatest total absolute gaps, and the greatest gain in model fit among the 1997 Liberal vote choice. The 1992 Quebec referendum, 1993 Conservative, 1993 Reform, 1997 Liberal, 1997 Reform, and 1984 presidential decisions also exhibit the same concordance about the most important group discriminator across all three measures of heterogeneity. Among the three other decisions, two out of three measures concur about a particular factor. This convergence in findings speaks to the validity of the measures of heterogeneity. At the least, it confirms that they are measuring the same thing.

There is also some convergence across decisions. Education and information constitute the top sources of heterogeneity. Excluding the cases where a group discriminator was singled out by a lone measure of heterogeneity, these two factors rank first among five and three decisions, respectively. Media attention and political interest each top one decision. Intelligence and the composite index fail to outperform the other group discriminators among every decisions.

All in all, the evidence presented here does not invalidate the link between political sophistication and heterogeneity (Sniderman et al., 1991; Johnston et al., 1996). Although the most effective measure of sophistication (information) is not the top source of heterogeneity, it is consistently an importance source of interpersonal differences in coefficient strength. It should be

noted, however, that measurement error could play a significant role in explaining the relative importance of the group discriminators. More reliable measures may simply yield greater effects. Nevertheless, it is clear that heterogeneity is not simply an econometric issue (Rivers, 1988). It hinges on the cognitive capacities of citizens. Sophisticated and unsophisticated individuals do not make up their minds in similar ways about political choices. They rely on different considerations or they give different weight to these considerations.

The fact that the composite index is not the most effective discriminator, and that all discriminators do not perform similarly, does tend to validate Luskin's argument (1990) about the three conditions conducive to behaviour (ability, opportunity, and motivation). Political information's important role points to opportunity as a key dimension for heterogeneity. Education is more ambiguous. Does education work well because it correlates with information or because it captures a separate dimension, perhaps distinct from ability, motivation, and opportunity? More work is needed to answer this question.

Which scenario of anticipated findings best characterizes the pattern of results? At first glance, the first scenario, a single determinant of heterogeneity, does not appear to fit the data particularly well. No single group discriminator was found to be responsible for the greatest amount of heterogeneity among all decisions. Two factors, education and information, are the most important for most decisions. This conclusion, though, does not stem from a multivariate setup. We can wonder whether the relative importance of each group discriminator is a good indicator of each factor's specific role in generating heterogeneity. We could assume so if there was no consideration-related variation in the source of heterogeneity. For example, if information generates the greatest

coefficient gaps in a specific decision, and information's gaps for any independent variable consistently surpass all other factors' gaps; then information is likely the dominant source of heterogeneity. In contrast, if two discriminators with comparably high total gaps alternately create the highest gaps among different independent variables; then it is unlikely that one of these two discriminators would be washed away in a multivariate setup where the specific impact of each discriminator could be ascertained.

There is great instability in the source of heterogeneity at the level of considerations. The estimation results (Tables A.2.1 through A.2.10) reveal that the greatest gaps of any independent variable are not persistently in the same column. Within each decision, the top overall source of heterogeneity is not consistently the top source of heterogeneity among each consideration. Take, for example, the decision to vote for the Liberals in the 1997 election. Information is identified as the top source of heterogeneity by all three measures of heterogeneity. Yet, many considerations exhibit greater coefficient diversity under other group discriminators than they do with information: feeling for other minorities, continentalism, cynicism, free enterprise, crime, leader evaluation, and liberal performance on the deficit, jobs, social programs, and the GST. In all these cases, information does not cause a significant coefficient gap, but another factor does. Moreover, these gaps are not solely caused by education, the second most important source of heterogeneity, they are distributed over all other group discriminators. The same pattern exists among all decisions. It is therefore likely that, if we could estimate the specific influence of each group discriminator on heterogeneity, education, information, and the other factors would have distinct contributions.

Is this pattern of results compatible with a consideration-related variation in the determinants

of heterogeneity scenario? This scenario states that different factors are responsible for heterogeneity among different considerations, because these factors interact with the particularities of certain decision processes. The estimation results (Tables A.2.1 through A.2.10), however, do not exhibit systematic relationships between certain discriminators and particular types of considerations across decisions. For instance, the top source of heterogeneity among the effect of leader evaluations varies persistently across decisions. Information, media attention, political interest, and education all generate the greatest coefficient diversity for this independent variable among one decision or another. Similarly, partisan identification's largest gaps in coefficients are, in turn, located in the column of every group discriminator. Additionally, the nature of the diversity in coefficients often varies bizarrely across factors. For example, the strongest impact of feelings toward Jean Chrétien on the Liberal vote choice of 1993 is found among the *most* informed, the *moderately* attentive, the *least* interested, and the *most* educated. All this seemingly haphazard variation in the source of heterogeneity at the level of considerations suggests that it may be fallacious to conclude that there are reasoning styles, ways of reasoning which consistently distinguish certain individuals (Sniderman et al., 1991).

Does the decision-related variation in the determinants of heterogeneity scenario help us to understand the importance of both education and information? This scenario does indeed predict that different factors cause the most heterogeneity among different decisions. However, it is not simply validated when such a prediction takes place. The scenario specifies that decisions of different types are determined by different factors. The decisions studied here differ in their nature (electoral/non-electoral choices), in their importance, and in their complexity. The decisions among

which education and information produce the most heterogeneity, however, do not differ systematically along these dimensions. There are electoral choices under both group discriminators. And neither discriminator only involves important/unimportant or complex/simple decisions. This scenario needs to be rejected as well.

How does the issue publics heterogeneity scenario fare? Table 2.4 presents the summary measures of heterogeneity for the eight decisions where an indicator of interest in the decision is available. For the purpose of comparison, information's and education's summary statistics are also reported. Like the other cognitive group discriminators, interest in the election or the referendum produces substantial significant coefficient gaps, total absolute gaps, and increases in R-squared. Nevertheless, the levels of heterogeneity generated by this factor only exceed those of education and information on three instances (1993 Liberal, 1993 Reform, and 1997 Liberal), and they do not surpass them across all three measures of heterogeneity. So, the pattern is not systematic. Although we can add this factor to the list of factors which cause interpersonal diversity in political decision-making, we can not conclude that interest in a decision is the single most important source of heterogeneity.

Thus, none of the anticipated scenarios of results are vindicated. While there is always a more important source of heterogeneity in any model, that factor does not dominate these models. The other factors also produce heterogeneity, often among independent variables unaffected by the model's top source heterogeneity. The scenario about consideration-related variation in the determinants of heterogeneity does not fit this instability of the results. The decision-related variation in determinants and the issue publics heterogeneity scenarios can not account for it either.

Table 2.4: Interest in the Decision: Significant Gaps, Total Absolute Gaps, and Model Improvement Statistics

	Information	Education	Interest in the Election/Referendum
<i>1992 Refer. Vote outside Quebec</i>			
Significant Gaps	7	10	6
Total Absolute Gaps	7.06	7.36	6.82
Difference in R-squared	.050 ***	.039 **	.031 *
<i>1992 Quebec Referendum Vote</i>			
Significant Gaps	2	8	2
Total Absolute Gaps	5.10	6.48	3.52
Difference in R-squared	.031 *	.045 ***	.022
<i>1993 Liberal Vote</i>			
Significant Gaps	6	8	7
Total Absolute Gaps	9.62	10.48	11.38
Difference in R-squared	.043 *	.053 ***	.039 *
<i>1993 Conservative Vote</i>			
Significant Gaps	7	4	4
Total Absolute Gaps	8.31	7.00	7.58
Difference in R-squared	.052 **	.036	.038
<i>1993 Reform Vote</i>			
Significant Gaps	5	6	4
Total Absolute Gaps	8.32	8.94	9.59
Difference in R-squared	.030	.032	.036 *
<i>1997 Liberal Vote</i>			
Significant Gaps	12	9	13
Total Absolute Gaps	7.40	7.32	7.35
Difference in R-squared	.046 *	.035	.048 **
<i>1997 Conservative Vote</i>			
Significant Gaps	16	12	15
Total Absolute Gaps	7.14	7.04	6.60
Difference in R-squared	.069 ***	.078 ***	.057 *
<i>1997 Reform Vote</i>			
Significant Gaps	8	14	5
Total Absolute Gaps	5.56	5.97	4.88
Difference in R-squared	.034 *	.037 **	.029

Statistical significance of F-test: \*\*\* < .001; \*\* < .01; \* < .1

## Conclusions

Heterogeneity's story does not diminish in complexity. All cognitive factors reveal the presence of interpersonal diversity in political decision-making. All factors generate statistically significant coefficient discrepancies from the behaviour of the medium group, sizable total absolute gaps in coefficients, and notable model fit improvements over the homogeneous specification. But the results also point out that certain factors are more important sources of heterogeneity than others. Despite the fact that different indicators and different data are used, education and information are consistently the top sources of heterogeneity. However, these factors do not dwarf the other factors. First, their overall performance only slightly exceeds that of the other group discriminators. Secondly, they are surpassed by other factors among many considerations.

If a researcher is pressed to rely on a single group discriminator to expose heterogeneity, I would advocate the use of political information. Although education does a little better than information empirically, information has a distinct conceptual identity. On one hand, information is tied to opportunity as a condition conducive to behaviour (Luskin, 1990). Education covers more than one dimension. Secondly, information is acknowledged as the most reliable measure of political sophistication (Luskin, 1987; Fiske et al., 1990; Zaller, 1990; Delli Carpini & Keeter, 1993). Such a claim can not be made about education. Thus, heterogeneity produced by information can be interpreted by drawing on a substantial body of conceptual and empirical work.

In the next two chapters, where I examine the extent and dynamics of heterogeneity respectively, I will only use one group discriminator: political information. Holding the group discriminator constant while variation in the dependent variable is introduced will help to keep the analyses of a manageable size.

## **Chapter 3**

### **THE EXTENT OF HETEROGENEITY**

This chapter examines whether heterogeneity is ubiquitous and extensive. Four separate questions are tackled: Do we encounter heterogeneity among all types of political decisions? How much heterogeneity is there, and how does it change our explanation of these decisions? Are there similar levels of heterogeneity among different types of political decisions? What types of interpersonal differences does the data reveal?

The current body of evidence provides hints of answers, but the issue has not been systematically examined. This chapter takes various political decisions, evaluates and compares how much heterogeneity is present among each decision, examines among which independent variables heterogeneity is located, and gauges heterogeneity's impact on our explanation of the decisions. The analysis covers a wide range of voting decisions: voting in national elections, voting in a national referendum, and support for the sovereignty of Quebec.

#### **The Extent of Heterogeneity among Decisions**

There is an indication that heterogeneity is ubiquitous. Sniderman, Brody & Tetlock (1991) examine various political decisions: attitudes toward the civil rights of AIDS victims, support for



racial equality policies, ideological identification, support for the principle and specific issues of tolerance, and voting in American presidential elections. All of them exhibit some form of interpersonal diversity in the effects of the independent variables. However, these decisions were not compared with one another, so this study does not present evidence about variation across decisions in the level of heterogeneity. Such evidence is not found elsewhere either.

I believe that different political decisions should not experience similar amounts of heterogeneity. Research on the concept of involvement suggests that when people feel that an issue is of direct personal relevance, they are motivated to engage in extensive issue-relevant thinking (Petty & Ciacoppo, 1979, 1984, 1986). And the degree of issue-relevant deliberation has an impact on the determinants of decisions: the highly involved tend to be influenced by the quality of arguments relating to a position, while the less involved tend to rely on peripheral routes such as the credibility, liking, and consensus heuristics. I wish to extend this logic to the aggregate level. Since individuals devote more thoughtful reflection to the choices they consider important, then important political decisions should generate high levels of deliberation among the public as a whole. With greater deliberation, all citizens should be more likely to use similar central routes to decision-making (as opposed to peripheral shortcuts). Thus, the level of heterogeneity should vary according to each decision's degree of importance. There should be more heterogeneity among the low importance decisions, and less heterogeneity among the high importance decisions.

It is difficult to evaluate the personal importance attached to every political decision. Sometimes, interest in the decision or event of concern is probed by questions such as "How would you rate your interest in this election?". However, such questions are not frequently asked. Typically, only general interest in politics is investigated. One way to find a measure of decision

importance is to select an aggregate indicator. If an individual believes that an event, say an election, is of particular importance or relevance, he or she is likely to participate in it. Thus, if a large number of people consider that the stakes of one decision are relatively high, then a large number of people should turnout and vote. Large turnout should demonstrate high public interest, and small turnout should represent low public interest.<sup>38</sup>

The use of turnout as a proxy indicator of importance should not confuse about the logic behind the anticipated link between importance and heterogeneity. It is not the presence of a higher proportion of eligible voters which should reduce the discrepancies in decision-making between individuals. Importance is not about who participates in a political choice, but about the significance of the stakes involved in that choice.

It should be noted that this argument is not commonsensical. Intuitively, one might expect the opposite. It could be argued that greater turnout maximises the chances of finding individuals of different backgrounds and different approaches to politics, and therefore, greater levels of heterogeneity should be associated with high importance. One could also imagine that importance is not felt equally by all individuals, and that an important decision would only compound differences between the highly involved who engage in extensive issue-relevant thinking and the rest of the public who do not invest much reflection.

The argument about the varying level of heterogeneity across decisions can be summarized with the following hypotheses:

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<sup>38</sup> In two instances where the "How would you rate your interest in this election?" question was asked in the same manner, the aggregate distributions of answers to the questions mirrored the ranking of the two decisions based on turnout: the 1992 referendum was considered more important than the 1993 federal election.

Since turnout is inversely related to the perceived closeness of the race, heterogeneity should be smaller among close races. Measures of perceived closeness, however, are not consistently available.

**H5:** Political decisions do not exhibit similar levels of heterogeneity.

**H6:** The level of heterogeneity among political decisions varies according to each decision's degree of importance: greater levels of heterogeneity accompany smaller levels of personal importance (as indicated by actual turnout), and smaller levels of heterogeneity accompany greater levels of importance.

To test these hypotheses, I conduct an analysis which compares the level of heterogeneity among various political decisions where the stakes vary in importance. These decisions, along with their respective turnout rate, are listed in Table 3.1.

So, to make the expectations more concrete, there should be more heterogeneity among the 1993/1997 Canadian electoral decisions (mean turnout of 66%) than among the 1992 Canadian referendum decision (mean turnout of 77%), and there should be more heterogeneity among the 1992 referendum decision than among the decision to support Quebec sovereignty (turnout of 94% in the 1995 referendum).

Table 3.1: Political Choices and their Turnout Rates

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American presidential election, 1984	52%
Canadian federal election, 1993 (outside Quebec)	67.1%
Canadian federal election, 1997 (outside Quebec)	64.8%
Canadian constitutional referendum, 1992 (outside Quebec)	72%
Canadian constitutional referendum, 1992 (Quebec)	82.8%
Sovereignty of Quebec (1995 referendum)	93.5%

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An alternative scenario is that variation across decisions, if any exists, is a matter of decision complexity rather than importance. Complex decisions could be expected to elicit high levels of heterogeneity, as citizens are cognitively solicited and draw upon the resources and considerations they have on hand, whatever those may be (Sniderman et al., 1991). Easy decisions, in contrast, would be expected to display more similar decision-making, as the motivations behind the choice appear evident to most voters. If the key is the difficulty with which one comes to figure out what side to support, then the predicted order of the decisions in terms of level of heterogeneity would be different from the ordering anticipated by importance. The unprecedented referendum on the Charlottetown constitutional accord should exhibit the greatest amount of heterogeneity, support for sovereignty should demonstrate the least heterogeneity, and the Canadian federal elections should fall somewhere in the middle.<sup>39</sup> It is quite simpler for a citizen of Quebec to ascertain on which side of the debate he or she belongs with regards to Quebec sovereignty (a perennial and ongoing decision which hinges on clearly established attitudes, and which has been the cornerstone of political debate in Quebec for the last 30 years), than it is for a non-Quebecker with regards to the Charlottetown Accord (a complex constitutional accord which deals with numerous contentious issues). In part, this contrast may hinge on the fact that political parties took divergent stands in both Quebec referendums (1992 and 1995), a context which reduces the cognitive burden of citizens (Johnston, 2000).

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<sup>39</sup> These predictions are based on subjective impressions, confirmed by the quantity of undecided responses when people are asked to provide their voting intentions about these decisions.

## **The Extent of Heterogeneity among Considerations**

What types of interpersonal differences in decision-making should be encountered? Simply put, expectations are that less politically sophisticated individuals should have more affective and less cognitive decisional processes. Previous evidence has clearly shown that sophistication unlocks the power of ideas: substantive considerations matter more potently for more sophisticated voters (Sniderman et al., 1991; Johnston et al., 1996). For instance, greater political sophistication leads to greater reliance on public policy issues, which represent direct paths to the vote (as opposed to cognitive and affective shortcuts). On the use of affective considerations such as feelings toward leaders and intervenors, the evidence is not limpid. Although less sophisticated respondents do not supplement feelings with many ideas, both sophisticated and unsophisticated individuals rely on affective considerations (Sniderman et al., 1991; Johnston et al., 1996). Feelings are sometimes more closely linked to the decisions of the less sophisticated, but there are also notable exceptions (Johnston et al., 1996). Nevertheless, the two following hypotheses are formulated:

- H7:** Less sophisticated respondents rely on affective considerations to a greater extent than more sophisticated respondents.
- H8:** Less sophisticated respondents rely on cognitive considerations to a smaller extent than more sophisticated respondents.

To avoid the risk of oversimplifying the differences in decision rules between individuals of

different sophistication levels by concentrating only on a few parameters, this study employs an inductive approach with regards to the location of heterogeneity among explanatory variables. All explanatory variables are allowed to have variable coefficients, so that the data reveal where heterogeneity is located. Party identification, ideology, political values, policy issues, evaluations of leaders and intervenors, economic assessments, and strategic considerations are all permitted to have varying effects on the voting decisions of individuals. Such an approach is necessary to ascertain whether the less sophisticated are consistently more affective and less substantive.

### **The Study**

In sum, we have little evidence about how widespread is heterogeneity's presence in models of political behaviour. We do not know whether heterogeneity is present among all types of political decisions; whether there are similar levels of heterogeneity among different types of political decisions; and among which explanatory variables interpersonal differences arise.

This chapter provides answers to those interrogations by comparing the level of heterogeneity present among different political decisions. The analysis relies on the ten decision models presented in the previous chapter: two models for the vote in the 1992 Canadian referendum on the Charlottetown Accord, three models for the vote in the 1993 Canadian federal election, three models for the vote in the 1997 Canadian federal election, support for Quebec sovereignty, and the vote in the 1984 American presidential election. The analysis also uses the same statistical approach as the previous chapters: three group discriminator dummies interacting with all independent variables to produce three separate sets of coefficients, one for each subgroup (Equation 2 from Chapter 1).

Again, the statistical significance of the low and high coefficients are calculated with a slightly different specification where the medium group interactives are replaced by the main effects of the independent variables (Equation 3 from Chapter 1). To simplify the analysis, only a single group discriminator is used: political information. Chapter 2 identified information as one of the most important sources of heterogeneity. This factor also possesses a distinct conceptual identity which makes it theoretically appealing. The measurement of political information in the various models was discussed in the previous chapter.

Differences in terms of number of explanatory variables and sample size render problematic the comparison of the three summary measures of heterogeneity across different decisions. A total absolute gap of 5.2 means nothing in itself: it would signify different things for a model with five independent variables on one hand, and for a 30-variable model on the other hand. To compare the level of heterogeneity across different decisions, the three quantitative measures of heterogeneity presented in Chapter 1 need to be slightly modified. Table 3.2 presents the three adjusted summary statistics for each model. The number of significant coefficient gaps and the total of absolute coefficient gaps are divided by the number of independent variables which interact with the information dummies. The model improvement statistic represents the difference between the R-squareds of the heterogeneous and homogeneous setups divided by the homogeneous R-squared. These modifications are crude. For instance, the adjusted number of significant gaps fails to take into account differences in sample size. But they are adequate to provide a rough picture of the relative extent of heterogeneity across political decisions.

The presentation of the results is structured in a particular fashion. Rather than analyse each decision separately and go through a tedious description of each model's results in relation to this

chapter's interrogations, three topics will be examined consecutively while referring to all the evidence. First, I deal with the level of heterogeneity present in different decisions, and test the hypotheses about the link between importance and heterogeneity. Then comes a discussion about the pattern of interpersonal differences, it deals with the location of heterogeneity among considerations. Finally, I appraise the impact of this heterogeneity on the explanation of decisions.

## **The Results**

### *The Location of Heterogeneity among Political Decisions*

Tables A.3.1 through A.3.6 in Appendix 3 report the results of homogeneous and heterogeneous estimations of the ten decision models. To facilitate comparison, Table 3.2 presents the summary statistics of all models simultaneously, ordered in increasing order of importance.

Essentially, the data complies with expectations. First, heterogeneity is not present in similar amounts among different political decisions. No matter which adjusted measure is examined (Table 3.2), there is more heterogeneity among the 1984 American presidential vote model than among the 1997 support for Quebec sovereignty model. Similarly, there is more heterogeneity among the 1993 Canadian federal election models than among the 1992 Quebec constitutional referendum model.

Furthermore, heterogeneity declines as importance increases. The decisions with low turnout show great amounts of heterogeneity, while those with high turnout possess small amounts of heterogeneity. Although the progression is not always smooth, we encounter less and less heterogeneity as we move down the list of decisions with ever increasing turnout. The progression



Table 3.2: Political Decisions, Three Summary Measures of Heterogeneity

	Adjusted Number of Signif. Gaps <sup>1</sup>	Adjusted Total of Absolute Gaps <sup>2</sup>	Gain in R-squared <sup>3</sup>
<i>Decisions in Increasing Order of Importance</i>			
1984 Presidential Vote (52%)	4 /7 .57	3.20 /7 .45	2.2%
1997 Liberal Vote (64.8%)	12 /29 .41	7.56 /29 .26	9.0%
1997 Conservative Vote (64.8%)	16 /29 .55	7.14 /29 .25	19.7%
1997 Reform Vote (64.8%)	8 /29 .28	5.56 /29 .19	5.6%
1993 Liberal Vote (67.1%)	6 /18 .33	9.62 /18 .53	10.3 %
1993 Conservative Vote (67.1%)	7 /18 .39	8.08 /18 .45	13.3 %
1993 Reform Vote (67.1%)	5 /18 .28	8.20 /18 .46	6.5 %
1992 Referendum outside Quebec (72%)	7 /19 .37	7.06 /19 .37	11.3 %
1992 Quebec Referendum (82.8%)	2 /15 .13	5.10 /15 .34	5.2 %
1997 Support for Quebec Sover. (93.5%)	0 /5 0	1.06 /5 .21	0.8 %

1: This column reports the number of significant gaps, the number of attitudinal independent variables, and the ratio of the two.

2: This column reports the total absolute gaps, the number of attitudinal independent variables, and the ratio of the two.

3: This column reports the ratio of the difference between the R-squared of the heterogeneous specification and the R-squared of the homogeneous setup over the homogeneous R-squared.

is mostly a matter of increments: the greater the jump in turnout, the greater the drop in heterogeneity. For instance, the contrast in heterogeneity between 1997 and 1993 (which are separated by a two-point difference in turnout) is less striking than the one between Quebec 1992 and Quebec 1997 (where there is a ten-point difference in turnout). Similarly, there are larger differences between the two 1992 models (eleven-point difference in turnout) than between 1993 and 1992 outside Quebec (five-point difference in turnout).

Obviously, the evidence is not picture perfect. In each column of Table 3.2, one can find statistics that seem out of place. For example, the adjusted totals of absolute gaps for the 1997 election models are quite small for such a low importance decision. They are dwarfed by all other models' statistics except for that of support for sovereignty. Likewise, the model improvement of the 1984 election model appears too small. It should be restated that I am comparing different explanatory models composed of different samples, different variables, and different measures. When dealing with such evidence, more impressive results are almost unimaginable. All in all, the story seems right: higher turnout translates into lesser amounts of heterogeneity.

Moreover, these results provide the first indication that heterogeneity is not ubiquitous. There is no sign of heterogeneity among a fundamental decision about the political future of a society. The model of support for Quebec sovereignty exhibits practically no interpersonal variation in the effects of the independent variables. Replication with different measures of sovereignty support (i.e., degree of favourableness towards sovereignty, specific constitutional preferences) produces similar results. So, regardless of which dependent variable is used, opinion on Quebec sovereignty is not affected by substantial interpersonal diversity in decision-making. It should also be noted that support for Quebec sovereignty exhibited negligible levels of heterogeneity with every group discriminators in Chapter 2.

Thus, hypotheses H5 and H6 are supported. First, different political decisions do not exhibit similar levels of heterogeneity. Second, the level of heterogeneity among political decisions varies according to each decision's degree of importance: greater levels of heterogeneity accompany smaller levels of personal importance.

### *The Location of Heterogeneity among Considerations*

Coefficient variation is found among all sorts of independent variables in Tables A.3.1 through A.3.6. For all types of determinants of vote choice (party identification, political values, public policy issues, government performance, party leader evaluations, economic perceptions, and strategic considerations) there are some variables, if not most, which display interpersonal heterogeneity. The same can be said for all types of determinants of the referendum vote (specific elements, general arguments, intervenor evaluations, and group sentiments).

Can we generalize about the nature of differences in decision-making? First, are certain individuals more likely to rely on affective considerations? The evidence I gathered suggests that the answer is not black and white. Often, the impact of some affective independent variables was most important among the less informed. Evaluations of Preston Manning, for example, were more powerfully correlated to the vote for the Liberals of the less informed in the 1993 election (Table A.3.3).<sup>40</sup> However, that is not always the case. Quite a few affective variables display a contrary pattern, having a greater impact among the more informed. For instance, in 1992, voters had a hard time linking Pierre Trudeau with opposition to the Charlottetown Accord (Table A.3.1). As a result, a negative correlation between ratings of Trudeau and the vote only appears among the moderately knowledgeable respondents, and is strongest among the more informed. The less informed citizens

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<sup>40</sup> Less informed individuals were also more likely to base their decisions on these affective variables: feelings towards the women's movement (ROC 1992), Brian Mulroney (ROC 1992), other leaders (ROC 1992), Quebec (ROC 1992, Quebec 1992), Robert Bourassa (Quebec 1992), Jacques Parizeau (Quebec 1992), minorities (Liberal 1993), Preston Manning (Reform 1993, Reform 1997), Audrey McLaughlin (Liberal 1993, Conservative 1993), and Jean Chrétien (Liberal 1997).

did not connect that attitude correctly to the vote, their coefficient is positive.<sup>41</sup> Part of these discrepancies may be due to the fact that feelings toward individuals are sometimes not as accessible as feelings toward groups (Johnston, 2000). Some individuals are simply not well known, or they are not considered relevant for the decision at hand.

Are the less informed voters less likely to base their decision on substantive considerations? Again, one can not draw clear cut conclusions. The evidence shows that coefficients of variables which best qualify as substantive ideas (such as opinions about public policy issues and about specific elements of the Charlottetown Accord) do not manifest a clear pattern. One can often find cases where the larger coefficients belong to the more informed. For instance, attitudes toward the welfare state, continentalism, macroeconomics and moral traditionalism had a greater impact on the 1993 Liberal vote choice of the more informed (Table A.3.3).<sup>42</sup> But there are cases where the less informed manifest the strongest relationships. For example, less informed voters outside Quebec were more likely to rely on opinions about two specific elements of the Charlottetown Accord (distinct society and 25% guarantee) when making up their mind about the 1992 referendum (Table A.3.1).<sup>43</sup>

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<sup>41</sup> The following affective variables were also more strongly associated to the decisions of the more informed: feelings towards Jean Chrétien (Liberal 1993, Conservative 1993), the French minority (Conservative 1993), other minorities (Conservative 1993), Preston Manning (Conservative 1993), Audrey McLaughlin (Reform 1993), and Jean Charest (Conservative 1997).

<sup>42</sup> More informed individuals' decisions were also more strongly associated to the following substantive considerations: federal taxes (USA 1984), support for Quebec sovereignty (Quebec 1992), strategic voting for the opposition (Liberal 1997), free enterprise (Conservative 1997), and economic gains (Quebec 1997).

<sup>43</sup> There is a possibility that the power of the two Quebec terms among the low information subgroup reflects the fact that these two considerations are infused with Quebec-specific content, and so may be flooded with affect. However, there are numerous other instances of substantive considerations having a stronger impact on the decisions of the less informed: ideology (USA 1984), state role (USA 1984), senate reform (Quebec 1992), welfare state (Conservative 1993, Reform 1993), capitalism (Conservative 1993), free enterprise (Liberal 1997), taxes (Liberal 1997), riding strategic voting (Liberal 1997, Reform 1997), moral traditionalism (Conservative 1997), spending (Conservative 1997, Reform

Thus, hypotheses H7 and H8 are not supported. First, less informed respondents do not consistently rely on affective considerations to a greater extent than more informed respondents. The latter group also draws extensively on affective considerations. Second, the less informed are not less prone to use substantive considerations, and the more informed are not consistently more substantive.

### *The Impact of Heterogeneity on our Understanding of Decisions*

Chapter 1 suggests that heterogeneity has a large impact on our explanation of the 1993 Liberal vote. The majority of that model's independent variables have inconsistent effects across individuals of different information levels. Most subgroups' coefficients are weaker, stronger, or contrary to the coefficients of the traditional homogeneous estimation. As a result, any subgroup's actual vote determinants are quite different from the whole sample's list of significant explanatory variables. Was this an aberration?

Despite varying levels of heterogeneity, heterogeneity's presence is felt strongly among all models that experience it. When you compare the results provided by the homogeneous and heterogeneous specifications, it is evident that our understanding of any political decisions (except support for Quebec sovereignty) is altered by the heterogeneous design. Even when the overall level of heterogeneity is small, our understanding of the decisions is nevertheless modified by the interactive setup. Take, for instance, the 1992 Quebec referendum model (Table A.3.2), which

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1997), deficit (Conservative 1997), jobs (Conservative 1997), immigration (Reform 1997), GST performance (Reform 1997), and linguistic gains (Quebec 1997).

contains the second lowest amount of interpersonal variation in coefficient strength. The story or interpretation of the decision remains essentially the same under heterogeneity, but some aspects are amended. Most variables generally play relatively similar roles, but most homogeneous parameter estimates are off the mark in some regard.

First, the homogeneous specification, by averaging across respondents, often misses important interpersonal variation in the strength of relationships between independent variables and the vote. For instance, the general argument that the Charlottetown Accord is the best compromise possible was positively correlated to the referendum vote of all individuals. But the more informed respondents' coefficient was 50% larger than the coefficient of the moderately informed, and almost four times as large as the coefficient of the less informed. Five other variables have effects of the same direction but of different strength on the subgroups' 1992 referendum choice: senate reform, province winner, feelings toward Bourassa, and feelings towards Quebec and Canada.

Sometimes, the variation in effect reaches the point where the decision of certain subgroups is hardly or not at all related to the independent variables which are relevant in the homogeneous estimation. For example, feelings toward Jacques Parizeau appeared as a significant predictor of all voters' behaviour. In the heterogeneous setup, it is a significant factor behind the decision of the average and low information voters. However, it has almost no relationship with the choice of the more informed subgroup. Two other variables are also hardly related to the decision of some subgroups, while being strongly associated with the decision of others: aboriginal self-government and economic concern.

Finally, the averaging effect of the homogeneous design can even make variables which have contradictory, hence offsetting, relationships among different subgroups appear irrelevant. Support

for Quebec sovereignty seemed relatively inconsequential in the homogeneous specification. Yet, it is actually related to the vote of all subgroups, but in different ways. Less informed supporters of Quebec sovereignty astonishingly voted in favour of the Charlottetown Accord, while average and more informed sovereignists voted against the constitutional accord (as the sovereignist leadership urged). The traditional setup confounds these opposite relationships, and leads to the inference that there is no relationship. There are three other apparently insignificant variables which influence the decision of some subgroups but are obscured by the homogeneous setup because they have conflicting effects: distinct society, move on, and fear of separation.

Ultimately, very few of the homogeneous coefficients are an accurate representation of the coefficients of all three information subgroups. Attitudes toward Quebec's guarantee of 25% of the House of Commons' seats represents a rare example of an independent variable which possesses almost identical effects on the vote of all subgroups: it is unrelated to the 1992 referendum vote of all respondents.

The contrast between the homogeneous and the heterogeneous specifications follows the same form for all models. The subgroups' coefficients often differ from the conventional coefficients. Among each consideration, there are weaker, stronger, and sometimes contradictory links to the dependent variable which are eclipsed by the averaging effect of the homogeneous setup. In terms of predictive power, an heterogeneity-sensitive design provides little additional leverage, as is indicated by the modest gains in model fit generated by the interactive setup. But in terms of understanding the psychological motivations of voters, paying attention to heterogeneity yields plenty. All subgroups' set of decision determinants differ from one another and from the set of significant explanatory variables identified by the conventional homogeneous design.

## Discussion

The story about a link between decision importance and the level of heterogeneity fits the evidence. But could it simply be a matter of numbers? The 1993 and 1997 election models contain 29 and 18 attitudinal independent variables respectively, the 1992 referendum models contain 19 and 15, and the 1997 sovereignty model only contains five. Fewer variables, less heterogeneity? This argument is not very persuasive. The sovereignty question has been an ongoing debate within Quebec for over 30 years, and it has been often studied in surveys. Through trial and error, the essential bones of an explanatory model have been identified and streamlined. As a result, new surveys such as the 1997 CES can easily include a restricted set of questions to capture the determinants of support for sovereignty. In contrast, the 1993 and 1997 federal elections and the 1992 referendum on the Charlottetown Accord were unprecedented (i.e., new and unique) political decisions. The surveys of the CES set out to explain them, starting basically from scratch. Consequently, the models used here perform an exploratory function: establishing which variables are and are not related to each decision. Therefore, the electoral and referendum models are not as streamlined as the sovereignty model. Had I weeded out the insignificant independent variables from these homogeneous models, the size of Tables A.3.1 through A.3.6 would have been very similar. Comparing only those sets of variables would still have led to the same conclusions. There would be considerable heterogeneity among the 1993/1997 electoral and 1992 referendum models, while there is practically none in the Quebec sovereignty model. Besides, the 1984 American presidential vote model contains about as many variables as the sovereignty model, yet the former exhibits much more heterogeneity than the latter. Of course, the insignificant variables of the homogeneous models



also reveal some heterogeneity in the interactive setup, sometimes showing that the variable is significantly linked to the decision of one subgroup. So it is possible that variables not included in the support for sovereignty model would expose some heterogeneity. Nevertheless, the link between importance and heterogeneity appears robust.

## **Conclusions**

This chapter investigated the extent of heterogeneity. It exposed differences in the level of heterogeneity present among various political decisions. First and foremost, heterogeneity is not ubiquitous. Not all political decisions experience interpersonal variation in the coefficients of independent variables. There is practically no sign of heterogeneity among a model of support for Quebec sovereignty, a pivotal decision about the political future of a society. Secondly, the amount of heterogeneity present in a given model appears to vary according to the importance of the decision. Higher turnout, i.e. greater importance, translates into less heterogeneity. There is more heterogeneity among the 1984, 1993 and 1997 election models than among the 1992 constitutional referendum models, and there is more heterogeneity among the 1992 referendum models than in the model of support for Quebec sovereignty.

Despite varying levels of heterogeneity, all models that experience heterogeneity are strongly affected by the presence of interpersonal diversity in coefficient strength. All types of independent variables exhibit heterogeneity. There are considerable differences in coefficient strength among partisan identification, political values, public policy issues, leader evaluations, etc. Moreover, I do not simply find weakening or strengthening of coefficient strength across information levels. In

some cases, there are complete reversals in the direction of relationships: some attitudes are positively correlated to the choice of some voters, but negatively associated to the choice of others. If all these differences are not taken into account, explanatory models commit specification errors. By estimating the average effects of variables across all citizens, homogeneous models fail to identify the real determinants of most individuals' decisions. They miss certain relationships which only distinguish some voters, and they overgeneralize about certain relationships which do not pertain to all voters.

## Chapter 4

### THE CAMPAIGN DYNAMICS OF HETEROGENEITY

To understand heterogeneity, one must look at how it behaves. After examining how heterogeneity is affected by variation in group discriminator, variation in decision, and variation in context in the previous chapters, this chapter looks at the dynamics of heterogeneity during the course of political campaigns. The extent and the limits of heterogeneity's sensitivity to electoral and referendum campaigns is an important dimension of the overall picture of heterogeneity. We must ascertain whether interpersonal differences in decision rules are robust and enduring in the short term, or whether they are affected by campaigns, when the level of political stimulus reaches its apogee.

Normatively, such an investigation is also important. Political campaigns represent the moments when mass political preferences are most consequential. The dynamics of heterogeneity deal with fundamental issues such as the value of the democratic process, and the quality of voters' electoral choices.

So, is the level of heterogeneity affected by the evolution of a campaign? The campaign dynamics of heterogeneity have not been investigated. We do not know whether the gaps between citizens are minimized or compounded by the progress of a campaign, or whether they remain intact, unaffected by the unfolding of campaign events and coverage. This chapter fills the void. The first

section of the chapter ponders the question of the link between campaigns and heterogeneity, potential answers, and plausible explanations. The second section analyses the dynamics of heterogeneity during the campaigns of the 1992 constitutional referendum and of the 1993 and 1997 federal elections. Finally, the implications of these results for our understanding of voters and campaigns are discussed.

### **Heterogeneity and Political Campaigns**

There is abundant and diverse evidence of the effects of political campaigns. Campaigns have an impact on vote intentions (Bartels, 1988, 1992; Johnston et al., 1992, 1996), on opinions about leaders and issues (Johnston et al., 1992, 1996; Just et al., 1996), on perceptions of candidates' issue positions (Bartels, 1988; Franklin, 1991; Johnston et al., 1992, 1996), and on the correlates of decisions (Gelman & King, 1993; Johnston et al., 1992, 1996; Just et al., 1996). However, one terrain for campaign influence remains to be explored: the dynamics of interpersonal heterogeneity during campaigns.

Post-election data reveals that citizens with differing levels of information do not end up with the same structures of vote determinants (Johnston et al., 1996). Pre-election data also indicates a significant quantity of heterogeneity (Rivers, 1988). These studies, however, use different data and different methods to document the existence of heterogeneity, so we can not compare the level of heterogeneity present in their results.<sup>44</sup> Thus, we know that there are differences in decision-making

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<sup>44</sup> In the other major study of heterogeneity, Sniderman et al. (1991), the temporal location of the heterogeneity detected in voting models is not stipulated.

before and after the election, but whether any movement occurs in the level of heterogeneity remains to be determined. Three scenarios are possible: divergence, convergence, and stability.

First, differences in decision rules may be magnified by political campaigns. Differences in exposure and/or sensitivity to different campaign messages may prompt groups of contrasting levels of sophistication to move away from one another. The literature on agenda-setting and priming, by establishing a relationship between political sophistication and the susceptibility to mass media influence, suggests that increasing heterogeneity is a possible scenario. Studies using cross-sectional survey evidence indicate that politically informed citizens are more prone to modify their priorities and considerations according to the attention that these priorities receive from the media (MacKuen, 1984; Hill, 1985; Krosnick & Brannon, 1993).<sup>45</sup> If the dominant coverage points to issues and considerations which diverge from the vote structure of the less sophisticated, then the gaps between sophisticated and unsophisticated respondents should accentuate.

The literature on the dissemination of information also lends credence to this scenario. Most notably, Tichenor and his associates (1970, 1973) found empirical support for the knowledge gap hypothesis: "As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease" (1970: 159-160). However, unequal levels of motivation to acquire the information appear to be a necessary condition for broadening gaps (Tichenor et al., 1973; Ettima

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<sup>45</sup> Experimental research, where the reception of messages is held constant, shows that the effects of agenda-setting and priming are greater among the least informed or the least educated (Iyengar, Peters & Kinder, 1982; Iyengar, Kinder, Peters & Krosnick, 1984; Iyengar & Kinder, 1987). However, the external validity of these setups remains doubtful (Johnston & Brady, 1997). As long as it is reasonable to believe that common political campaign messages are not equally received by all citizens, the cross-sectional survey results seem more credible.

et al., 1983). The question is therefore whether the electoral process generates equal levels of motivation. Studies indicate that citizens experience varying levels of interest in and attention to election activities, and that campaigns have little aggregate impact on these attitudes (Lazarsfeld, Berelson, & Gaudet, 1944; Berelson, Lazarsfeld, & McPhee, 1954). Thus, widening political knowledge gaps are possible. Would they translate into increasingly different decision rules? This chapter intends to find out.

In the second scenario, political campaigns reduce the level of heterogeneity. There are three plausible paths to convergence: 1) everybody learns what the election is about, what the driving issues are, and on what considerations their voting decision should be based; 2) the less sophisticated learn with the unfolding of the campaign what others already know (about issue positions, leader evaluations, etc.), and zero in on the consensual decision-making process<sup>46</sup>; 3) campaign events and coverage push the most informed, which are more sensitive to their influence, toward a structure of vote ingredients already adopted by the less knowledgeable. Some, if not all, of these paths are consistent with the idea that mass communications, most notably television, have a 'mainstreaming' effect on public opinion: uniform coverage cultivates common outlooks (Morgan & Signorielli, 1990; Gerbner, Gross, Morgan, & Signorielli, 1994). In this case, simplified and consensual media coverage of campaigns could serve to minimize the differences between groups, leading them to move toward one another, converging on a more unified decisional structure.

Finally, the level of heterogeneity might be unaffected by political campaigns. Variation in the level of heterogeneity during a political campaign requires that sophisticated and unsophisticated

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<sup>46</sup> This path could be labelled a sophistication-dependent Gelman & King conception (1993) where only a portion of the public, the less sophisticated, experiences the activation of enlightened preferences

voters respond differently to incoming information. The level of heterogeneity between groups can only increase (or decrease) if one group moves away from (or toward) the other. If campaign events and coverage do not affect sophisticated and unsophisticated individuals differently, or if campaigns do not carry much information to anyone, then the level of heterogeneity may remain static and inert.

The preceding scenarios can be formalized by the three following mutually exclusive hypotheses:

**H9:** The level of heterogeneity increases during the progress of campaigns.

**H10:** The level of heterogeneity decreases during the progress of campaigns.

**H11:** The level of heterogeneity is unaffected by the progress of campaigns.

It should be noted that the decisional processes of sophisticated and unsophisticated respondents can change during the course of a campaign without having an effect on the aggregate measures of heterogeneity. The analysis will also consider the possibility of this scenario.

### **The Study**

This chapter examines the dynamics of heterogeneity during the course of political campaigns. The finishing points of the analysis are the vote models of the 1992 Canadian referendum and the 1993 and 1997 Canadian federal elections introduced in Chapter 2. But the key

aspects of the analysis are vote intention models for these same political decisions. The campaign models contain essentially the same variables as their post-election counterparts, but some exceptions are noteworthy. Whenever two measurements of a variable were available, I use the campaign measurement for the campaign model and the post-election measurement for the vote model.<sup>47</sup>

Since the analysis requires the production of several voting models, identical in structure, each spanning a distinct portion of the campaign, I essentially treat the rolling cross-sectional campaign component of the Canadian Election Studies as a series of one-shot cross-sectional surveys covering different periods of the campaign. The continuing representativity of the daily sample assures that interperiod differences are not the product of major differences in the composition of each period's set of respondents.

As for the campaign periods examined, the pre-election waves were simply divided into three equal portions. Such splitting is the most extensive one can implement while maintaining a critical sample size which renders estimation possible and parameters stable and intelligible. For the 1992 referendum models, the campaign was split into three 10/11-day periods: September 24 - October 4, October 5 - October 15, and October 16 - October 25. In the 1993 election models, the three tier resulted in the following 14-day periods: September 10 - September 24, September 25 - October 9, and October 10 - October 24. For the 1997 models, the campaign was divided into three 10-day

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<sup>47</sup> This occurred for seven variables in the 1992 model outside Quebec (distinct society, 25% guarantee, aboriginal self-government, feelings toward Mulroney, Trudeau, Other leaders, and Quebec); seven variables in the 1992 Quebec model (distinct society, 25% guarantee, aboriginal self-government, feelings toward Bourassa, Parizeau, Quebec, and Canada); four variables in the 1993 models (feelings toward Campbell, Chrétien, Manning, and McLaughlin); and one variable in the 1997 models (leader evaluations).



periods: May 3 - May 12, May 13 - May 22, and May 23 - June 1.<sup>48</sup> The analysis therefore compares the levels of heterogeneity present at four points in time: in each third of the campaigns, and in the post-election data.<sup>49</sup>

To simplify the analysis, only one group discriminator is used: political information. Political information, the most appropriate indicator of political sophistication (Luskin, 1987; Fiske et al., 1990; Zaller, 1990), turned out to be one of the most important sources of heterogeneity in Chapter 2, and it has a firm conceptual identity. Information is operationalized with the same indicators used in previous chapters.

It is possible to compare across campaign periods the three summary measures of heterogeneity introduced in previous chapters. However, two have to be modified, and the other has to be downplayed altogether. The first measure of heterogeneity, the total number of significant gaps, is sensitive to the number of cases. The greater the sample size of a model, the easier it is for coefficient gaps to reach statistical significance. Since the number of cases varies across periods for each model (the post-election data contains about three times the number of cases in each campaign period), the number of significant gaps in coefficient would provide a misleading picture of the evolution in the level of heterogeneity. I do report the results of this statistic, but I will not give them much credence.

The second and third measures of heterogeneity need to be modified for comparison across periods. Both the total absolute gaps and the model improvement statistics are not sensitive to

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<sup>48</sup> The first six days of the 1997 rolling cross-section had to be dropped because campaign knowledge questions were not asked during those days.

<sup>49</sup> One could also have split campaigns according to critical events which better explain the temporal variation in coefficient strength. Since explaining this variation is not my concern here, I adopted a simple symmetric splitting scheme which retains greater comparability across campaign periods.

sample size, but they are sensitive to the size of the vote share. I adjust for variation in vote intentions by dividing each period's total absolute gaps and model improvement statistics by the period's mean vote intention. This modification prevents changes in the variance of the dependent variable between periods from artificially affecting the level of heterogeneity.

## **The Results**

Is there any change in the level of heterogeneity over the course of campaigns? Table 4.1 reports the results of OLS regressions of Equation 1 (homogeneous model) and Equation 2 (heterogeneous model) for each time point of 1997 Liberal support.<sup>50</sup> There are large coefficient gaps at each time point. So, low and high information groups clearly possess different structures of vote determinants both at the beginning and the end of the campaign, indicating that the campaign did not create heterogeneity out of thin air. There is support for convergence (e.g., partisan identification), divergence (e.g., taxes), and stability (e.g., do more for woman). The differences in reliance on partisan identification were substantially reduced during the course of the campaign. In contrast, the taxes issue displays more interpersonal gaps in coefficients after the election than in the first stage of the campaign. Finally, the value 'do more for women' was marked by similar amounts of heterogeneity both in period 1 and after the election. All in all, however, the main story is one of modest convergence. By my count, over half the variables experience convergence. About a third encounter stability. Rare are the occurrences where previously nonexistent coefficient diversity comes to life by the end of the campaign.

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<sup>50</sup> Again, each coefficient indicates the actual effect of the independent variable on each group's vote choice, and the standard errors have been computed for the coefficients of the two off-center groups (the less and the more informed) using the medium information group as the point of comparison.

Table 4.1: Campaign Dynamics of Heterogeneity, Homogeneous and Heterogeneous Models, 1997 Liberal Support

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.26***	.28***	.25***	.21***	Low	.41•	.40•	.28	.26•
					Med.	.24***	.21***	.28***	.18***
					High	.18	.20	.16•	.22
<i>Values</i>									
Do more for Women	.03	-.06	-.04	-.04	Low	.14	.36•	-.15	.07••
					Med.	.04	-.03	-.07	-.12***
					High	-.07	-.12	-.05	-.06
Regional Alienation	-.04	-.07	-.03	-.06**	Low	.31***	.04	-.13	-.06
					Med.	-.26***	-.07	-.05	-.05
					High	.10***	-.11	.02	-.04
Feeling for Quebec	-.08	-.06	-.17**	.15***	Low	.36•	-.27	.19	-.05••
					Med.	-.07	-.10	-.21	.26***
					High	-.18	.05	-.19	.07•
Feeling for Oth. Minor.	-.08	.14	-.02	-.02	Low	.05••	.17	-.11	-.01
					Med.	-.08	.09	.03	-.05
					High	.02	.14	.09	-.03
Continentalism	-.11	.10	.04	-.08	Low	.49	.23	.14	-.08
					Med.	-.19	.43*	.27	.05
					High	.24	-.19•	-.07	-.15
Cynicism	-.23**	-.02	.02	-.03	Low	-.56	-.35	.29	.01
					Med.	-.18	-.23	-.10	-.02
					High	-.19	.16	-.01	-.10
Moral Traditionalism	.04	-.00	-.02	-.01	Low	.02	.32	-.09	.03
					Med.	.18	-.03	.02	-.05
					High	-.09	.18	-.20	-.04
Free Enterprise	.19*	-.03	.06	.02	Low	-.12•	-.17	-.06	.14
					Med.	.28*	-.22	-.09	-.03
					High	.27	-.12	.29•	.03

(Continued)

Statistical significance of medium behaviour: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .01; \*\* &lt; .05; • &lt; .1

Table 4.1: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Issues</i>										
Spending	-.10	.04	.00	-.02	Low	-.51	.11	.07		-.04
					Med.	-.13	-.10	.07	.02	
					High	-.21	.09	-.02	-.10	
Taxes	-.06	-.04	-.02	.02	Low	-.02	-.17	-.19		.12•
					Med.	-.03	.02	-.05	.00	
					High	-.03	.02	.04	-.03	
Deficit	-.01	.06	.01	.06***	Low	.06	-.08	-.05		-.03***
					Med.	.04	.07	-.05	.09**	
					High	.03	.08	.06	.08	
Jobs	.06	.02	-.04	-.02	Low	-.07	.01	.02		-.12
					Med.	.13*	.03	.01	.08*	
					High	.17	.06	-.13	-.05••	
Crime	.00	.04*	.02	.01	Low	.09	-.05	-.15••		.00
					Med.	-.02	.02	.02	.03*	
					High	.09•	.07	.01	-.01	
Guns	.00	.00	-.01	.01	Low	-.01	-.04	-.12•		-.04
					Med.	-.03	.04	.01	-.00	
					High	.05	-.09••	-.02	.04	
Immigration	-.02	.07**	.03	-.02	Low	.04	.00	-.02		-.02
					Med.	-.07	.01	.07	-.04	
					High	-.07	.09	-.04	-.02	
<i>Liberal Performance</i>										
National Unity	.10**	.03	-.01	-.01	Low	.26	.10	-.04		.07
					Med.	.10	.07	-.03	-.03	
					High	-.06	-.02	.10	-.04	
Deficit	-.02	.09**	.03	.03	Low	.04	-.05	-.01		-.01
					Med.	-.10	.07	.04	-.00	
					High	.04	.17	.04	.02	
Jobs	.00	.05	-.07	.06**	Low	-.09	-.08	.01		.03
					Med.	-.05	.10	-.14*	.09**	
					High	.18••	.02	-.01	.03	
(Continued)										

Table 4.1: (Continued)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Liberal Performance (continued)</i>									
Crime	.03	-.06	.03	.04*	Low	-.10	-.07	.05	.01•
					Med.	.02	-.03	.03	.11**
					High	.24**	-.05	.12	.02•
Social Programs	.00	-.00	.02	-.02	Low	.06	.04	-.07	-.03
					Med.	.01	-.07	.10	-.03
					High	-.09	.03	-.07**	-.02
GST	-.11**	-.10**	-.05	-.05*	Low	-.17	-.19	-.14	-.08
					Med.	.02	-.06	.02	-.03
					High	-.28***	-.20	-.05	-.05
<i>Economic Perceptions</i>									
National Retrospective	-.01	.01	.02	-.03	Low	-.08	.15	-.12•	.02
					Med.	-.03	.03	.09	-.00
					High	.04	-.02	.04	-.06
Personal Retrospective	-.02	.05	.05	-.01	Low	.32***	.06	.11	-.06
					Med.	-.05	-.05	.00	-.02
					High	.00	.09	.05	.02
National Prospective	.01	.07*	.10**	.05**	Low	-.16	-.03	.00	.02
					Med.	.01	-.00	.07	-.04
					High	.05	.06	.06	.13***
Personal Prospective	.05	.04	-.02	.02	Low	-.03•	-.06	-.06	.04
					Med.	.16***	.07	-.04	.03
					High	-.11***	-.01	.04	.03
Leader Evaluation	.27***	.35**	.53***	.53***	Low	-.43***	.10	.52	.61
					Med.	.54***	.49***	.43***	.50***
					High	.40	.44	.48	.52
<i>Strategic Voting</i>									
Riding	.15	-.01	-.14	-.06	Low	.86***	.87	.89**	.43**
					Med.	-.17	.07	-.19	.04
					High	.18	-.12	-.05	-.21**
Opposition	-.13	.13	-.12	-.01	Low	-.08	-.07	-.47**	.02
					Med.	-.07	.08	-.03	-.12*
					High	.17	.31	-.04	.19**
(Continued)									

Table 4.1: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Atlantic	-.09	.03	-.02	-.10**	-.05	.01	.01	-.10**
Prairies	-.06	.03	-.10*	-.04	-.02	.05	-.10	-.04
British Columbia	.06	.01	-.09	-.12***	.04	.04	-.11*	-.13***
Rural/urban	-.00	-.02	-.12**	-.02	-.05	-.02	-.09	-.03
North European	-.07	.06	-.12**	-.03	-.01	.00	-.11*	-.04
Non European	.05	.05	.04	.13***	-.01	.04	.03	.13***
Catholic	.05	.04	.05	.07**	.04	.05	.03	.08***
No Religion	.03	.10	-.10*	.00	.08	.17**	-.12**	.03
Employed	.04	-.05	.11**	.06**	.02	-.04	.15***	.05
Public employment	.01	-.04	.04	.09***	-.01	-.05	.10*	.08***
Union Household	.01	.01	.07*	-.05*	-.04	-.01	.06	-.04*
Low income	-.11	.16**	.13*	.02	-.10	.14	.11	.03
High income	-.18***	-.08	-.01	-.01	-.20***	-.09	-.01	-.02
Generation boom	.14**	-.05	.03	.06*	.11*	-.07	.00	.06*
Generation X	.12*	-.11	-.03	.03	.07	-.12	-.08	.03
Dropout	.10	-.04	.12**	.06	.05	-.02	.09	.06*
University graduate	.03	-.00	.10*	-.02	.11*	.03	.06	-.01
Traditionally married	.04	-.01	-.00	.06**	.02	-.03	-.04	.08***
Male	-.00	-.05	-.05	-.01	-.00	-.08	-.06	-.01
Political Information	.35***	-.02	-.10	.02	.34	-.39	-.29	-.00
Constant	.27	.49***	.48***	.36***	.11	.83***	.64***	.36***
Number of Cases	331	296	357	1029	331	296	357	1029
R-squared	.620	.611	.625	.508	.739	.717	.701	.553

Since discussion of the estimation results for all seven decision models would require an inordinate amount of space, the remainder of the analysis only concentrates on the three summary measures of heterogeneity. As expected, the number of significant gaps (Table 4.2) is misleading. The evolution of this statistic follows more closely the size of the sample than the pattern of Table 4.1. Large shifts in sample size between campaign periods are accompanied by large shifts in the number of significant gaps in coefficients.

Table 4.2: Campaign Dynamics of Heterogeneity, Number of Significant Gaps

	First Third of Campaign	Second Third of Campaign	Last Third of Campaign	Post-Election Data
<i>1992 Referendum outside Quebec</i>	5	10	7	9
<i>1992 Quebec Referendum</i>	3	2	3	4
<i>1993 Liberal Support</i>	3	5	8	6
<i>1993 Conservative Support</i>	7	3	4	5
<i>1993 Reform Support</i>	1	3	2	5
<i>1997 Liberal Support</i>	15	4	8	14
<i>1997 Conservative Support</i>	22	11	10	13
<i>1997 Reform Support</i>	12	2	10	8

Table 4.3 reports the total absolute coefficient gaps for all models. This summary measure corroborates the interpretation of Table 4.1. The total of all absolute gaps for 1997 Liberal support and the more appropriate measure which controls for size of the vote share manifest a decrease in the level of heterogeneity. Heterogeneity exists early and late, but declines as the campaign unfolds. The other decisions exhibit a similar story. There are differences between the most and the least informed in the strength of decision determinants throughout the campaign, and movement in the level of heterogeneity is generally toward convergence, especially in the post-election data. Thus, the campaign diminished, though it did not eradicate, the gaps in decision rules between information groups.

Table 4.3: Campaign Dynamics of Heterogeneity, Total Absolute Gaps

	First Third of Campaign	Second Third of Campaign	Last Third of Campaign	Post-Election Data
<i>1992 Referendum outside Quebec</i>				
Total Gaps	9.7	9.5	8.8	6.7
Vote share (%)	57.8	46.3	42.5	39.3
Total gaps / Vote share	16.8	20.5	20.7	16.9
<i>1992 Quebec Referendum</i>				
Total Gaps	8.3	7.5	8.3	4.7
Vote share (%)	37.2	36.4	35.0	35.4
Total gaps / Vote share	22.3	20.6	23.7	13.3
<i>1993 Liberal Support</i>				
Total Gaps	15.8	16.2	15.6	9.8
Vote share (%)	40.9	43.1	43.0	40.8
Total gaps / Vote share	38.7	37.5	36.3	24.1
<i>1993 Conservative Support</i>				
Total Gaps	16.1	12.7	11.0	6.8
Vote share (%)	30.8	23.8	18.3	13.1
Total gaps / Vote share	52.3	53.3	60.2	52.3
<i>1993 Reform Support</i>				
Total Gaps	11.1	13.3	11.0	7.8
Vote share (%)	14.7	19.6	27.4	22.7
Total gaps / Vote share	75.5	67.8	40.1	34.6
<i>1997 Liberal Support</i>				
Total Gaps	18.1	13.8	12.3	7.4
Vote share (%)	46.6	37.9	41.7	38.9
Total gaps / Vote share	38.7	36.5	29.6	19.0
<i>1997 Conservative Support</i>				
Total Gaps	24.5	38.0	17.6	7.1
Vote share (%)	15.8	23.2	19.1	17.0
Total gaps / Vote share	154.9	163.8	92.3	42.0
<i>1997 Reform Support</i>				
Total Gaps	12.5	12.8	12.3	5.5
Vote share (%)	20.4	21.0	25.0	29.3
Difference / Vote share	61.0	61.3	49.0	18.8



Sometimes, the decrease is not linear. Liberal support in 1993 shows very little decrease in relative absolute gaps during the first three periods. A real drop in heterogeneity only occurs in the post-election data. In some cases, there are large jumps in heterogeneity during certain periods of the campaign. Conservative support in 1993 and in 1997 experienced a leap in coefficient gaps during one portion of the campaign (the third period in 1993, and the second in 1997). But ultimately, in all cases, the magnitude of diversity in decision rules is lower after the election than at any other point. I will return to this issue of non-incremental convergence in the next section.

Next, I examine movement during the campaigns in the relevance of heterogeneity by analysing the model fit improvement provided by the interactive model (Equation 2) over the basic homogeneous model where all independent variables have the same impact on the decisions of all citizens (Equation 1). Table 4.4 reports the difference in R-squared between each decision's heterogeneous and homogeneous models for each period of the campaign, the statistical significance of the improvement in model fit (F-test), and the difference in R-squared divided by the period's average vote share. These results confirm the conclusions of the preceding measure about the convergence in voting decision rules. As campaigns proceed, the usefulness of information's interactions to explain individual political behaviour declines in all models. Large and significant R-squared differences are common during the early portions of the campaign, but they are much smaller after the campaign. The F statistic often attains statistical significance in the post-election data, but that is strictly due to the greater number of cases in the estimations for that time point.

The decline is not always steady and uniform. Again, there is stability or even slight increases in heterogeneity for 1997 Liberal support during the first three periods of the campaign. There is also a peak in model fit differences among 1993 Conservative support and among 1997 Reform support during the third period of the campaign. But again, for all cases except 1993 Conservative support, the indicator of heterogeneity which controls for the size of the vote share is

smaller after the election than during any other period.

Table 4.4: Campaign Dynamics of Heterogeneity, Improvement in Model Fit

	First Third of Campaign	Second Third of Campaign	Last Third of Campaign	Post-Election Data
<i>1992 Referendum outside Quebec</i>				
Difference in R-Squared (F-test)	.075 *	.066 **	.069 *	.048 ***
Vote share (%)	57.8	46.3	42.5	39.3
Difference / Vote share	.130	.143	.163	.122
<i>1992 Quebec Referendum</i>				
Difference in R-Squared (F-test)	.078	.055	.064	.029 *
Vote share (%)	37.2	36.4	35.0	35.4
Difference / Vote share	.210	.151	.182	.082
<i>1993 Liberal Support</i>				
Difference in R-Squared (F-test)	.077	.088 *	.090 **	.041 **
Vote share (%)	40.9	43.1	43.0	40.8
Difference / Vote share	.188	.204	.209	.101
<i>1993 Conservative Support</i>				
Difference in R-Squared (F-test)	.100 ***	.072	.104 **	.046 **
Vote share (%)	30.8	23.8	18.3	13.1
Difference / Vote share	.324	.303	.567	.352
<i>1993 Reform Support</i>				
Difference in R-Squared (F-test)	.037	.089	.051	.029 *
Vote share (%)	14.7	19.6	27.4	22.7
Difference / Vote share	.252	.454	.187	.128
<i>1997 Liberal Support</i>				
Difference in R-Squared	.119 **	.106	.076	.045 **
Vote share (%)	46.5	37.9	41.7	38.9
Difference / Vote share (F-test)	.256	.279	.182	.116
<i>1997 Conservative Support</i>				
Difference in R-Squared (F-test)	.228 ***	.182 **	.133 *	.067 **
Vote share (%)	15.8	23.2	19.1	17.0
Difference / Vote share	1.468	.784	.698	.395
<i>1997 Reform Support</i>				
Difference in R-Squared (F-test)	.118 **	.074	.119 ***	.034 *
Vote share (%)	20.4	21.0	25.0	29.3
Difference / Vote share	.578	.353	.475	.116

Statistical significance of F-test: \*\* < .001; \* < .01; \* < .1

## Discussion and Conclusions

Although the trend toward the reduction in heterogeneity during campaigns is undeniable, many decisions exhibit a sudden surge in interpersonal diversity at one point or another, among at least one of the indicators of heterogeneity. Notably, we see these jumps among 1993 Conservative support in the third period, among 1993 Reform support in the second period, among 1997 Conservative support in the second period, and among 1997 Reform support in the third period. Such instances demonstrate that campaigns often do not bring about a steady and uniform decline in heterogeneity. How can we account for the non-incremental nature of the demise of interpersonal diversity in these cases?

These temporary surges in heterogeneity generally coincide with important movements of vote intentions. However, it is not just a question of increased variance in the dependent variable, since the surges sometimes also appear in the measures which control for the size of the vote share. Moreover, the jump in heterogeneity during the third period of the 1993 Conservative campaign occurs during a fall in support. One could argue that levels of heterogeneity temporarily escalate when there is an intense period of conversion and reevaluation of voting intentions, when uncertainty, doubt and possibly anxiety seize citizens. The problem is there are other instances of profound change in vote intentions which are not accompanied by increased heterogeneity. The drop in Conservative support in the second period of 1993 is greater than the one in the following period, yet heterogeneity decreases during the second period and climbs during the third. Similarly, Reform's gains in the second period of 1993 are smaller than those in the following period, but only the second period is marked by a rise in heterogeneity. The exact source of these bumps on the road to convergence eludes me.

How do political campaigns generate these declining trends of heterogeneity? Obviously,

patterns of learning and priming about contenders and issues could allow citizens to cut through the complex and conflicting rhetoric, to figure out what the election and the competing options are about, to connect each option to their own preferences and predispositions, and to decide in increasingly similar ways. As the parties and the media increase their activity, citizens may become more seriously involved in the campaign, and their responses and behaviour accordingly appear more thoughtful and more similar.

Thus, the compression of heterogeneity during campaigns is consistent with substantial learning dependent on campaign strategy, events, and coverage (Franklin, 1991; Johnston et al., 1992); with the activation of predispositions in line with enlightened preferences (Gelman & King, 1993); and with mass media 'mainstreaming' (Morgan & Signorielli, 1990; Gerbner et al., 1994). The evolution of heterogeneity is not consistent with the expectations extrapolated from the widening knowledge gap literature (Tichenor et al., 1970, 1973) or the agenda-setting/framing research (MacKuen, 1984; Hill, 1985; Krosnick & Brannon, 1993).

One anomaly, however, casts doubts on this interpretation. Most of the drop in the level of heterogeneity occurs in the post-election data. How can a campaign effect appear so quickly between the last period of the campaign and the post-election survey? One thing is certain, it is not simply post hoc rationalization (i.e., respondents adjusting their attitudes in post-election interviews according to their vote choice). Although all models were constructed with variables from the campaign and the post-election waves, very few variables measured at both times were used (see footnote 45). If the relationships between a set of independent variables and a measure of vote choice (campaign vote intention) differ from the relationships between the same set of independent variables and another measure of vote choice (reported vote), change in the dependent variable is clearly responsible for the discrepancies in the strength of relationships. Therefore, post-election adjustment of the correlates of the vote can not be invoked as the reason behind the drop in

heterogeneity.

The change in the dependent variable, though, may not necessarily be genuine adjustment of the vote choice in line with underlying predispositions. Another phenomenon can account for it. The post-election wave is a panel. All post-election respondents had been interviewed during the campaign. It has often been observed, as far back as the Columbia studies (Lazarsfeld et al., 1944; Berelson et al., 1954), that being interviewed previously conditions response in subsequent interviews. Responses to the post-election vote choice could be affected by a powerful conditioning effect which does not have external validity. Hence, the level of heterogeneity in the last campaign period resembles the level of the rest of the campaign more than the post-election data, possibly because the last period respondents are still innocent, unperturbed by the experience of having been interviewed earlier, while all post-election respondents are panel subjects.

It should be noted that, even if panel conditioning is responsible for the entire drop in heterogeneity between the last campaign period and the post-election wave (an unlikely possibility), there is still evidence of a decrease in interpersonal differences in coefficient strength during the three pre-election periods.

In conclusion, the analysis reveals that all three campaigns significantly reduced the level of heterogeneity among the electorate, but that considerable amounts of interpersonal diversity in coefficient strength still subsist after the campaigns. As campaigns proceed, the discrepancies in decision rules between information groups diminish, and the usefulness of a heterogeneity-sensitive specification in explaining individual voting behaviour declines. The evidence supports the notion that campaigns matter, and that they do so by curtailing, but not eradicating, differences between voters. However, panel conditioning could cause part of this pattern.

## **Chapter 5**

### **THE CONSEQUENCES OF HETEROGENEITY ON INDIVIDUAL AND AGGREGATE POLITICAL CHOICES**

Chapter 1 considered the relevance of heterogeneity. Although interpersonal differences in coefficient strength do not severely undermine the predictive power of our models, they nevertheless constitute dangerous scientific pitfalls. Assuming causal homogeneity likely leads to inadequate explanatory models which misrepresent the behaviour of most individuals, and to partly inaccurate conclusions about hypotheses which apply to some portions of the population but not to others. The subsequent chapters have presented findings which overwhelmingly substantiate these assertions.

Chapter 1 also revealed the possibility of normative implications by emphasizing that heterogeneity is responsible for Bartels' individual and aggregate deviations from full information (1996). Bartels has uncovered that people of identical sociodemographic profiles who differ in their levels of political information do not vote similarly, and these individual deviations in voting translate into biased electoral outcomes. Both of these phenomena stem from interpersonal differences in decision-making.

This chapter further explores these most significant consequences of heterogeneity. It documents the nature and extent of individual and aggregate deviations among the decisions analysed in the previous chapters. It also examines whether these deviations from informed choices

are subject to the same patterns exhibited by interpersonal differences in decision-making: are they similarly affected by variation in decision, by variation in group discriminator, and by campaign dynamics?

### **Heterogeneity and Individual and Aggregate Deviations**

Instead of focusing on interpersonal differences in the strength of relationships between independent variables and vote choice (i.e., heterogeneity in the process of decision-making), Bartels (1996) concentrates on the most significant consequences of heterogeneity: interpersonal differences in the nature of vote choice (i.e., diversity in the outcome of decision-making). He demonstrates that citizens of different information levels do not vote similarly. Respondents sociodemographically identical in every regard who differ in their level of political information, do not arrive at the same judgment. Uninformed citizens do not vote the way they would have voted if they had been fully informed.

Moreover, the aggregation of opinions does not nullify these individual 'errors'. Since they are not random, they do not cancel each other out. Simply summing up the imperfect individual preferences does not produce the collectively legitimate outcome. Actual electoral outcomes do not correspond to hypothetical outcomes where the same electorate is fully informed. Bartels reports that, on average, American presidential incumbents receive five percentage points more than they would under full information, while Democrat presidential candidates do about two percentage points better.

People of identical sociodemographic profiles with different levels of political information

do not vote similarly *because* they rely on different considerations which do not all lead to the same judgment as effectively. Heterogeneity in decision-making is a necessary (but not sufficient) condition for individual and aggregate choices which deviate from informed choices. Similar voters who reason differently about politics will not necessarily reach different decisions, they may still get to the same choice. However, deviations can not occur without the presence of heterogeneity. The causal sequence follows this form: the reliance on considerations of different efficiency encourages the emergence of individual deviations in behaviour which, in turn, are generally not nullified by the aggregation of opinions and translate into electoral outcomes which differ from informed outcomes.

Deviations are measured by estimating the difference between each respondent's predicted value from the complete sociodemographic model (equation 4) and the corresponding predicted value computed from the high information set of coefficients (b4 of equation 4):

$$Y = a + b1(G_x) + b2(G_{x1}*X_s) + b3(G_{x2}*X_s) + b4(G_{x3}*X_s) + e \quad (\text{Equation 4})$$

$$\frac{\sum \left\{ \left[ \text{Predicted value from } Y = a + b1(G_x) + b2(G_{x1}*X_s) + b3(G_{x2}*X_s) + b4(G_{x3}*X_s) + e \right] - \left[ \text{Predicted value from } Y = a + b1(G_x) + b4(X_s) + e \right] \right\}}{N} \quad (\text{Equation 5})$$

$$\frac{\sum \left\{ \left[ \text{Predicted value from } Y = a + b1(G_x) + b2(G_{x1}*X_s) + b3(G_{x2}*X_s) + b4(G_{x3}*X_s) + e \right] - \left[ \text{Predicted value from } Y = a + b1(G_x) + b4(X_s) + e \right] \right\}}{N} \quad (\text{Equation 6})$$

Where, Y is a dependent variable;  $G_x$  is a group discriminator (i.e., information);  $G_{x1}$ ,  $G_{x2}$ , and  $G_{x3}$



are three dummy variables (low, medium, high) constructed from group discriminator  $G_x$ ; and  $X_s$  is a set of sociodemographic independent variables. To generate the most precise predicted values, logistic regression is used.

An average individual deviation is the mean of all absolute deviations (Equation 5). It exposes the mean difference expressed in percentage points between each individual's actual probability of voting  $Y$  and his or her predicted probability had he or she been highly informed. An aggregate deviation is the mean of all signed deviations (Equation 6). It reveals the difference expressed in percentage points between the entire electorate's actual choice and the hypothetical highly informed outcome.

Three analyses are performed in this chapter. In the first, individual and aggregate deviations from high information vote choice are assessed for every political decision studied in previous chapters. This analysis follows the procedure outlined above to the letter. The next two analyses modify this procedure slightly. In the second analysis, deviations are calculated using the other group discriminators. The technique is the same, but media attention, interest in the election / in the referendum / in politics, education, intelligence, and the composite index are used instead of political information. Finally, in the third analysis, deviations from high information are estimated for each campaign period. Again, the same technique is employed, but deviations from informed vote intentions are evaluated rather than deviations from informed vote choice.

Can average individual and aggregate deviations be compared across decisions? The measures are probably affected by the size of the vote share in each decision. It is fair to believe that the greater the number of people who support a party, the greater the likelihood of finding individuals who make an 'incorrect' vote choice. However, adjustments of the measures are not

worth the effort. Deviations' natural scale is quite intuitive. They are expressed in percentage points, whether they refer to the individual probability of voting X, or to the aggregate level of support for X. Any transformation of the measures would destroy this precious advantage. All in all, deviations possess relatively good comparability. One simply has to keep in mind that more popular choices should have a tendency to exhibit greater deviations.

### **The Nature and Extent of Individual and Aggregate Deviations**

Table 5.1 reports the average and aggregate deviations from high information vote choice for the political decisions studied here. Average individual deviations (first column of Table 5.1) indicate the mean change in the probability of voting X that behaving like the most informed would have brought about. For instance the score of 10.6 for the 1997 Liberal model means that each person's probability of voting Liberal would have been different by 10.6%, on average, under high information. All models display substantial average individual deviations.

Chapter 2 uncovered that important decisions feature less interpersonal heterogeneity in decision-making than decisions which are not as important. Do important decisions also display smaller individual deviations than less important ones? Regardless of differences in the importance of decisions, the deviations are of comparable size. For instance, the two decisions at the opposite ends of the turnout spectrum (1984 American presidential vote and support for Quebec sovereignty) display average individual deviations of very similar size. The deviations only vary according to the size of the vote share: more popular choices exhibit greater average deviations. Thus, among all these decisions, a considerable portion of the public does not vote the same way as similar informed

individuals. We now turn to aggregate deviations to see whether these individual deviations are nullified by the aggregation of individual responses, or whether they translate into biased electoral outcomes.

Table 5.1: Individual and Aggregate Deviations from Informed Choices (percentages)

	Average Deviations	Aggregate Deviations	Hypothetical Hi Info Outcome	Baseline Outcome
<i>Decisions in Increasing Order of Importance</i>				
1984 Presidential Vote (52%)	12.5	-3.4	62.2	58.8
1997 Liberal Vote (65%)	10.6	-9.1	48.0	38.9
1997 Conservative Vote (65%)	4.8	-0.6	17.6	17.0
1997 Reform Vote (65%)	7.7	7.3	22.0	29.3
1993 Liberal Vote (67%)	12.7	-10.0	50.8	40.8
1993 Conservative Vote (67%)	6.0	0.6	12.5	13.1
1993 Reform Vote (67%)	8.8	5.4	17.3	22.7
1992 Refer. outside Quebec (72%)	10.4	.9	38.4	39.3
1992 Quebec Referendum (83%)	9.2	-4.9	40.3	35.4
1997 Support for Quebec Sov. (93.5%)	13.5	-1.0	49.9	48.9

Aggregate deviations (second column of Table 5.1) highlight the differences between the actual outcomes and an hypothetical high information outcomes. For instance, the Liberal party score of -9.1 for the 1997 campaign signifies that the actual level of support for this party (38.9%) was nine percentage points lower than it would had been in a hypothetical outcome where all voters behave like sociodemographically similar individuals with high levels of information (48.0%). This hypothetical high information outcome constitutes the enlightened outcome.

Again, there is not an impressive link between the importance of decisions and the size of aggregate deviations. The most important decisions (support for the sovereignty of Quebec, 1992 Quebec referendum, and 1992 referendum outside Quebec) are marked by marginal aggregate biases. But many less important decisions have equally low aggregate deviations (1993 and 1997 Conservative vote, and 1984 presidential vote). The deviation of the decision with the second highest turnout (1992 Quebec referendum) is even greater than that of the decision with the lowest turnout (1984 presidential vote).

The most interesting variation in the size of aggregate deviations concerns the subjects of the decisions. In four instances, the aggregate deviations are essentially non-existent. Actual support for Quebec sovereignty, the 1992 referendum outside Quebec, and for the Conservative party in 1993 and 1997 matches the hypothetical support under high information. So, with a more informed electorate, the Conservatives would still have suffered a devastating defeat in 1993, and their fate would not have been any better in 1997.

The six other models, however, manifest significant aggregate deviations. The negative deviation of the 1992 Quebec referendum model signifies that the actual outcome of the vote was about five percentage points lower than it would have been had all individuals voted the same way as similar citizens who were very knowledgeable about politics. The evidence also suggests that the Reagan victory in the 1984 American presidential election was smaller than the hypothetical informed outcome. The two main Canadian parties experienced similar deviations in both elections. The Reform party benefited and the Liberal party suffered from the low information levels of the electorate. Reform obtained between five and seven percentage points more than it would have garnered under full information, while the Liberals secured around ten percentage points less than

they would have under informed conditions.

It should be noted that, unlike Bartels' analysis of the ANES presidential electoral data (1996), I do not find a strong aggregate bias in favour of the incumbent, either in the Canadian or the American vote choice models. Support for the incumbent in 1984, 1993 and 1997 was undermined by a negative aggregate deviation in each case. Furthermore, I do not find a bias in favour of parties from the centre/left. Bartels reports that the Democrats receive about two percentage points which they would not garner under high information. Their Canadian cousins, the Liberals, are not as fortunate. They are consistently disadvantaged by a large negative aggregate bias. It is beyond the scope of this study to account for such discrepancies. It would require an analysis of the two countries' political communication flow, media coverage, campaign finance regulations, institutional structure, and political culture.

These hypothetical high information outcomes represent large departures from the actual outcomes. None of them, however, would have meant a reversal of the outcome. For instance, the absence of information deficiencies would not have saved the Charlottetown Accord. In Quebec and outside the province, it would have been rejected. Nevertheless, these hypothetical outcomes would significantly alter the political scene. Although the rankings of parties would have remained the same, the distribution of parliament seats resulting from both Canadian elections would have been quite different under a fully informed electorate. In 1997, had the Liberals collected the nine percentage points which voters 'erroneously' conferred to Reform (in the most part), the Bloc Québécois would have probably retained hold of the official opposition. Furthermore, most of these contests were not close races. Interpersonal diversity in decisions could surely have a decisive effect

on closer races.<sup>51</sup>

But one is entitled to ask: are these conclusions tied to the use of political information as group discriminator. Chapter 3 examined the determinants of interpersonal heterogeneity in decision-making and ascertained that several cognitive factors were all important sources of diversity in coefficient strength. Two factors, however, education and information, appeared to generate slightly greater levels of heterogeneity. Which factors are the most important sources of individual and aggregate deviations? Bartels (1996) only considered information. Here, I have the opportunity to determine whether information produces greater deviations than media attention, interest, education, and intelligence.

Table 5.2 reports the individual and aggregate deviations of each group discriminator for every decision. First, it is evident that the average individual deviations of Table 5.1 were not artefacts. Considerable levels of individual 'errors' are present among each column. Second, the direction of information's aggregate deviations is often, but not always, replicated across other group discriminators. Four out of five group discriminators show that a very small negative bias is attached to support for sovereignty. In both Canadian elections, four out of five discriminators indicate that the Liberal party is handicapped by a negative deviation, and that the Reform party profits from a positive deviation. Four out of six factors reveal that Reagan received fewer votes than he should have. Two group discriminators concur with information that marginal deviations accompanied Conservative support in both elections. But two factors diverge by suggesting that the Conservative vote share was higher than the hypothetical outcomes in 1993, and smaller than the hypothetical outcomes in 1997. Finally, the majority of group discriminators do not agree with information's diagnostics about the aggregate biases which characterized the 1992 constitutional referendum.

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<sup>51</sup> Especially since the size of deviations from informed choices is unrelated to turnout which is inversely correlated to the closeness of the race.

Table 5.2: Cognitive Group Discriminators, Individual and Aggregate Deviations from Informed Choices (percentages)

	Information	Media Att.	Interest	Education	Intelligence	Index
1992 Refer. outside Quebec						
Average deviation	10.4	10.7	12.9	11.7	-	10.0
Aggregate deviation	0.9	3.6	12.4	8.5	-	-1.1
Hypothetical outcome	38.4	35.7	26.9	30.8	-	40.4
1992 Quebec Referendum						
Average deviation	9.2	12.2	15.2	10.3	-	10.3
Aggregate deviation	-4.9	3.9	12.7	-7.0	-	1.5
Hypothetical outcome	40.3	31.5	22.7	42.4	-	33.9
1993 Liberal Vote						
Average deviation	12.7	12.1	7.5	9.3	-	10.7
Aggregate deviation	-10.0	-10.0	4.2	-4.0	-	-3.2
Hypothetical outcome	50.8	50.8	36.6	44.8	-	44.0
1993 Conservative Vote						
Average deviation	6.0	6.3	5.8	5.8	-	6.4
Aggregate deviation	0.6	5.0	-1.7	3.8	-	0.8
Hypothetical outcome	12.5	8.0	14.7	9.2	-	12.3
1993 Reform Vote						
Average deviation	8.8	9.3	6.4	7.9	-	9.4
Aggregate deviation	5.4	-0.5	1.6	3.2	-	2.0
Hypothetical outcome	17.3	23.2	21.1	19.5	-	20.7
1997 Liberal Vote						
Average deviation	10.6	8.6	11.0	8.3	-	15.2
Aggregate deviation	-9.1	-2.3	-7.1	0.2	-	-11.1
Hypothetical outcome	48.0	41.2	46.0	38.7	-	50.0
1997 Conservative Vote						
Average deviation	4.8	7.7	7.2	8.5	-	7.7
Aggregate deviation	-0.6	1.0	0.4	-5.0	-	-4.4
Hypothetical outcome	17.6	16.0	16.6	22.0	-	21.4
1997 Reform Vote						
Average deviation	7.7	7.3	8.2	10.3	-	11.7
Aggregate deviation	7.3	1.6	1.9	-2.2	-	7.6
Hypothetical outcome	22.0	27.7	27.4	31.5	-	21.7
1997 Support for Quebec Sov.						
Average deviation	13.5	10.0	13.8	8.7	-	10.8
Aggregate deviation	-1.0	-1.0	-0.9	0.5	-	-1.5
Hypothetical outcome	49.9	49.9	49.8	48.4	-	50.4
1984 Presidential Vote						
Average deviation	12.5	5.5	14.2	10.1	14.6	14.3
Aggregate deviation	-3.4	-1.8	8.4	-3.9	-1.4	3.3
Hypothetical outcome	62.2	60.6	50.4	62.7	60.2	55.5

\*: For each decision, I report the results of the most important variable: interest in the referendum for the 1992 models, interest in the election for the 1993 models, and interest in politics for the 1997 and 1984 models.

While information reveals a negative deviation for Quebec and the absence of a deviation outside Quebec, most factors point to a positive deviation in both cases. They conclude that the Charlottetown Accord would have experienced a more devastating defeat in the more enlightened hypothetical scenarios.

Education and information, the top sources of heterogeneity, are also important sources of individual and aggregate deviations, but so is interest. Looking at average individual and aggregate deviations simultaneously, information ranks first or second among five models (1993 and 1997 Liberal and Reform, and support for sovereignty). Education does so among four models (1992 Quebec and non-Quebec, 1993 and 1997 Conservative). Interest dominates three models. Interest in the referendum generates the greatest deviations among the two 1992 models, while political interest tops the American vote decision. The composite index does not always simply average all separate discriminators' deviations. It sometimes clearly surpasses all of them, such as among the 1997 Liberal and Reform models. In these two cases, Luskin's distinction between ability, motivation, and opportunity (1990) does not appear useful. Nevertheless, the important role of education and information among the two Canadian elections and of interest among the American decision corresponds to the pattern uncovered in Chapter 3 with heterogeneity.

Thus Bartels' focus on information as a source of individual and aggregate deviations is justified (1996). Indeed, information is a leading producer of individual and aggregate biases in voting behaviour. Education and interest should not be neglected, however. Political interest appears to play a particularly important role in generating interpersonal diversity in American voting behaviour. It is responsible for the greatest amounts of heterogeneity and deviations among the 1984 vote model. Interest's negative aggregate deviation in 1984 is especially noteworthy, as it runs



counter to information's and the other group discriminators' deviations. In 1984, Ronald Reagan would have won under all the hypothetical scenarios, but by a much slimmer margin in a high interest context.

### **The Dynamics of Individual and Aggregate Deviations**

Chapter 4 addressed the extent and the limit of heterogeneity's sensitivity to electoral and referendum campaigns. It determined whether the gaps in decision rules among citizens of different information levels are minimized or compounded during the progress of campaigns, or whether they remain intact, unaffected by the unfolding of campaign events and coverage. The analysis covered three Canadian campaigns: the 1992 constitutional referendum, and the 1993 and 1997 federal elections. It revealed that all three campaigns significantly reduced the level of heterogeneity among the electorate, but that considerable amounts of heterogeneity still existed after the campaigns. As campaigns proceed, the discrepancies in decision rules between individuals diminish, and the usefulness of a heterogeneity-sensitive specification in explaining voting behaviour declines. The evidence supports the notion that campaigns matter, and that they do so by curtailing, but not eradicating, the differences between voters.

Do campaigns have a similar effect on individual and aggregate deviations? Classical democratic theory expects campaigns to be a forum for debate about policies, ideas, and leadership; a debate which exposes the electorate to the major alternatives competing for government, which allows voters to learn about them, compare them, and deliberate on their respective merits. In fact, previous evidence of learning is vast and somewhat diverse. During campaigns, citizens gain

knowledge about parties, candidates, and intervenors, notably their stance on the major issues of the day (Bartels, 1988; Johnston et al., 1992, 1996); about the nature of referendum proposals (Johnston et al., 1996); and about the electoral viability of competitors (Bartels, 1988; Johnston et al., 1992, 1996). Furthermore, campaigns activate citizens' political predispositions, indicating that knowledge acquired is related to long-standing preferences and rendered electorally relevant (Bartels, 1988; Finkel, 1993; Finkel & Schrott, 1995; Gelman & King, 1993; Johnston et al., 1992, 1996).

Extending Bartels' work dynamically provides another way to determine whether respondents exhibit behaviour consistent with a conception of campaigns as a context of learning. Two questions are central: First, does the level of individual deviations from informed decisions move during the unfolding of campaigns? If campaigns are conducive to substantial learning about political parties, candidates, and referendum proposals, then we would expect early vote intentions to be marked by many more individual 'errors' than election day choices, as the unsophisticated respondents' capacity to emulate the decision of their sophisticated counterparts improves with the progress of a campaign. After all, what is learning, if not the reduction of mistakes. Secondly, do campaigns affect the biases in aggregate outcomes? Apart from reducing individual deviations from informed decisions, learning may also translate, at the aggregate level, into less significant deviations from full information outcomes.

Table 5.3 examines the campaign dynamics of individual and aggregate deviations. It reports the individual and aggregate deviations at each point of the three Canadian campaigns (the 1992 referendum, and the 1993 and 1997 elections). The analysis simply applies the calculation of

deviations to the decisions and campaign periods explored in the previous chapter.<sup>52</sup> Since Chapter 4 concentrated on the campaign dynamics of heterogeneity induced by political information, and since Bartels (1996) conceived deviations from high information, this section examines the campaign dynamics of individual and aggregate deviations from high information behaviour.

There is a dramatic decrease in average individual deviations (first column of Table 5.3) in all three campaigns. As campaigns proceed, uninformed people are getting to the position of similar informed people more effectively. For instance, at the beginning of the 1997 campaign, being more informed changed each respondent's probability of voting Liberal by an average of just over 20 percentage points. After the campaign, that value had been cut almost in half. This data does not actually say people are getting to the right position with regards to their predispositions and beliefs. But, if we assume that informed preferences are more in tuned with their predispositions and beliefs, then the declining individual deviations from high information are indicating that voters are making, on average, more enlightened choices as campaigns proceed.

In some cases, again, the evidence does not exhibit a steady reduction. There are sudden increases in average individual deviations during the second or third campaign period among the models of 1992 Quebec referendum, 1993 Liberal, 1993 Reform, and 1997 Conservative support. However, the overall trend points to a decline of individual deviations as the election draws nearer. In all cases, the post-referendum and post-election deviations are smaller than during any campaign period. Moreover, in many of the models, the decline is not solely limited to the span between the last campaign period and the post-election data. Therefore, it can not simply be the product of panel conditioning.

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<sup>52</sup> The campaign periods are: September 24 - October 4 / October 5 - October 15 / October 16 - October 25 for the 1992 models; September 10 - September 24 / September 25 - October 9 / October 10 - October 24 for the 1993 models; and May 3 - May 12 / May 13 - May 22 / May 23 - June 1 for the 1997 models.

Table 5.3: Campaign Dynamics, Individual and Aggregate Deviations from Informed Choices (percentages)

	Average Deviations	Aggregate Deviations	Hypothetical Hi Info Outcome	Baseline Outcome
<i>1992 Refer. outside Quebec</i>				
Period 1	27.3	-1.9	59.7	57.8
Period 2	16.6	0.5	45.8	46.3
Period 3	15.9	14.5	28.0	42.5
Post Vote	10.4	0.9	38.4	39.3
<i>1992 Quebec Referendum</i>				
Period 1	16.4	-0.5	37.7	37.2
Period 2	16.2	2.9	33.5	36.4
Period 3	19.8	6.9	28.1	35.0
Post Vote	9.2	-4.9	40.3	35.4
<i>1993 Liberal Support</i>				
Period 1	17.2	-11.1	52.0	40.9
Period 2	15.0	8.3	34.8	43.1
Period 3	18.6	-11.9	54.9	43.0
Post Vote	12.7	-10.0	50.8	40.8
<i>1993 Conservative Support</i>				
Period 1	14.1	3.4	27.4	30.8
Period 2	14.1	-1.1	24.9	23.8
Period 3	8.3	3.0	15.3	18.3
Post Vote	6.0	0.6	12.5	13.1
<i>1993 Reform Support</i>				
Period 1	9.0	6.2	8.5	14.7
Period 2	16.7	-6.7	26.3	19.6
Period 3	11.7	4.3	23.1	27.4
Post Vote	8.8	5.4	17.3	22.7
<i>1997 Liberal Support</i>				
Period 1	20.1	-9.5	56.0	46.5
Period 2	16.6	-12.3	50.2	37.9
Period 3	11.7	-4.3	46.0	41.7
Post Vote	10.6	-9.1	48.0	38.9
<i>1997 Conservative Support</i>				
Period 1	9.6	1.3	14.5	15.8
Period 2	10.8	-0.4	23.6	23.2
Period 3	9.0	2.4	16.7	19.1
Post Vote	4.8	-0.6	17.6	17.0
<i>1997 Reform Support</i>				
Period 1	10.5	7.5	12.9	20.4
Period 2	9.3	5.6	15.4	21.0
Period 3	8.9	3.0	22.0	25.0
Post Vote	7.7	7.3	22.0	29.3

The aggregate deviations (second column of Table 5.3) deal with the biases of actual outcomes with respect to hypothetical high information outcomes. Three patterns emerge from the results. First, three models display inconsistent aggregate deviations which dissipated after the election. The sign of the deviation for Conservative support in both elections and for 1992 referendum support outside Quebec varies during the campaigns. For instance, both Conservative sequences switch from positive to negative and back to positive deviations. Furthermore, all three models concluded with practically nil aggregate deviations. In every case, the authentic low information post-decision outcome actually coincides with the hypothetical high information outcome.

Secondly, two models, 1993 Liberal and Reform support, exhibit inconsistent aggregate deviations which are not reduced by the campaign. Less informed individuals typically do not favour the Liberals to the same extent as informed individuals who share their sociodemographic profile. Three of the four aggregate deviations in 1993 fit this trend, they are negative. The second part of the campaign, however, runs in the opposite direction. The positive deviation indicates that the less informed intended to vote for the Liberals more than the most informed. During the same period, Reform's vote share, which is generally greater than it would be under full information, was actually smaller than it should have been. More to the point, the campaign did not decrease the size of these models' aggregate deviations. In both cases, the post-election deviations were as large as their campaign counterparts.

Finally, the 1997 Liberal and Reform models show important aggregate deviations consistently of the same direction which do not dwindle with the unfolding of the campaign. Throughout the campaign and the post-election data, actual support for these two parties does not

correspond to their hypothetical support under high information. The Liberals were consistently disadvantaged by the public's low information level, while Reform consistently benefited from it. The campaign and post-election deviations are of similar size.

Overall, the evidence demonstrates that aggregate deviations are not fixed and immutable. Their level does vary during campaigns. During some portions of a campaign, they even reverse direction completely. Parties which typically benefit from the electorate's information deficiencies can all of a sudden be hindered by them, and vice-versa. It is clear that informed and uninformed individuals do not react to the same campaign events; or do not react to the same degree, or do not react with the same speed.<sup>53</sup> However, the data does not substantiate the idea that campaigns allow aggregation to perform more effectively in cancelling individual 'errors' and emulating the enlightened aggregate outcomes.

Thus, the analysis reveals that campaigns reduced the level of individual deviations from high information among the electorate, but that considerable amounts were still present after the campaigns. As campaigns proceed, the ability of uninformed voters to make decisions analogous to those of informed citizens with similar sociodemographic profiles increases. Individual deviations therefore follow the dynamics exhibited by interpersonal heterogeneity in decision-making.

The evidence about aggregate deviations, however, does not follow the same storyboard. These indicators do change during campaigns. They appear to be affected in complex ways by campaign events. But, the unfolding of campaigns does not produce a decline in aggregate deviations. This discrepancy is somewhat baffling, considering the two types of deviations are measured almost identically (Equations 5 and 6). The evidence indicates that the average amount

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<sup>53</sup> More detailed evidence of this exists (Jenkins, 1999).

of individual deviations declines during campaigns, but that the aggregate direction and extent of these deviations remains essentially the same. Mathematically, this seems to require that as the number of individual deviations decreases, the size and direction of these fewer deviations actually become stronger. Thus, campaigns may help to increase the proportion of people at the correct position, but those who are left err even more. I am uncertain how campaigns could be responsible for these lost voters.

### **Conclusions**

Using American data, Bartels (1996) shows that people with similar sociodemographic profiles but of different information levels do not think similarly about politics, that they do not reach the same voting decision, and that these individual 'errors' translate into 'biased' electoral outcomes. This chapter explored the nature and extent of these significant normative consequences of heterogeneity among Canadian voting behaviour. It found significant individual and aggregate deviations among the decisions. Individuals do not vote the way they would have voted if they had been more enlightened, and actual electoral outcomes do not correspond to hypothetical outcomes where the same electorate is more enlightened. Most notably, the Liberals are consistently hampered by a negative aggregate bias (they do worse than they would in a more enlightened context), while Reformers benefit from a positive bias (they receive more votes than they should).

This chapter also revealed a good congruence between the determinants of heterogeneity and those of individual and aggregate deviations across decisions. Lack of education and political information generate considerable biases in individual and aggregate decisions about Canadian

elections. As they did for heterogeneity, these two factors only slightly surpass the other group discriminators. Deviations among the Canadian referendum vote and the American presidential vote models hinge on interest. In the case of the 1984 decision, interest's pre-eminence is logical, considering it was identified as the top source of heterogeneity among this model in Chapter 3. Only the role of interest in the referendum among the 1992 models does not fit the mold. An explanation for this exception eludes me.

Lastly, this chapter examined the campaign dynamics of individual and aggregate deviations in decision outcomes. The significant reduction in average individual deviations from high information during campaigns highlights the critical importance of the democratic process. Individuals would not make the same choices had they not experienced these campaigns, they would have made more 'erroneous' choices. Therefore, campaigns do not only reduce the differences in decision-making between individuals, they also promote the expression of more enlightened individual preferences. Campaigns do not, however, generally bring about more enlightened aggregate outcomes.

The fact that the patterns of individual and aggregate deviations parallel those of heterogeneity with regards to determinants and campaign dynamics bolsters the idea of a causal link between interpersonal diversity in coefficient strength and interpersonal diversity in decision outcomes.



## **Chapter 6**

### **Conclusion: Lessons to Remember**

This study investigated a neglected topic: interpersonal heterogeneity in political decision-making. It significantly furthered our understanding of the phenomenon. It replaced sketchy indications, conjectures, and suppositions, with thorough analyses of the nature, sources, extent, dynamics, and consequences of interpersonal differences in coefficient strength.

### **Important ...**

Heterogeneity should not be dismissed as a trivial methodological concern. It is a very important phenomenon which pervades the heart of scientific research on voting behaviour. First, heterogeneity is important because it is far reaching. Relationships between explanatory and dependent variables are rarely stable and consistent across the entire population. Most political decisions (especially the more common ones) and most independent variables exhibit interpersonal diversity in decision rules.

I compared the level of heterogeneity among various voting decisions: the 1984 American presidential election vote, the 1993 and 1997 federal elections vote, the vote in the 1992 Canadian constitutional referendum, and support for the sovereignty of Quebec. There are significant levels

of interpersonal differences in coefficient strength among all decisions except one. Heterogeneity is not present, however, in similar amounts among different political decisions. The quantity of heterogeneity present in any given model varies according to the importance of the decision. Important decisions show small or negligible amounts of heterogeneity, while less important decisions possess large amounts of heterogeneity. The greater the importance that citizens attach to the stakes of a decision, the more thoughtful reflection they will devote to that decision, and the lesser the differences between individuals in decision-making will be. This logic explains the one decision which does not experience significant levels of heterogeneity. There is practically no sign of heterogeneity among support for Quebec sovereignty. The effects of the independent variables on this fundamental decision about the political future of a society exhibit very little interpersonal variation in coefficient strength.

Furthermore, heterogeneity has a pervasive presence within any given political decision where it exists. Interpersonal diversity in coefficient strength is found among most explanatory variables, and among all types of independent variables. The determinants of vote choice (party identification, political values, public policy issues, government performance, party leader evaluations, economic perceptions, and strategic considerations) all exhibit heterogeneity. The same can be said of the determinants of the referendum vote on the Charlottetown Constitutional Accord (specific elements, general arguments, intervenor evaluations, and group sentiments).

The interpersonal variation in the strength of relationships between independent variables and vote choice is considerable. Some of these relationships vary linearly in strength across subgroups of the population, being weaker among certain subgroups, and stronger among others. Sometimes, the variation in coefficient strength reaches the point where the decision of certain subgroups is

hardly or not at all related to independent variables which are considered relevant by the homogeneous estimation. Moreover, I do not simply find interpersonal differences in the strength of coefficients. In some instances, there are complete reversals in the direction of relationships: attitudes which are positively correlated to the choice of some voters, but negatively associated to the choice of others.

Second, heterogeneity is important because it has serious consequences. On one hand, there are substantial scientific perils associated with assuming causal homogeneity. Ignoring heterogeneity generally leads to inaccurate explanatory models and misspecification errors. The majority of independent variables have inconsistent effects across portions of the public. The traditional homogeneous specification, by averaging the effects of independent variables across the entire population, often misses considerable interpersonal variation in the strength of relationships between independent variables and the vote, and generally does not provide a good representation of the behaviour of the majority of citizens. Most subgroups' coefficients are weaker, stronger, or contrary to the coefficients of the homogeneous estimation. Conventional models simply fail to identify the real determinants of the voting decisions of most individuals. All subgroups' set of decision determinants differ from one another and from the whole sample's set of significant explanatory variables.

In terms of predictive power, an heterogeneity-sensitive design provides little additional leverage, as is indicated by the modest but statistically significant gains in model fit generated by the interactive setup. But in terms of understanding the psychological motivations of voters, paying attention to heterogeneity yields plenty. Differences in coefficient strength are particularly damaging for a hypothesis-testing approach, when one focuses solely on very few coefficients. The averaging

effect of the traditional homogeneous designs can induce a researcher to conclude that a relationship does not exist while it actually does for a portion of the public, and that another exists while it does not apply to part of the citizenry. It is especially problematic for cases where a consideration is linked in opposing ways to the decision of different subgroups. In such cases, the homogeneous estimation cancels out these contradictory and offsetting relationships, and leads to the inference that there is no relationship at all.

On the other hand, heterogeneity is also responsible for individual and aggregate deviations from enlightened decisions. Uninformed voters do not mimic the choices of informed voters with similar sociodemographic profiles. They do not vote the way they would have voted if they had been fully informed. They do not vote similarly because they rely on different considerations, and different considerations do not all lead to the same enlightened judgment as effectively. Heterogeneity in decision-making is a necessary but not sufficient condition for individual deviations in decisions. At the aggregate level, these individual 'errors' are not random, they do not cancel each other out, they are systematic. As a result, actual electoral outcomes do not correspond to hypothetical outcomes of the same electorate if it were fully informed. Two significant aggregate biases were uncovered in Canadian voting behaviour. The Liberal party consistently collects about ten percentage points less than it would if all voters had behaved like their informed counterparts. The Reform party invariably wins more votes (about seven percentage points) than it would if the public had been more informed.

This evidence highlights the importance of the stakes involved with these issues. We are dealing with the competence of voters, and the quality of individual and aggregate political decisions. On one side, there are the proponents of low-information rationality and aggregationists

claims who try to reassure that, despite the dismal levels of public political information, uninformed citizens can act as if they were fully informed through the use of various cues and shortcuts, and through the process of aggregation. On the other side, there are those like Bartels (1996) and myself who find powerful evidence that informed choices do not manifest themselves, neither at the individual nor at the aggregate level in Canada and the United States.

We could also have been lulled into thinking that political campaigns, by activating underlying predispositions (Gelman & King, 1993), could help to bring about enlightened preferences and the collectively legitimate outcomes. I do show that, as campaigns unfold, interpersonal discrepancies in decision rules diminish, and the ability of uninformed voters to make decisions analogous to those of informed citizens with similar sociodemographic profiles increases. However, significant aggregate biases in the collective preferences of the uninformed public still remain throughout and after campaigns. Campaigns do not allow aggregation to perform more effectively.

### **... But Complex**

Heterogeneity, however, is a very complex phenomenon. One can not deal with it in any simple way. A researcher can not simply capture it, take it into account, and move on to other concerns. Heterogeneity permeates through our models of political behaviour in significant, pervasive and perplexing ways.

First, it is difficult to say who thinks differently about political decisions. Many cognitive factors produce some heterogeneity in models of electoral voting behaviour. They all generate

substantial coefficient variation and deviations from enlightened choices. Some factors, though, are slightly more important sources of heterogeneity. Education and political information barely surpass the other group discriminators as the main sources of interpersonal diversity in voting decisions. While these two factors are responsible for the greatest amount of heterogeneity, they do not, however, dominate the models. The other cognitive factors often produce almost comparable amounts of coefficient variation. Also, within each model, the top overall source of heterogeneity is not consistently the top source of heterogeneity across all considerations. It is therefore likely that, if we could estimate the specific influence of each factor on heterogeneity in a multivariate setup, several cognitive factors would have distinct contributions.

Second, it is difficult to generalize about the nature of differences in decision-making. The evidence does not indicate that certain individuals are consistently more likely to rely on affective considerations such as feelings toward political leaders. Often, the impact of some affective independent variables was most important among less sophisticated voters. Nevertheless, that is not always the case. Quite a few affective variables display a contrary pattern, having a greater impact among more sophisticated voters. Similarly, I did not find that certain individuals are consistently less likely to base their decisions on substantive ideas. The evidence shows that substantive ideas do not manifest a clear pattern. One can find cases where the larger coefficients belong to the less sophisticated voters, and cases where the more sophisticated voters exhibit the strongest relationships. No subgroup is steadily more affective or more substantive. Therefore, it may be fallacious to conclude that there are different reasoning styles: ways of thinking about politics which consistently distinguish certain individuals.

## The Next Steps

This study constitutes an important exploration of all key aspects of interpersonal differences in political decision-making. Nonetheless, the topic has not been exhausted. Most notably, other political attitudes and other contexts need to be examined to ascertain whether the conclusions stated here extend beyond voting behaviour in Canada. We need to determine whether the extent of interpersonal heterogeneity varies cross-nationally. If cross-national differences are encountered, as it appears to be the case for aggregate deviations from informed decisions in Canada and the United States, then these differences need to be explained. These cross-national differences in the level of heterogeneity could be attributable to differences in political communication flow, media coverage, campaign regulations, institutional structure, and political culture.

A microscopic approach could also provide interesting insight into the inner workings of heterogeneity. This study deliberately adopted a macroscopic approach to produce generalizable conclusions about a phenomenon which was vastly understudied. I did not try to explain every difference in coefficient strength among each model. At this stage, I felt it was more important to paint a complete picture of the forest we are dealing with, rather than understand the movement of every leaf in each tree. Microscopic analyses of a single decision or model could prove useful to tackle crucial issues such as: why do some considerations exhibit greater coefficient gaps than others, and why do some coefficient gaps diminish during campaigns while others increase in size? Such analyses could more fully inform us about how heterogeneity changes our narrative of political behaviour in Canada, the United States, etc. They should, however, be conducted with great care, since the results presented here warn against giving too much credence to a single test or two.

Further work on heterogeneity is also needed to establish the validity of more general concerns raised by this research about the complexity of political behaviour and our ability to understand citizens, campaigns, elections, and democracy. The world does not appear like a simple, straightforward, and easily comprehensible subject. It is perhaps much more intricate and difficult to grasp than we currently believe. In order to understand reality, our approaches, theories, and models may need to be as complex and multidimensional as reality. Striving for oversimplification can lead to misconceptions and fallacies.



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## **Appendix 1: Description of Dependent, Independent and Group Discriminator Variables**

### **The Political Decision Models**

The 1992 referendum models are drawn from the 1992-1993 Canadian Referendum and Election Studies, and they mirror those used by the principal investigators of that study (Johnston, Blais, Gidengil, & Nevitte, 1996). The non-Quebec model contains a wide range of attitudinal variables. Several variables capture respondents' attitudes toward specific elements of the constitutional Accord: recognition of Quebec as a distinct society, Quebec's 25% of House of Commons seats guarantee, reform of the Senate, and recognition of aboriginal peoples' right to self-government. General arguments about the Accord are also included: whether it is the best compromise possible, whether it will allow us to move on to other problems, whether the respondent's province is a winner in the agreement, whether voting No would increase the likelihood of secession, and whether voting yes would only encourage Quebec to ask for more since it is never satisfied. Thermometer feelings of numerous intervenors are present: unions, business, the women's movement, Brian Mulroney, Pierre Trudeau, Preston Manning, and other leaders (compounding Jean Chrétien, Audrey McLaughlin, and the respondent's provincial premier). Group sentiments are incorporated: feeling for Quebec, the recognition of founding peoples, and the priority of minority rights over majority rule. Finally, the model also contains various sociodemographic dummy

variables. The dependent variable is the reported vote in the referendum. To render the parameter estimates more comparable, all variables have been recoded to run from 0 to 1.

The Quebec referendum decision model is quite similar to the preceding one. Some variables are dropped (opinion that Quebec is never satisfied, all intervenor ratings, and attitudes toward founding peoples and minority rights), while several others are added (Robert Bourassa's and Jacques Parizeau's thermometer ratings, feeling for Canada, support for Quebec sovereignty, the belief that the french language is threatened in Quebec, and concern for the economic consequences of sovereignty). The sociodemographic variables are also adjusted according to the characteristics of the electorate. Again, the range of all variables is the same (0-1).

Behaviour in the 1993 Canadian federal election is divided into several models, one for each of the major parties. Since the analysis is restricted to the non-Quebec respondents, only three parties are considered (Liberal, Conservative, Reform).<sup>1</sup> Again the variables are those of the principal investigators of the 1992-1993 Canadian Referendum and Election Studies (Johnston, Blais, Brady, Gidengil & Nevitte, 1996). In these models, the dependent variable takes the value of 1 for respondents who reported voting Liberal, Conservative, and Reform, respectively; and 0 for those who reported voting for a party other than the Liberals, for a party other than the Conservatives, and for a party other than Reform, respectively. Numerous ideological and issue indexes are incorporated: populism, attitudes towards minorities in general, French Canada, other minorities, unions, the welfare state, capitalism, continentalism, macroeconomic policy, and moral traditionalism. Partisan identification, party leader evaluations (Kim Campbell, Jean Chrétien,

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<sup>1</sup> Unfortunately, the 1993 Quebec sample is too small to survive the demands of the analysis in terms of degrees of freedom, so I can not use it.

Preston Manning, Audrey McLaughlin, and the departing leader Brian Mulroney), and multiple sociodemographic variables complete the models. Again, all variables have been coded to run from 0 to 1.

Behaviour in the 1997 Canadian federal election is also divided into three models, one for each of the major parties outside Quebec (Liberal, Conservative, Reform). The variables were developed by the principal investigators of the 1997 Canadian Election Study (Nevitte, Blais, Gidengil & Nadeau, 2000). The models contain party identification and many political values: do more for women, regional alienation, feeling for Quebec, feeling for other minorities, continentalism, cynicism, moral traditionalism, and free enterprise. The positions of respondents on numerous issues are included: government spending, taxes, deficit, jobs, crime, gun control, and immigration. Evaluations of the government's performance on several issues are present as well: national unity, deficit, jobs, crime, social programs, and the GST. There are also various economic perceptions: national and personal retrospective, along with national and personal prospective. Finally, the models are completed by assessments of the party leaders, strategic considerations with regards to the government and the opposition, and sociodemographic controls. All variables have a range which spans from 0 to 1.

The support for Quebec sovereignty model is constructed from data in the 1997 Canadian Election Study. It contains several attitudinal variables: the relative attachment to Quebec and Canada, the anticipated economic impact of sovereignty, the anticipated linguistic impact of sovereignty, the belief that the french language is threatened, and the probability that an economic association will be negotiated between Canada and a sovereign Quebec. The first three variables are consistently described as the most important determinants of support for sovereignty (Blais &

Nadeau, 1992; Martin, 1994; Blais, Martin & Nadeau, 1995; Nadeau & Fleury, 1995; Nadeau, Martin & Blais, 1999). A few traditional demographic controls are also present: age, gender, and income. In conformity with previous studies of support for sovereignty, only the francophone subsample is analysed. Variables range from 0 to 1.

A model of voting in the 1984 American presidential election is constructed from the 1987 General Social Survey. The dependent variable takes the value of 1 for respondents who reported voting for Ronald Reagan, and 0 for those who reported voting for Walter Mondale. The list of explanatory variables includes party identification, liberal-conservative ideology, the role of the state, the equalization of wealth, the level of federal taxes, tolerance, and the level of government spending. All independent variables were also recoded to range from 0 to 1.

For more details about the construction of these indicators and the survey questions from which they are drawn, the reader is advised to consult the studies of the CES (Johnston, Blais, Gidengil, & Nevitte, 1996; Johnston, Blais, Brady, Gidengil & Nevitte, 1996; Nevitte, Blais, Gidengil & Nadeau, 2000) and the SPSS syntax at the end of this appendix.

Table A.1.1: Measurement of Group Discriminators

Group discriminator	Dataset	Survey questions
Political information	1992 CES	Correct identification of the position of six intervenors on the Charlottetown Accord referendum.
	1993 CES	Correct identification of campaign promises of the major federal parties.
	1997 CES	Correct identification of four general political facts and of three campaign promises of the major federal parties.
	1987 GSS	Correct identification of the state's governor, the district's congressman, and the head of the local school system.
Media attention	1992 CES	Number of days in past week that respondent read a daily newspaper and watched television news.
	1993 CES	Number of days in past week that respondent read a daily newspaper, watched television news, and listened to radio news.
	1997 CES	Attention to news about the election on television, in newspapers, and on the radio.
	1987 GSS	How often does respondent read newspaper.
Political interest	1997 CES	Interest in politics generally.
	1987 GSS	Interest in politics and national affairs.
Interest in the decision	1992 CES	Interest in the referendum campaign.
	1993 CES	Interest in the federal electoral campaign.
	1997 CES	Interest in the federal electoral campaign.
Education	1992 CES	Highest level of education completed.
	1993 CES	Highest level of education completed.
	1997 CES	Highest level of education completed.
	1987 GSS	Highest year of school completed.
Intelligence	1987 GSS	Ten-item Gallup-Thorndike vocabulary test and thirteen-item Cattell intelligence test.

Table A.1.2: Group Discriminators, Number of Cases

	Low	Med	High	Total
1992 Referendum outside Quebec				
Information	285	329	381	995
Media attention	345	328	312	985
Interest in the referendum	149	453	376	978
Education	220	486	289	995
Index	293	338	339	970
1992 Quebec Referendum				
Information	196	225	208	629
Media attention	214	222	193	629
Interest in the referendum	179	280	162	621
Education	184	148	294	626
Index	205	208	205	618
1993 Canadian Election				
Information	227	295	303	826
Media attention	265	285	307	856
Interest in the election	108	467	283	858
Education	373	220	263	858
Index	284	273	265	823
1997 Canadian Election				
Information	229	397	398	1024
Media attention	362	370	414	1146
Interest in politics	466	312	375	1153
Interest in the election	397	316	432	1145
Education	474	280	400	1154
Index	348	334	333	1015
1984 American Election				
Information	400	310	225	935
Media attention	158	189	622	969
Interest	223	454	290	968
Education	165	498	307	970
Intelligence	200	216	206	622



## SPSS Syntax for all Variables

### *1984 American Presidential Model (1987GSS)*

```
compute xreagan = pres84.  
recode xreagan (1=0) (2=1) (3,4,5,8,9=sysmis).
```

```
compute partyidx = partyid.  
recode partyidx (7,8=3) (9=sysmis).  
compute xpartyid = partyidx/6.
```

```
compute polviewx = polviews.  
recode polviewx (0,9=sysmis) (8=4).  
compute xpolview = (polviewx-1)/6.
```

```
compute intpolx = intpol.  
recode intpolx (0,8,9=sysmis).  
compute xgintpol = ((intpolx*-1)+4)/3.
```

```
compute xgpaper = news.  
recode xgpaper (0,8,9=sysmis) (1=1) (2=.75) (3=.5) (4=.25) (5=0).
```

```
compute governx = governor.  
recode governx (1=1) (2,8=0) (9=sysmis).
```

```
compute schlhdx = schlhead.  
recode schlhdx (1=1) (2,8=0) (9=sysmis).
```

```
compute usrepx = usrep.  
recode usrepx (1=1) (2,8=0) (9=sysmis).
```

```
compute xgknow = (governx + schlhdx + usrepx)/3.
```

```
compute agex = age.  
recode agex (98,99=sysmis).  
compute xage = (agex-18)/71.
```

```
compute educx = educ.  
recode educx (97,98,99=sysmis).  
compute xgeduc = educx/20.
```

```
compute incomex = income.  
recode incomex (13,98,99=sysmis).  
compute xincome = (incomex-1)/11.
```

```
compute xmarried = 0.  
if (marital eq 1) xmarried = 1.
```

```
compute xmale = sex.  
recode xmale (2=0).
```

```
compute xrelprot = 0.  
if (relig eq 1) xrelprot = 1.  
if (relig eq 9) xrelprot = -99.  
recode xrelprot (-99=sysmis).
```

```
compute xrelcath = 0.  
if (relig eq 2) xrelcath = 1.  
if (relig eq 9) xrelcath = -99.  
recode xrelcath (-99=sysmis).
```

```
compute xreljew = 0.  
if (relig eq 3) xreljew = 1.  
if (relig eq 9) xreljew = -99.  
recode xreljew (-99=sysmis).
```

```
compute xrelnone = 0.  
if (relig eq 4) xrelnone = 1.  
if (relig eq 9) xrelnone = -99.  
recode xrelnone (-99=sysmis).
```

```

compute xracblak = race.
recode xracblak (1,3=0) (2=1).

compute xracwhit = race.
recode xracwhit (2,3=0) (1=1).

compute xracoth = race.
recode xracoth (1,2=0) (3=1).

compute xsize = size/7072.

compute xunion = union.
recode xunion (1,2,3=1) (4=0) (9=sysmis).

compute xwretire = 0.
if (wrkstat eq 5) xwretire =1.

compute xwunempl = 0.
if (wrkstat eq 4) xwunempl =1.

compute xwschool = 0.
if (wrkstat eq 6) xwschool =1.

compute xwhousek = 0.
if (wrkstat eq 7) xwhousek =1.

compute xregeast = 0.
if (region eq 1 or region eq 2) xregeast =1.

compute xregnort = 0.
if (region eq 3 or region eq 4) xregnort =1.

compute xregsout = 0.
if (region eq 5 or region eq 6 or region eq 7) xregsout =1.

compute xregwest = 0.
if (region eq 8 or region eq 9) xregwest =1.

compute occ0 = 0.
if (occ lt 100) occ0 = 1.

compute occ1 = 0.
if (occ lt 200 and occ ge 100) occ1 = 1.

compute occ2 = 0.
if (occ lt 300 and occ ge 200) occ2 = 1.

compute occ3 = 0.
if (occ lt 400 and occ ge 300) occ3 = 1.

compute occ4 = 0.
if (occ lt 500 and occ ge 400) occ4 = 1.

compute occ5 = 0.
if (occ lt 600 and occ ge 500) occ5 = 1.

compute occ6 = 0.
if (occ lt 700 and occ ge 600) occ6 = 1.

compute occ7 = 0.
if (occ lt 800 and occ ge 700) occ7 = 1.

compute occ8 = 0.
if (occ lt 900 and occ ge 800) occ8 = 1.

compute occ9 = 0.
if (occ lt 1000 and occ ge 900) occ9 = 1.

compute xocprof = 0.
if (occ0 eq 1 or occ1 eq 1) xocprof = 1.

```

```

compute xocmanag = 0.
if (occ2 eq 1) xocmanag = 1.

compute xocclerk = 0.
if (occ3 eq 1) xocclerk = 1.

compute xocwork = 0.
if (occ4 eq 1 or occ5 eq 1 or occ6 eq 1 or occ7 eq 1) xocwork = 1.

compute xocfarm = 0.
if (occ8 eq 1) xocfarm = 1.

compute xgvspn1 = nataid.
recode xgvspn1 (1=1) (2=.5) (3=0) (8=.5).
if (nataidy eq 1) xgvspn1 = 1.
if (nataidy eq 2 or nataidy eq 8) xgvspn1 = .5.
if (nataidy eq 3) xgvspn1 = 0.

compute xgvspn2 = natarms.
recode xgvspn2 (1=1) (2=.5) (3=0) (8=.5).
if (natarmsy eq 1) xgvspn2 = 1.
if (natarmsy eq 2 or natarmsy eq 8) xgvspn2 = .5.
if (natarmsy eq 3) xgvspn2 = 0.

compute xgvspn3 = natcity.
recode xgvspn3 (1=1) (2=.5) (3=0) (8=.5). if (natcityy eq 1) xgvspn3 = 1.
if (natcityy eq 2 or natcityy eq 8) xgvspn3 = .5.
if (natcityy eq 3) xgvspn3 = 0.

compute xgvspn4 = natcrime.
recode xgvspn4 (1=1) (2=.5) (3=0) (8=.5).
if (natcrimy eq 1) xgvspn4 = 1.
if (natcrimy eq 2 or natcrimy eq 8) xgvspn4 = .5.
if (natcrimy eq 3) xgvspn4 = 0.

compute xgvspn5 = natdrug.
recode xgvspn5 (1=1) (2=.5) (3=0) (8=.5).
if (natdrugy eq 1) xgvspn5 = 1.
if (natdrugy eq 2 or natdrugy eq 8) xgvspn5 = .5.
if (natdrugy eq 3) xgvspn5 = 0.

compute xgvspn6 = nateduc.
recode xgvspn6 (1=1) (2=.5) (3=0) (8=.5).
if (nateducy eq 1) xgvspn6 = 1.
if (nateducy eq 2 or nateducy eq 8) xgvspn6 = .5.
if (nateducy eq 3) xgvspn6 = 0.

compute xgvspn7 = natenvir.
recode xgvspn7 (1=1) (2=.5) (3=0) (8=.5).
if (natenviy eq 1) xgvspn7 = 1.
if (natenviy eq 2 or natenviy eq 8) xgvspn7 = .5.
if (natenviy eq 3) xgvspn7 = 0.

compute xgvspn8 = natfare.
recode xgvspn8 (1=1) (2=.5) (3=0) (8=.5).
if (natfarey eq 1) xgvspn8 = 1.
if (natfarey eq 2 or natfarey eq 8) xgvspn8 = .5.
if (natfarey eq 3) xgvspn8 = 0.

compute xgvspn9 = natheal.
recode xgvspn9 (1=1) (2=.5) (3=0) (8=.5).
if (nathealy eq 1) xgvspn9 = 1.
if (nathealy eq 2 or nathealy eq 8) xgvspn9 = .5.
if (nathealy eq 3) xgvspn9 = 0.
compute xgvspn10 = natmass.
recode xgvspn10 (1=1) (2=.5) (3=0) (8=.5).
compute xgvspn11 = natpark.
recode xgvspn11 (1=1) (2=.5) (3=0) (8=.5).
compute xgvspn12 = natrace.
recode xgvspn12 (1=1) (2=.5) (3=0) (8=.5).
if (natracey eq 1) xgvspn12 = 1.
if (natracey eq 2 or natracey eq 8) xgvspn12 = .5.

```

```

if (natracey eq 3) xgvspn12 = 0.
compute xgvspn13 = natroad.
recode xgvspn13 (1=1) (2=.5) (3=0) (8=.5).
compute xgvspn14 = natsoc.
recode xgvspn14 (1=1) (2=.5) (3=0) (8=.5).
compute xgvspn15 = natpac.
recode xgvspn15 (1=1) (2=.5) (3=0) (8=.5).
if (natpacy eq 1) xgvspn15 = 1.
if (natpacy eq 2 or natpacy eq 8) xgvspn15 = .5.
if (natpacy eq 3) xgvspn15 = 0.
recode xgvspn1 xgvspn2 xgvspn3 xgvspn4 xgvspn5 xgvspn6 xgvspn7 xgvspn8 xgvspn9
xgvspn10 xgvspn11 xgvspn12 xgvspn13 xgvspn14 xgvspn15 (9=sysmis).

compute g1 = (xgvspn1*-1)+1.
compute g2 = xgvspn2.
compute g3 = (xgvspn3*-1)+1.
compute g4 = (xgvspn4*-1)+1.
compute g5 = (xgvspn5*-1)+1.
compute g6 = (xgvspn6*-1)+1.
compute g7 = (xgvspn7*-1)+1.
compute g8 = (xgvspn8*-1)+1.
compute g9 = (xgvspn9*-1)+1.
compute g10 = (xgvspn10*-1)+1.
compute g11 = (xgvspn11*-1)+1.
compute g12 = (xgvspn12*-1)+1.
compute g13 = (xgvspn13*-1)+1.
compute g14 = (xgvspn14*-1)+1.
compute g15 = xgvspn15.

compute xgspend = (g1 + g2 + g3 + g4 + g5 + g6 + g7 + g8
+ g9 + g10 + g11 + g12 + g13 + g14 + g15)/13.

compute eqwlthx = (eqwlth*-1)+7.
recode eqwlthx (-2=sysmis) (-1=3).
compute xeqwlth = eqwlthx/6.

compute govhelp1 = helpblk.
compute govhelp2 = helpnot.
compute govhelp3 = helppoor.
compute govhelp4 = helpsick.
recode govhelp1 govhelp2 govhelp3 govhelp4 (1=1) (2=.75) (3,8=.5) (4=.25) (5=0) (9=sysmis).
compute xgovhelp = (govhelp1 + govhelp2 + govhelp3 + govhelp4)/4.

compute xtax = tax.
recode xtax (0,8,9=sysmis) (1=1) (2,4=.5) (3=0).

compute tol1x = colath.
compute tol2x = colcom.
compute tol3x = colhomo.
compute tol4x = colmil.
compute tol5x = colrac.
compute tol6x = libath.
compute tol7x = libcom.
compute tol8x = libhomo.
compute tol9x = libmil.
compute tol10x = librac.
compute tol11x = spkath.
compute tol12x = spkcom.
compute tol13x = spkhomo.
compute tol14x = spkmil.
compute tol15x = spkrac.
recode tol1x tol3x tol4x tol5x (4=1) (5=0) (8=.5) (9=sysmis).
recode tol2x (4=0) (5=1) (8=.5) (9=sysmis).
recode tol6x tol7x tol8x tol9x tol10x (1=0) (2=1) (8=.5) (9=sysmis).

recode tol11x tol12x tol13x tol14x tol15x (1=1) (2=0) (8=.5) (9=sysmis).
compute xtoler = (tol1x + tol2x + tol3x + tol4x + tol5x + tol6x + tol7x + tol8x + tol9x + tol10x
+ tol11x + tol12x + tol13x + tol14x + tol15x) /15.

```

*1992 Referendum Models (1992 CES)*

\*\*\* tracks \*\*\*

```
compute d92trck1 = -999.
if (refc2c eq 1) d92trck1 = 1.
if (refc2f eq 1) d92trck1 = 1.
if (refc2c eq 5) d92trck1 = 0.
if (refc2f eq 5) d92trck1 = 0.
if (refc2c eq 7) d92trck1 = 0.
if (refc2f eq 7) d92trck1 = 0.
if (refc3 eq 1) d92trck1 = 1.
if (refc3 eq 5) d92trck1 = 0.
if (refc3 eq 7) d92trck1 = 0.
recode d92trck1 (-999=sysmis).
```

\*\*\* vote intention \*\*\*

```
compute d92intle = -999.
if (refc2c eq 1) d92intle = 1.
if (refc2f eq 1) d92intle = 1.
if (refc2c eq 5) d92intle = 0.
if (refc2f eq 5) d92intle = 0.
if (refc2c eq 7) d92intle = 0.
if (refc2f eq 7) d92intle = 0.
if (refc3 eq 1) d92intle = 1.
if (refc3 eq 5) d92intle = 0.
if (refc3 eq 7) d92intle = 0.
if (refc3 eq 8) d92intle = .5.
recode d92intle (-999=sysmis).
```

\*\*\* vote \*\*\*

```
compute d92vote = prb3.
recode d92vote (5,7,8=0) (9=sysmis).
```

\*\*\* party identification \*\*\*

```
compute d92idlib = refi1c.
recode d92idlib (1=1) (2,3,4,5,6,8=0) (9=sysmis).
compute d92idpc = refi1c.
recode d92idpc (2=1) (1,3,4,5,6,8=0) (9=sysmis).
compute d92idndp = refi1c.
recode d92idndp (3=1) (1,2,4,5,6,8=0) (9=sysmis).
compute d92idref = refi1c.
recode d92idref (4=1) (1,2,3,5,6,8=0) (9=sysmis).
compute d92idbq = refi1c.
recode d92idbq (5=1) (1,2,3,4,6,8=0) (9=sysmis).
compute d92idnon = refi1c.
recode d92idnon (6=1) (1,2,3,4,5,8=0) (9=sysmis).
```

\*\*\* specific elements \*\*\*

```
compute d92dist = prc3.
recode d92dist (5=0) (8=.5) (9=sysmis).
if (refe10 eq 1) d92dist = 1.
if (refe10 eq 5) d92dist = 0.
if (refe10 eq 8) d92dist = .5.
```

```
compute d92pdist = prc3.
recode d92pdist (5=0) (8=.5) (9=sysmis).
```

```
compute d92guar = refe11.
recode d92guar (5=0) (8=.5) (9=sysmis).
```

```
compute d92pguar = prc2.
recode d92pguar (5=0) (8=.5) (9=sysmis).
```

```
compute d92selfg = refe9.
recode d92selfg (5=0) (8=.5) (9=sysmis).
```

```
compute d92pself = prc1.
```

```

recode d92pself (5=0) (8=.5) (9=sysmis).

compute d92senat = refe1.
recode d92senat (3=1) (1=0) (5=0) (8=.5) (9=-99).
if (refe2 eq 1) d92senat = 1.
if (refe2 eq 3) d92senat = 0.
if (refe2 eq 5) d92senat = 0.
if (refe2 eq 8) d92senat = .5.
if (refe2 eq 9) d92senat = -99.
if (refe3 eq 1) d92senat = 0.
if (refe3 eq 3) d92senat = 0.
if (refe3 eq 5) d92senat = 1.
if (refe3 eq 8) d92senat = .5.
if (refe3 eq 9) d92senat = -99.
recode d92senat (-99=sysmis).

*** general arguments ***

compute d92provw = refd7.
recode d92provw (3=0) (5=0) (8=.5) (9=sysmis).
if ((refprov eq 4) and (refd6 eq 1)) d92provw = 1.
if ((refprov eq 4) and (refd6 eq 3)) d92provw = 0.
if ((refprov eq 4) and (refd6 eq 5)) d92provw = 0.
if ((refprov eq 4) and (refd6 eq 8)) d92provw = .5.

compute d92satqc = refd1.
recode d92satqc (5=0) (8=.5) (9=sysmis).

compute d92best = refd3.
recode d92best (5=0) (8=.5) (9=sysmis).

compute d92move = refd4.
recode d92move (5=0) (8=.5) (9=sysmis).

compute d92fear = refd5.
recode d92fear (1,5,8,9=0).
if (refd5 eq 8) d92fear = .5.
if (reff7 eq 8) d92fear = .5.
if (((refd5 eq 1) and (reff12 eq 5)) d92fear = 1.
if (((refd5 eq 1) and (reff12 eq 7)) d92fear = 1.
if (((reff7 eq 1) and (reff12 eq 5)) d92fear = 1.
if (((reff7 eq 1) and (reff12 eq 7)) d92fear = 1.
if (((refprov eq 4) and (refd5 eq 1) and (reff11 eq 5))) d92fear = 1.
if (((refprov eq 4) and (refd5 eq 1) and (reff11 eq 7))) d92fear = 1.
if (((refprov eq 4) and (reff7 eq 1) and (reff11 eq 5))) d92fear = 1.
if (((refprov eq 4) and (reff7 eq 1) and (reff11 eq 7))) d92fear = 1.
if ((refd5 eq 9) and (refd7 eq 9)) d92fear = -99.
if ((reff12 eq 9) or (reff11 eq 9)) d92fear = -99.
recode d92fear (-99=sysmis).

*** intervenors ***

compute rf2 = refh2.
recode rf2 (998=50) (999=sysmis).
compute d92ftrud = rf2/100.

compute prf2 = prh2.
recode prf2 (998=50) (999=sysmis).
compute d92ptrud = prf2/100.

compute rf3 = refh3.
recode rf3 (998=50) (999=sysmis).
compute d92fbmul = rf3/100.

compute prf3 = prh3.
recode prf3 (998=50) (999=sysmis).
compute d92pbmul = prf3/100.

compute rf4 = refh4.
recode rf4 (998=50) (999=sysmis).
compute d92fbour = rf4/100.

```

compute prf4 = prh4.  
recode prf4 (998=50) (999=sysmis).  
compute d92pbour = prf4/100.

compute rf5 = refh5.  
recode rf5 (998=50) (999=sysmis).  
compute d92fchre = rf5/100.

compute prf5 = prh5.  
recode prf5 (998=50) (999=sysmis).  
compute d92pchre = prf5/100.

compute rf6 = refh6.  
recode rf6 (998=50) (999=sysmis).  
compute d92fmcla = rf6/100.

compute prf6 = prh6.  
recode prf6 (998=50) (999=sysmis).  
compute d92pmcla = prf6/100.

compute rf7 = refh7.  
recode rf7 (998=50) (999=sysmis).  
compute d92fprem = rf7/100.

compute prf7 = prh7.  
recode prf7 (998=50) (999=sysmis).  
compute d92pprem = prf7/100.

compute rf8 = refh8.  
recode rf8 (998=50) (999=sysmis).  
compute d92fmann = rf8/100.

compute prf8 = prh8.  
recode prf8 (998=50) (999=sysmis).  
compute d92pmann = prf8/100.

compute rf9 = refh9.  
recode rf9 (998=50) (999=sysmis).  
compute d92floug = rf9/100.

compute rf10 = refh10.  
recode rf10 (998=50) (999=sysmis).  
compute d92fbouc = rf10/100.

compute prf10 = prh10.  
recode prf10 (998=50) (999=sysmis).  
compute d92pbouc = prf10/100.

compute rf11 = refh11.  
recode rf11 (998=50) (999=sysmis).  
compute d92fpari = rf11/100.

compute prf11 = prh11.  
recode prf11 (998=50) (999=sysmis).  
compute d92ppari = prf11/100.

compute rf26 = refh26.  
recode rf26 (998=50) (999=sysmis).  
compute d92fcan = rf26/100.

compute prf26 = prh26.  
recode prf26 (998=50) (999=sysmis).  
compute d92pcan = prf26/100.

compute rf27 = refh27.  
recode rf27 (998=50) (999=sysmis).  
compute d92fque = rf27/100.

compute prf27 = prh27.  
recode prf27 (998=50) (999=sysmis).  
compute d92pque = prf27/100.

```

compute rf31 = refh31.
recode rf31 (998=50) (999=sysmis).
compute d92fwom = rf31/100.

compute rf32 = refh32.
recode rf32 (998=50) (999=sysmis).
compute d92fbusi = rf32/100.

compute rf34 = refh34.
recode rf34 (998=50) (999=sysmis).
compute d92funio = rf34/100.

compute d92fothl = (d92fchre + d92fmcla + d92fprem)/3.

compute d92pothl = (d92pchre + d92pmcla + d92pprem)/3.

*** sentiments ***

compute d92found = refh16.
recode d92found (1=5) (5,7,8=0) (9=-99).
if (refh17 eq 1) d92found = 1.
if (refh17 eq 9) d92found = -99.
recode d92found (-99=sysmis).

compute d92minor = refh20.
recode d92minor (1=0) (5=1) (8=.5) (9=sysmis).

*** demographics ***

compute d92male = refrgen .
recode d92male (5=0).

compute d92patl = refprov.
recode d92patl (0,1,2,3=1) (4,5,6,7,8,9=0).
compute d92pqc = refprov.
recode d92pqc (4=1) (0,1,2,3,5,6,7,8,9=0).
compute d92pont = refprov.
recode d92pont (5=1) (0,1,2,3,4,6,7,8,9=0).
compute d92ppra = refprov.
recode d92ppra (6,7,8=1) (0,1,2,3,4,5,9=0).
compute d92pbc = refprov.
recode d92pbc (9=1) (0,1,2,3,4,5,6,7,8=0).

compute d92lfran = refn16.
recode d92lfran (3,5,98=0) (99=sysmis).
compute d92lengl = refn16.
recode d92lengl (3=1) (1,5,98=0) (99=sysmis).

compute d92union = refn8.
recode d92union (5=0) (8=.5) (9=sysmis).

compute d92age = 1992 - refn1.
recode d92age (-8007,-8006=sysmis).
compute d92age55 = -99.
if (d92age lt 55) d92age55 = 0.
if (d92age gt 54) d92age55 = 1.
recode d92age55 (-99=sysmis).

compute d92rprot = refn9.
recode d92rprot (2,3,5,7,98=0) (99=sysmis).
compute d92rcath = refn9.
recode d92rcath (2=1) (1,3,5,7,98=0) (99=sysmis).
compute d92roth = refn9.
recode d92roth (3,5=1) (1,2,7,98=0) (99=sysmis).
compute d92rnone = refn9.
recode d92rnone (7=1) (1,2,3,5,98=0) (99=sysmis).

compute d92educ1 = refn2.
recode d92educ1 (1,2,3,4=1) (5,6,7,8,9,10,11,98=0) (99=sysmis).
compute d92educ2 = refn2.
recode d92educ2 (5=1) (1,2,3,4,6,7,8,9,10,11,98=0) (99=sysmis).
compute d92educ3 = refn2.

```



```

recode d92educ3 (6,7=1) (1,2,3,4,5,8,9,10,11,98=0) (99=sysmis).
compute d92educ4 = refn2.
recode d92educ4 (8,9,10,11=1) (1,2,3,4,5,6,7,98=0) (99=sysmis).

compute d92inco = refn19.
if (refn18 lt 20) d92inco = 1.
if ((refn18 gt 19) and (refn18 lt 30)) d92inco = 2.
if ((refn18 gt 29) and (refn18 lt 40)) d92inco = 3.
if ((refn18 gt 39) and (refn18 lt 50)) d92inco = 4.
if ((refn18 gt 49) and (refn18 lt 60)) d92inco = 5.
if ((refn18 gt 59) and (refn18 lt 70)) d92inco = 6.
if ((refn18 gt 69) and (refn18 lt 80)) d92inco = 7.
if ((refn18 gt 79) and (refn18 lt 90)) d92inco = 8.
if ((refn18 gt 89) and (refn18 lt 100)) d92inco = 9.
if ((refn18 gt 99) and (refn18 lt 998)) d92inco = 10.
recode d92inco (98,99=sysmis).

compute d92inco1 = d92inco.
recode d92inco1 (1,2,3=1) (4,5,6,7,8,9,10=0).
compute d92inco2 = d92inco.
recode d92inco2 (4,5,6=1) (1,2,3,7,8,9,10=0).
compute d92inco3 = d92inco.
recode d92inco3 (7,8=1) (1,2,3,4,5,6,9,10=0).
compute d92inco4 = d92inco.
recode d92inco4 (9,10=1) (1,2,3,4,5,6,7,8=0).

compute d92unemp = refn3.
recode d92unemp (2,3=1) (1,4,5,6,7,8=0) (9=sysmis).

compute d92worse=prf1.
recode d92worse (3=1) (1,5,8=0) (9=sysmis).

compute d92etbri = refn13.
recode d92etbri (1,2,3,4=1) (99=sysmis)
(0,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,98=0).
compute d92etfre = refn13.
recode d92etfre (8=1) (99=sysmis)
(0,1,2,3,4,5,6,7,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,98=0).
compute d92etneu = refn13.
recode d92etneu (7,9,18,22=1) (99=sysmis)
(0,1,2,3,4,5,6,8,10,11,12,13,14,15,16,17,19,20,21,23,24,25,26,27,28,29,30,98=0).
compute d92etseu = refn13.
recode d92etseu (10,13,20=1) (99=sysmis)
(0,1,2,3,4,5,6,7,8,9,11,12,14,15,16,17,18,19,21,22,23,24,25,26,27,28,29,30,98=0).
compute d92eteeu = refn13.
recode d92eteeu (6,11,19,21,23,26=1) (99=sysmis)
(0,1,2,3,4,5,7,8,9,10,12,13,14,15,16,17,18,20,22,24,25,27,28,29,30,98=0).
compute d92etnon = refn13.
recode d92etnon (5,12,14,17,24,25,27,28,30=1) (99=sysmis)
(0,1,2,3,4,6,7,8,9,10,11,13,15,16,18,19,20,21,22,23,26,29,98=0).

*** Quebec variables ***

compute d92supsv=reff11.
recode d92supsv (3=.75) (0,8=.5) (5=.25) (7=0) (9=sysmis).

compute d92reduc=refd2.
recode d92reduc (5=0) (8=.5) (9=sysmis).

compute d92threa = refe12.
recode d92threa (5=0) (8=.5) (9=sysmis).

compute d92econ=reff14.
recode d92econ (1=0) (3=1) (5,8=.5) (9=sysmis).

compute d92lnonf=refn16.
recode d92lnonf (1=0) (3,5,0=1) (98,99=sysmis).

```

*1993 Canadian Election Models (1993 CES)*

\* IDEOLOGICAL VARIABLES \*

```
RECODE
  cpsg11 (1=1) (3=.75) (5=.25) (7=0) (0,8=.5) (9=sysmis) into d93supsv.
```

```
RECODE
  mbsd1 mbsd2 mbsd5 mbsd8 mbsd9 mbsd13
  (1=1) (2=.75) (3=.25) (4=0) (8=.5) INTO alie_d1 alie_d2 alie_d5
  alie_d8 alie_d9 alie_d13.
```

```
RECODE
  mbse10
  (1=0) (2=.25) (3=.75) (4=1) (8=.5) INTO alie_e10.
```

```
RECODE
  mbsh1 mbsh2
  (1=1) (2=.5) (3=0) (8=.5) INTO alie_h1 alie_h2.
```

```
RECODE
  mbsh3
  (1=0) (2=.5) (3=1) (8=.5) INTO alie_h3.
```

```
COMPUTE d93popul = ( alie_d1 + alie_d2 + alie_d5 + alie_d8 + alie_d9
  + alie_d13 + alie_e10 + alie_h1 + alie_h2 + alie_h3 ) / 10.
```

```
RECODE
  cpsk3a
  (1=0) (2=.25) (3=.5) (4=.75) (5=1) (0,8=.5) (9=sysmis) INTO antimi_1.
```

```
RECODE
  mbsd14
  (1=1) (2=.75) (3=.25) (4=0) (8=.5) INTO antimi_2.
```

```
COMPUTE d93anmin = (antimi_1 + antimi_2) / 2.
```

```
COMPUTE antf_d3 = cpsd3.
recode antf_d3 (1=0) (3=.25) (5=.75) (7=1) (8=.5) (9=sysmis).
COMPUTE antf_f1a = cpsf1a.
recode antf_f1a (1=0) (2=.25) (3=.5) (4=.75) (5=1) (0,8=.5) (9=sysmis).
COMPUTE antf_d16 = mbsd16.
recode antf_d16 (1=1) (2=.75) (3=.25) (4=0) (8=.5).
```

```
COMPUTE d93anfre = (antf_d3 + antf_f1a + antf_d16) / 3.
```

```
COMPUTE ante_g5 = cpsg5.
recode ante_g5 (1=0) (3=1) (5,8=.5) (9=sysmis).
COMPUTE ante_g8 = cpsg8a.
recode ante_g8 (1=0) (2=1) (8=.5) (9=sysmis).
if (cpsg8b eq 1) ante_g8 = 1.
if (cpsg8b eq 2) ante_g8 = 0.
if (cpsg8b eq 8) ante_g8 = 99.
if (cpsg8b eq 9) ante_g8 = 999.
recode ante_g8 (99=.5).
recode ante_g8 (999=sysmis).
COMPUTE ante_a19 = mbsa19.
recode ante_a19 (1=1) (2=.75) (3=.25) (4=0) (8=.5).
COMPUTE ante_e7 = mbse7.
recode ante_e7 (1=0) (2=1) (8=.5).
COMPUTE ante_e9 = mbse9.
recode ante_e9 (1=1) (2=0) (8=.5).
COMPUTE ante_g6 = mbsg6.
recode ante_g6 (1=1) (2=.75) (3=.25) (4=0) (8=.5).
```

```
COMPUTE d93aneth = (ante_g5 + ante_g8 + ante_a19
  + ante_e7 + ante_e9 + ante_g6) / 6.
```

```
COMPUTE mora_g6 = cpsg6a.
recode mora_g6 (1=1) (2=.5) (3=0) (8=.5) (9=sysmis).
if (cpsg6b eq 1) mora_g6 = 99.
if (cpsg6b eq 2) mora_g6 = 0.
if (cpsg6b eq 3) mora_g6 = 1.
if (cpsg6b eq 8) mora_g6 = 99.
if (cpsg6b eq 9) mora_g6 = 999.
if (cpsg6c eq 1) mora_g6 = 0.
```

```

if (cpsg6c eq 2) mora_g6 = 1.
if (cpsg6c eq 3) mora_g6 = 99.
if (cpsg6c eq 8) mora_g6 = 99.
if (cpsg6c eq 9) mora_g6 = 999.
recode mora_g6 (99=.5).
recode mora_g6 (999=sysmis).
RECODE
  cpsg7b
  (1=0) (3=.25) (5=.75) (7=1) (8=.5) (9=sysmis) INTO mora_g7b.
RECODE
  cpsg7e
  (1=1) (3=.75) (5=.25) (7=0) (8=.5) (9=sysmis) INTO mora_g7e.
RECODE
  mbsa15 mbsa18
  (1=1) (2=.75) (3=.25) (4=0) (8=.5) INTO mora_a15 mora_a18.
COMPUTE unfe_g7a = cpsg7a.
recode unfe_g7a (1=1) (3=.75) (5=.25) (7=0) (8=.5) (9=sysmis).
COMPUTE unfe_a6 = mbsa6.
recode unfe_a6 (1=1) (2=.75) (3=.25) (4=0) (8=.5).
COMPUTE unfe_g9 = mbsg9.
recode unfe_g9 (1=1) (2=.75) (3=.25) (4=0) (8=.5).

COMPUTE d93mortr = ( mora_g6 + mora_g7b + mora_g7e + mora_a15 +
  mora_a18 + unfe_g7a + unfe_a6 + unfe_g9 ) / 8.

RECODE
  mbsa3 mbsa8 mbsa11
  (1=0) (2=.25) (8=.5) (3=.75) (4=1) INTO cap_a3 cap_a8
  cap_a11.
RECODE
  mbsa2 mbsa4 mbsa5 mbsa13 mbsa14
  (8=.5) (1=1) (4=0) (2=.75) (3=.25) INTO cap_a2 cap_a4 cap_a5
  cap_a13 cap_a14.
RECODE
  mbsb2 mbsb3 mbsb4
  (1=0) (8=.5) (2=1) (ELSE=SYSMIS) INTO cap_b2 cap_b3 cap_b4.
RECODE
  mbsb1 mbsb7
  (8=.5) (1=1) (2=0) (ELSE=SYSMIS) INTO cap_b1 cap_b7.

COMPUTE d93capit = (cap_a3 + cap_a8 + cap_a11 + cap_a2 + cap_a4
  + cap_a5 + cap_a13 + cap_a14 + cap_b2 + cap_b3 + cap_b4
  + cap_b1 + cap_b7) / 13.

RECODE
  cpsk1a
  (1=0) (2=.25) (3=.5) (4=.75) (5=1) (0,8=.5) (9=sysmis) INTO antu_k1a.
RECODE
  mbsa9
  (1=1) (2=.75) (8=.5) (3=.25) (4=0) INTO antu_a9.
COMPUTE d93anuni = ( antu_k1a + antu_a9 ) / 2.
RECODE
  cpsf2a
  (1=1) (2=.75) (3=.5) (4=.25) (5=0) (0,8=.5) (9=sysmis) INTO cont_f2a.
RECODE
  cpsl1 cpsl3
  (1=1) (3=0) (0,5,8=.5) (9=sysmis) INTO cont_l1 cont_l3.
COMPUTE d93conti = ( cont_f2a + cont_l1 + cont_l3 ) / 3.
RECODE
  cpsl6a
  (1=1) (5=0) (7,8=.5) (9=sysmis) INTO antd_l6a.
RECODE
  pese8 pese9
  (1=1) (3=.75) (5=.25) (7=0) (8=.5) (9=sysmis) INTO prkey_e8
  prkey_e9.
COMPUTE unem_l9 = cpsl9a.
recode unem_l9 (1=0) (2=1) (8=.5) (9=sysmis).
if (cpsl9b eq 1) unem_l9 = 1.
if (cpsl9b eq 2) unem_l9 = 0.
if (cpsl9b eq 8) unem_l9 = 99.
if (cpsl9b eq 9) unem_l9 = 999.
recode unem_l9 (99=.5).

```

```

recode unem_l9 (999=sysmis).
COMPUTE unem_e4 = pese4a.
recode unem_e4 (1=0) (2=1) (8=.5) (9=sysmis).
if (pese4b eq 1) unem_e4 = 1.
if (pese4b eq 2) unem_e4 = 0.
if (pese4b eq 8) unem_e4 = 99.
if (pese4b eq 9) unem_e4 = 999.
recode unem_e4 (99=.5).
recode unem_e4 (999=sysmis).
RECODE
  pese13
  (1=0) (3=.25) (5=.75) (7=1) (8=.5) (9=sysmis) INTO unem_e13.

COMPUTE d93macro = ( antd_l6a + prkey_e8 + prkey_e9 + unem_l9 +
  unem_e4 + unem_e13 ) / 6.

RECODE
  cpsl5a
  (1=1) (2=0) (8=.5) (9=sysmis) INTO antw_l5.
if (cpsl5b eq 1) antw_l5 = 0.
if (cpsl5b eq 2) antw_l5 = 1.
if (cpsl5b eq 8) antw_l5 = 99.
if (cpsl5b eq 9) antw_l5 = 999.
recode antw_l5 (99=.5).
recode antw_l5 (999=sysmis).
RECODE
  cpsl7b cpsl7d cpsl7e
  (1=1) (3=.5) (5=0) (8=.5) (9=sysmis) INTO antw_l7b antw_l7d
  antw_l7e.

COMPUTE d93anwel = (antw_l5 + antw_l7b + antw_l7d + antw_l7e) / 4.

*      Party id. variables      *

compute d93idlib = 0.
if (cpsm1 eq 1) d93idlib = 1.
if (cpsm1 eq 9) d93idlib = 999.

compute d93idcon = 0.
if (cpsm1 eq 2) d93idcon = 1.
if (cpsm1 eq 9) d93idcon = 999.

compute d93idndp = 0.
if (cpsm1 eq 3) d93idndp = 1.
if (cpsm1 eq 9) d93idndp = 999.

compute d93idref = 0.
if (cpsm1 eq 4) d93idref = 1.
if (cpsm1 eq 9) d93idref = 999.

compute d93idbqc = 0.
if (cpsm1 eq 5) d93idbqc = 1.
if (cpsm1 eq 9) d93idbqc = 999.

recode d93idlib d93idcon d93idndp d93idref d93idbqc (999=sysmis).

*** 1993 Vote Intentions ***

compute d93intpc = -999.
if (cpsa3 eq 0) d93intpc = 0.
if (cpsa4 eq 0) d93intpc = 0.
if (cpsa3 eq 1) d93intpc = 1.
if (cpsa4 eq 1) d93intpc = 1.
if (cpsa3 eq 2) d93intpc = 0.
if (cpsa4 eq 2) d93intpc = 0.
if (cpsa3 eq 3) d93intpc = 0.
if (cpsa4 eq 3) d93intpc = 0.
if (cpsa3 eq 4) d93intpc = 0.
if (cpsa4 eq 4) d93intpc = 0.
if (cpsa3 eq 5) d93intpc = 0.
if (cpsa4 eq 5) d93intpc = 0.

```

```

compute d93intli = -999.
if (cpsa3 eq 0) d93intli = 0.
if (cpsa4 eq 0) d93intli = 0.
if (cpsa3 eq 1) d93intli = 0.
if (cpsa4 eq 1) d93intli = 0.
if (cpsa3 eq 2) d93intli = 1.
if (cpsa4 eq 2) d93intli = 1.
if (cpsa3 eq 3) d93intli = 0.
if (cpsa4 eq 3) d93intli = 0.
if (cpsa3 eq 4) d93intli = 0.
if (cpsa4 eq 4) d93intli = 0.
if (cpsa3 eq 5) d93intli = 0.
if (cpsa4 eq 5) d93intli = 0.

compute d93intnd = -999.
if (cpsa3 eq 0) d93intnd = 0.
if (cpsa4 eq 0) d93intnd = 0.
if (cpsa3 eq 1) d93intnd = 0.
if (cpsa4 eq 1) d93intnd = 0.
if (cpsa3 eq 2) d93intnd = 0.
if (cpsa4 eq 2) d93intnd = 0.
if (cpsa3 eq 3) d93intnd = 1.
if (cpsa4 eq 3) d93intnd = 1.
if (cpsa3 eq 4) d93intnd = 0.
if (cpsa4 eq 4) d93intnd = 0.
if (cpsa3 eq 5) d93intnd = 0.
if (cpsa4 eq 5) d93intnd = 0.

compute d93intre = -999.
if (cpsa3 eq 0) d93intre = 0.
if (cpsa4 eq 0) d93intre = 0.
if (cpsa3 eq 1) d93intre = 0.
if (cpsa4 eq 1) d93intre = 0.
if (cpsa3 eq 2) d93intre = 0.
if (cpsa4 eq 2) d93intre = 0.
if (cpsa3 eq 3) d93intre = 0.
if (cpsa4 eq 3) d93intre = 0.
if (cpsa3 eq 4) d93intre = 1.
if (cpsa4 eq 4) d93intre = 1.
if (cpsa3 eq 5) d93intre = 0.
if (cpsa4 eq 5) d93intre = 0.

compute d93intbq = -999.
if (cpsa3 eq 0) d93intbq = 0.
if (cpsa4 eq 0) d93intbq = 0.
if (cpsa3 eq 1) d93intbq = 0.
if (cpsa4 eq 1) d93intbq = 0.
if (cpsa3 eq 2) d93intbq = 0.
if (cpsa4 eq 2) d93intbq = 0.
if (cpsa3 eq 3) d93intbq = 0.
if (cpsa4 eq 3) d93intbq = 0.
if (cpsa3 eq 4) d93intbq = 0.
if (cpsa4 eq 4) d93intbq = 0.
if (cpsa3 eq 5) d93intbq = 1.
if (cpsa4 eq 5) d93intbq = 1.

recode d93intpc d93intli d93intnd d93intre d93intbq (-999=sysmis).

* Vote (Election) Variables *

compute d93votpc = 0 .
if (pesa4 eq 1) d93votpc = 1 .
compute d93votli = 0 .
if (pesa4 eq 2) d93votli = 1 .
compute d93votnd = 0 .
if (pesa4 eq 3) d93votnd = 1 .
compute d93votre = 0 .
if (pesa4 eq 4) d93votre = 1 .
compute d93votbq = 0 .
if (pesa4 eq 5) d93votbq = 1 .
if ((pesa4 ge 97) or (pesa2 ge 5)) d93votpc = 9 .
if ((pesa4 ge 97) or (pesa2 ge 5)) d93votli = 9 .

```

```

if ((pesa4 ge 97) or (pesa2 ge 5)) d93votnd = 9 .
if ((pesa4 ge 97) or (pesa2 ge 5)) d93votre = 9 .
if ((pesa4 ge 97) or (pesa2 ge 5)) d93votbq = 9 .
recode d93votpc d93votli d93votnd d93votre d93votbq (9=sysmis).

```

**\*\* leader ratings \*\***

```

compute d2a = cpsd2a.
recode d2a (998=50) (999=sysmis).
compute d93fcamp = d2a/100.

```

```

compute d2b = cpsd2b.
recode d2b (998=50) (999=sysmis).
compute d93fchre = d2b/100.

```

```

compute d2c = cpsd2c.
recode d2c (998=50) (999=sysmis).
compute d93fmcla = d2c/100.

```

```

compute d2d = cpsd2d.
recode d2d (998=50) (999=sysmis).
compute d93fmann = d2d/100.

```

```

compute d2e = cpsd2e.
recode d2e (998=50) (999=sysmis).
compute d93fbouc = d2e/100.

```

```

compute d2f = cpsd2f.
recode d2f (998=50) (999=sysmis).
compute d93fbmul = d2f/100.

```

```

compute pd2a = pesd2a.
recode pd2a (998=50) (999=sysmis).
compute d93pcamp = pd2a/100.

```

```

compute pd2b = pesd2b.
recode pd2b (998=50) (999=sysmis).
compute d93pchre = pd2b/100.

```

```

compute pd2c = pesd2c.
recode pd2c (998=50) (999=sysmis).
compute d93pmcla = pd2c/100.

```

```

compute pd2d = pesd2d.
recode pd2d (998=50) (999=sysmis).
compute d93pmann = pd2d/100.

```

```

compute pd2e = pesd2e.
recode pd2e (998=50) (999=sysmis).
compute d93pbouc = pd2e/100.

```

**\*\*\* Demographics \*\*\***

**\*RELIGION VARIABLES (ALL RESPONDENTS).\***

```

compute d93rprot = cpso9.
recode d93rprot (1=1) (2,3,5,7,97,98=0) (99=sysmis).
compute d93rcath = cpso9.
recode d93rcath (2=1) (1,3,5,7,97,98=0) (99=sysmis).
compute d93roth = cpso9.
recode d93roth (3,5=1) (1,2,7,97,98=0) (99=sysmis).
compute d93rnone = cpso9.
recode d93rnone (97=1) (1,2,3,5,98=0) (99=sysmis).

```

**\* R's EDUCATION LEVEL \***

```

DO IF (cpspanel eq 1).
COMPUTE d93educ=cps03.
ELSE IF (cpspanel eq 2).
COMPUTE d93educ=refn2.
END IF.
MISSING VALUES d93educ (98 99).

```

value labels d93educ (1) No Schooling (2) Some Elementary  
 (3) Complete Elementary (4) Some Sec, HS  
 (5) Complete Sec HS (6) Some Tech, CC (7) Completed Tech, CC  
 (8) Some University (9) Bachelors (10) Masters (11) Profesnl, PhD  
 (98) Don't Know (99) Refused.

RECODE d93educ (1,2,3,4=1) (5,6,7,8,9,10,11,98=0) (99=sysmis) INTO d93educ1.  
 RECODE d93educ (5=1) (1,2,3,4,6,7,8,9,10,11,98=0) (99=sysmis) INTO d93educ2.  
 RECODE d93educ (6,7=1) (1,2,3,4,5,8,9,10,11,98=0) (99=sysmis) INTO d93educ3.  
 RECODE d93educ (8,9,10,11=1) (1,2,3,4,5,6,7,98=0) (99=sysmis) INTO d93educ4.

\* R's EMPLOYMENT/INCOME \*

MISSING VALUES cpso18 (998 999) cpso18a (98 99).  
 IF (cpsjob1 lt 2) or (cpsjob1 gt 3) d93unemp=0.  
 IF any(cpsjob1,2,3) d93unemp=1.

compute d93inco = cpso18a.  
 if (cpso18 lt 20) d93inco = 1.  
 if ((cpso18 gt 19) and (cpso18 lt 30)) d93inco = 2.  
 if ((cpso18 gt 29) and (cpso18 lt 40)) d93inco = 3.  
 if ((cpso18 gt 39) and (cpso18 lt 50)) d93inco = 4.  
 if ((cpso18 gt 49) and (cpso18 lt 60)) d93inco = 5.  
 if ((cpso18 gt 59) and (cpso18 lt 70)) d93inco = 6.  
 if ((cpso18 gt 69) and (cpso18 lt 80)) d93inco = 7.  
 if ((cpso18 gt 79) and (cpso18 lt 90)) d93inco = 8.  
 if ((cpso18 gt 89) and (cpso18 lt 100)) d93inco = 9.  
 if ((cpso18 gt 99) and (cpso18 lt 998)) d93inco = 10.  
 recode d93inco (98,99=sysmis).

compute d93inco1 = d93inco.  
 recode d93inco1 (1,2=1) (3,4,5,6,7,8,9,10=0).  
 compute d93inco2 = d93inco.  
 recode d93inco2 (3,4,5=1) (1,2,6,7,8,9,10=0).  
 compute d93inco3 = d93inco.  
 recode d93inco3 (6,7,8,9,10=1) (1,2,3,4,5=0).

\* PROVINCE/REGION \*

COMPUTE province=cpsprov.  
 IF (reftype ge 1) province=refprov.  
 value labels province (0) Nfld (1) PEI (2) NS (3) NB  
 (4) Quebec (5) Ontario (6) Manitoba (7) Sask (8) Alberta (9) BC.

RECODE province (0 thru 3=1)(4=2)(5=3)(6 7 8=4)(9=5) INTO region.  
 value labels region (1) Atlantic (2) Quebec (3) Ontario  
 (4) Prairies (5) BC.

COMPUTE d93pratl=0.  
 COMPUTE d93prque=0.  
 COMPUTE d93pront=0.  
 COMPUTE d93prpra=0.  
 COMPUTE d93prbc=0.  
 IF (region eq 1) d93pratl=1.  
 IF (region eq 2) d93prque=1.  
 IF (region eq 3) d93pront=1.  
 IF (region eq 4) d93prpra=1.  
 IF (region eq 5) d93prbc=1.

\* GENDER \*

IF (cpsrgen ne 5) d93woman=0.  
 IF (cpsrgen eq 5) d93woman=1.

\* UNION MEMBERSHIP \*

COMPUTE d93union=cpsjob6.  
 if (reftype ge 1) d93union=refn8.  
 value labels d93union (1) Yes (5) No  
 (8) D.K. (9) Refused.  
 MISSING VALUES d93union (8 9).  
 RECODE d93union (1=1) (5=0).

\* Ethnicity \*

```
COMPUTE ethnic=cps013.
RECODE ethnic (1,2,3,4=1) (8=2) (7,9,18,22=3) (6,11,15,19,21,23,26=4)
(10,13,20=5) (5,12,14,17,24,25,28,30=6) (16=7) (0,27,29,98,99=8) .
value labels ethnic (1)british (2)french (3)n europe (4)e europe (5)s europe (6)nonwhite (7)aboriginal (8)other or unspecified.
missing value ethnic (8).
```

```
COMPUTE d93etfra=0.
IF (ethnic eq 2)d93etfra=1.
COMPUTE d93etneu=0.
IF (ethnic eq 3)d93etneu=1.
COMPUTE d93eteeu=0.
IF (ethnic eq 4)d93eteeu=1.
COMPUTE d93etseu=0.
IF (ethnic eq 5)d93etseu=1.
COMPUTE d93etvis=0.
IF (ethnic eq 6)d93etvis=1.
```

```
COMPUTE d93lnonf = 0.
if (cps015 eq 3) d93lnonf = 1.
if (cps015 eq 5) d93lnonf = 1.
if (cps015 eq 98) d93lnonf=-99.
if (cps015 eq 99) d93lnonf=-99.
recode d93lnonf (-99=sysmis).
if (refn15 eq 3) d93lnonf = 1.
if (refn15 eq 5) d93lnonf = 1.
```

\* AGE \*

```
recode cpsage (9997,9998,9999=sysmis).
compute elage = 1993 - cpsage.
compute age = -99999.
if (elage ge 18) and (elage lt 25) age=1.
if (elage ge 25) and (elage lt 30) age=2.
if (elage ge 30) and (elage lt 35) age=3.
if (elage ge 35) and (elage lt 40) age=4.
if (elage ge 40) and (elage lt 45) age=5.
if (elage ge 45) and (elage lt 50) age=6.
if (elage ge 50) and (elage lt 55) age=7.
if (elage ge 55) and (elage lt 60) age=8.
if (elage ge 60) and (elage lt 65) age=9.
if (elage ge 65) and (elage lt 70) age=10.
if (elage ge 70) and (elage lt 75) age=11.
if (elage ge 75) and (elage lt 80) age=12.
if (elage ge 80) and (elage lt 85) age=13.
if (elage ge 85) and (elage lt 99) age=14.
value labels age (1) 18-24 (2) 25-29 (3) 30-34 (4) 35-39 (5) 40-44 (6) 45-49
(7) 50-54 (8) 55-59 (9) 60-64 (10) 65-69 (11) 70-74 (12) 75-79 (13) 80-84
(14) 85+.
recode age (-99999=sysmis).
```

```
recode age (1=1) (sysmis=sysmis) (else=0) into d93age18.
recode age (2,3,4=1) (sysmis=sysmis) (else=0) into d93age25.
recode age (5,6=1) (sysmis=sysmis) (else=0) into d93age40.
recode age (7,8,9=1) (sysmis=sysmis) (else=0) into d93age50.
recode age (10,11,12,13,14=1) (sysmis=sysmis) (else=0) into d93age65.
```

```
compute d93marry=cps02.
recode d93marry (1=1) (2,3,4,5,6,8=0) (9=sysmis).
```



*1997 Canadian Election Models (1997 CES)*

```

recode pesa4 (1=1) (97,98,99=sysmis) (0,2 thru 5=0) into Liberal.
recode pesa4 (2=1) (97,98,99=sysmis) (0,1,3 thru 5=0) into PC.
recode pesa4 (3=1) (97,98,99=sysmis) (0 thru 2,4,5=0) into NDP.
recode pesa4 (4=1) (97,98,99=sysmis) (0 thru 3,5=0) into Reform.
recode pesa4 (5=1) (97,98,99=sysmis) (0 thru 4=0) into Bloc.

recode cpsa4 (1=1) (96,97,98,99=sysmis) (0,2 thru 5=0) into intLIB.
if (cpsa5 eq 0) intLIB = 0.
if (cpsa5 eq 1) intLIB = 1.
if (cpsa5 ge 2 and cpsa5 le 5) intLIB = 0.
recode cpsa4 (2=1) (96,97,98,99=sysmis) (0,1,3 thru 5=0) into intPC.
if (cpsa5 le 1) intPC = 0.
if (cpsa5 eq 2) intPC = 1.
if (cpsa5 ge 3 and cpsa5 le 5) intPC = 0.
recode cpsa4 (3=1) (96,97,98,99=sysmis) (0 thru 2,4,5=0) into intNDP.
if (cpsa5 le 2) intNDP = 0.
if (cpsa5 eq 3) intNDP = 1.
if (cpsa5 ge 4 and cpsa5 le 5) intNDP = 0.
recode cpsa4 (4=1) (96,97,98,99=sysmis) (0 thru 3,5=0) into intREF.
if (cpsa5 le 3) intREF = 0.
if (cpsa5 eq 4) intREF = 1.
if (cpsa5 eq 5) intREF = 0.
recode cpsa4 (5=1) (96,97,98,99=sysmis) (0 thru 4=0) into intBQ.
if (cpsa5 le 4) intBQ = 0.
if (cpsa5 eq 5) intBQ = 1.

recode province (10 thru 13=1) (24=2) (35=3) (46 thru 48=4)
(59=5) (60,61=6) into region.
value labels region 1 'Atlantic' 2 'Quebec' 3 'Ontario' 4 'Prairies'
5 'BC' 6 'territory'.
recode region (1=1) (2 thru 6=0) into atlantic.
recode region (2=1) (1,3 thru 6=0) into Quebec.
recode region (3=1) (1,2,4 thru 6=0) into Ontario.
recode region (4,5=1) (1 thru 3,6=0) into West.
recode region (1 thru 3,5,6=0) (4=1) into prairies.
recode region (1 thru 4,6=0) (5=1) into BC.
recode region (1 thru 5=0) (6=1) into territory.
recode cpsrgen (1=1) (5=0) into male.
missing values cpsage (9999).

compute genboom = 0.
if (cpsage >= 1946) and (cpsage <= 1962) genboom = 1.
compute genx = 0.
if (cpsage >= 1963) and (cpsage <= 1979) genx = 1.

string temp (a1).
compute temp=substr(postcode,2,1).
recode temp ('1','2','3','4','5','6','7','8','9'=0)('0'=1)
into ruralurb.
print formats ruralurb (f1.0).
write formats ruralurb (f1.0).
variable labels RURALURB 'Rural Or Urban Place of Residence'.
value labels RURALURB 0 'Urban' 1 'Rural/'.

recode cpsm2 (1,2=1) (8,9=sysmis) (3 thru 7=0) into married.
recode cpsm2 (1=1) (8,9=sysmis) (2 thru 7=0) into tradmrry.
recode cpsm3 (1 thru 4=1) (98,99=sysmis) (5 thru 11=0) into dropout.
recode cpsm3 (9 thru 11=1) (98,99=sysmis) (0 thru 8=0) into univgrad.
missing values cpsm3 (98,99).
compute school=cpsm3/11.
recode cpsm4 (2,3=1) (98,99=sysmis) (1,4 thru 8=0) into laidoff.
recode cpsm4 (1,8=1) (98,99=sysmis) (2 thru 7=0) into employed.
recode cpsm7 (3,5,7=1) (8,9=sysmis) (0,1=0) into public.
if (cpsm4 eq 8) public=0.
if (cpsm6 ge 9991 and cpsm6 le 9997) public=0.
comment PUBLIC includes former employment of unemployed/laid off/
retirees and main earner's employment for homemakers/disabled/
students.
recode cpsm9 (1=1) (8,9=sysmis) (5=0) into union.
recode cpsm10 (2=1) (98,99=sysmis) (0,1,3 thru 5=0) into catholic.

```

```

recode cpsm10 (1=1) (98,99=sysmis) (0,2 thru 5=0) into protest.
recode cpsm10 (3 thru 97=1) (0 thru 2=0) into othrelig.
recode cpsm10 (0=1) (98,99=sysmis) (1 thru 5=0) into norelig.
recode cpsm11 (1=0) (98,99=sysmis) (0,2 thru 97=1) into foreign.
recode cpsm13 (98,99=sysmis) (7,9,18=1)(22=1) (10,13,20=2) (6,11,15=3)
(19,21,23=3) (8=4) (0,5,12=5) (14,16,17=5) (24 thru 27,29=5)
(1 thru 4,31=6) (28=7) (30=8) into origin.
value labels origin 1 'northeur' 2 'southeur' 3 'easteur' 4 'french'
5 'noneurop' 6 'british' 7 'canada' 8 'othereur'.
recode origin (7,8=sysmis) (1=1) (2 thru 6=0) into northeur.
recode origin (7,8=sysmis) (2=1) (1,3 thru 6=0) into southeur.
recode origin (7,8=sysmis) (3=1) (1,2,4 thru 6=0) into easteur.
recode origin (7,8=sysmis) (5=1) (1 thru 4,6=0) into noneurop.
recode origin (7,8=sysmis) (4=1) (1 thru 3,5,6=0) into french.
recode cpsm15 (1=1) (98,99=sysmis) (0,5 thru 27=0) into frnchng.
recode cpsm15 (0,10 thru 27=1) (98,99=sysmis) (1,5=0) into otherng.
recode cpsm15 (1=0) (0,5 thru 27=1) (98,99=sysmis) into notfrng.
recode cpsm16 (0 thru 19=1) (20 thru 29=2) (30 thru 39=3) (40 thru 49=4)
(50 thru 59=5) (60 thru 69=6) (70 thru 79=7) (80 thru 89=8) (90 thru 99=9)
(100 thru 997=10) (998=98) (999=999) into incomcat.
if (cpsm16a le 99) incomcat=cpsm16a.
missing values incomcat (98,99).
compute income=(incomcat-1)/9.
recode incomcat (1,2=1) (3 thru 10=0) into lowinc1.
recode incomcat (1 thru 3=1) (4 thru 10=0) into lowinc2.
recode incomcat (6 thru 10=1) (1 thru 5=0) into highinc1.
recode incomcat (7 thru 10=1) (1 thru 6=0) into highinc2.
recode cpsm17 (0=0) (9=sysmis) (1 thru 7=1) into kids.
missing values cpsm17 (9).
compute size=nadults+cpsm17.
recode size (7 thru hi=7).
recode cpsm16a (1=10) (2=25) (3=35) (4=45) (5=55) (6=65) (7=75)
(8=85) (9=95) (10=105) (98,99=sysmis) into newinc.
if (cpsm16 lt 998) newinc=cpsm16.
if (size eq 1) housinc=newinc.
if (size eq 2) housinc=newinc/1.36.
if (size eq 3) housinc=newinc/1.72.
if (size eq 4) housinc=newinc/1.98.
if (size eq 5) housinc=newinc/2.17.
if (size eq 6) housinc=newinc/2.35.
if (size eq 7) housinc=newinc/2.53.
recode housinc (0 thru 20.349=1) (20.350 thru hi=0) into lowterc.
recode housinc (36.765 thru hi=1) (0 thru 36.764=0) into highterc.
recode housinc (0 thru 14.535=1) (14.536 thru hi=0) into lowquint.
recode housinc (47.00 thru hi=1) (0 thru 46.99=0) into hiquint.
comment HOUSINC is adjusted for size of household (# of adults plus
number of children) and divided into terciles and quintiles,
respectively.
comment for CPSM16A the midpoint of the category was used.
recode cpsm14 (1=1) (0,5 thru 97=0) (98,99=sysmis) into homefrch.
recode cpsm14 (0,11 thru 97=1) (1,5=0) (98,99=sysmis) into homeothr.
recode cpsm14 (0,5 thru 97=1) (1=0) (98,99=sysmis) into homentfr.
missing values pesf12 (999).

```

\*variables d'attitudes.

\*VARIABLES IN "QUEBEC" FACTOR.

```

recode pesf12 (else=copy) into fl_Que.
missing values fl_Que (999).
compute fl_Que=(fl_Que)/100.
recode fl_Que (9.98=.5).
value labels fl_Que 0 "Really Dislike" 1 "Really Like".
variable label fl_Que "fl_Que - Rating>How feel about Quebec".

```

```

recode cpse3a (else=copy) into c_doQue.
missing values c_doQue (9).
recode c_doQue (2=0) (3,8=.5) (1=1).
value labels c_doQue 0 "Less" .5 "About the Same" 1 "More".
variable label c_doQue "c_doQue - How Much Should Be Done For Quebec (More)".

```

```

recode cpsj3 (else=copy) into c_distnt.

```

missing values c\_distnt (9).  
 recode c\_distnt (5=0) (7,8=.5) (1=1).  
 value labels c\_distnt 0"No" .5"Depends" 1"Yes".  
 variable label c\_distnt "c\_distnt - Quebec Be Recognized As Distinct Society".

\*VARIABLES IN OUTGROUPS FACTOR.

recode cpsj10 (else=copy) into c\_fed\$AP.  
 missing values c\_fed\$AP (9).  
 recode c\_fed\$AP (3=0) (5,8=.5) (1=1).  
 value labels c\_fed\$AP 0"Less" .5"About the Same" 1"More".  
 variable label c\_fed\$AP "c\_fed\$AP - Federal Spending For Aboriginal Peoples".

recode cpsj9 (else=copy) into c\_APvsCd.  
 missing values c\_APvsCd (9).  
 recode c\_APvsCd (1=0) (5,8=.5) (3=1).  
 value labels c\_APvsCd 0"Better Off" .5"About the Same" 1"Worse Off".  
 variable label c\_APvsCd "c\_APvsCd - Aboriginal Peoples Compared Other Cdns".

recode cpsf1 (2=0) (3,8=.5) (1=1) into c\_dominr.  
 missing values cpsf1 (9).  
 value labels c\_dominr 0"Less" .5"About the same/DK" 1"More".  
 variable label c\_dominr "How much should be done for racial minorities".

\*VARIABLES IN "CANADA/US" FACTOR.

recode pese4 (else=copy) into CanUsTie.  
 missing values CanUsTie (9).  
 recode CanUsTie (5=0) (4=.25) (3,8=.5) (2=.75) (1=1).  
 value labels CanUsTie 0"MuchMore Distant" .25"More Distant" .5"AboutTheSame"  
 .75"Somewhat Closer" 1"Much Closer".  
 variable label CanUsTie "CanUsTie - Canada's Ties with the United States".

recode pese25 (else=copy) into CdaUS\_1.  
 missing values CdaUS\_1 (9).  
 recode CdaUS\_1 (7=0) (5=.25) (8=.5) (3=.75) (1=1).  
 value labels CdaUS\_1 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"  
 .75"Somewhat Agree" 1"Strongly Agree".  
 variable label CdaUS\_1 "CdaUS\_1 - Good thing Canada & US one country".

recode pesf13 (else=copy) into fl\_US.  
 missing values fl\_US (999).  
 compute fl\_US=(fl\_US)/100.  
 recode fl\_US (9.98=.5).  
 value labels fl\_US 0"Really Dislike" 1"Really Like".  
 variable label fl\_US "fl\_US - Rating>How feel about the United States".

\*VARIABLES IN "CYNICISM" FACTOR.

recode cpsb10d (else=copy) into c\_nocare.  
 missing values c\_nocare (9).  
 recode c\_nocare (7=0) (5=.25) (8=.5) (3=.75) (1=1).  
 value labels c\_nocare 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"  
 .75"Somewhat Agree" 1"Strongly Agree".  
 variable label c\_nocare "c\_nocare - Not Think Govt Cares What People Think".

recode cpsb10e (else=copy) into c\_polie.  
 missing values c\_polie (9).  
 recode c\_polie (7=0) (5=.25) (8=.5) (3=.75) (1=1).  
 value labels c\_polie 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"  
 .75"Somewhat Agree" 1"Strongly Agree".  
 variable label c\_polie "c\_polie - Politicians Ready To Lie To Get Elected".

recode cpsb10a (else=copy) into c\_lostch.  
 missing values c\_lostch (9).  
 recode c\_lostch (7=0) (5=.25) (8=.5) (3=.75) (1=1).  
 value labels c\_lostch 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"  
 .75"Somewhat Agree" 1"Strongly Agree".  
 variable label c\_lostch "c\_lostch - Elected to Parliament Lose Touch People".

recode cpsj13 (else=copy) into c\_keprom.  
 missing values c\_keprom (9).

```

recode c_keprom (1=0) (3,7,8=.5) (5=1).
value labels c_keprom 0"Most of the Time" .5"Some of the time/Depends"
1"Hardly Ever".
variable label c_keprom "c_keprom - Political Parties Keep Election Promises".

```

\*VARIABLES IN "MORAL TRADITIONALISM" FACTOR.

```

recode cpsf2 (else=copy) into c_mchild.
missing values c_mchild (9).
recode c_mchild (7=0) (5=.25) (8=.5) (3=.75) (1=1).
value labels c_mchild 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"
.75"Somewhat Agree" 1"Strongly Agree".
variable label c_mchild "c_mchild - Only Married People Be Having Children".

```

```

recode cpsf3 (else=copy) into c_wmhome.
missing values c_wmhome (9).
recode c_wmhome (7=0) (5=.25) (8=.5) (3=.75) (1=1).
value labels c_wmhome 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"
.75"Somewhat Agree" 1"Strongly Agree".
*variable label c_wmhome "Better Off Women Stayed Home With
Children".

```

```

if (pese5a=1 or pese5b=3 or pese5c=2) abort=1.
if (pese5a=2 or pese5b=1 or pese5c=3) abort=.5.
if (pese5a=8 or pese5b=8 or pese5c=8) abort=.5.
if (pese5a=3 or pese5b=2 or pese5c=1) abort=0.
value labels abort 1"never permitted" .5"after need/neutral" 0"personal choice".
variable label abort "abort - 3 Positions: Abortion".

```

\*VARIABLES IN "FREE ENTERPRISE" FACTOR.

```

recode pese20 (else=copy) into bus$all.
missing values bus$all (9).
recode bus$all (7=0) (5=.25) (8=.5) (3=.75) (1=1).
value labels bus$all 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"
.75"Somewhat Agree" 1"Strongly Agree".
variable label bus$all "bus$all - Businesses make money, everyone benefits".

```

```

recode pese19 (else=copy) into blmeself.
missing values blmeself (8,9).
recode blmeself (7=0) (5=.25) (8=.5) (3=.75) (1=1).
value labels blmeself 0"StronglyDisagree" .25"SomewhatDisagree" .5"Neutral"
.75"Somewhat Agree" 1"Strongly Agree".
variable label blmeself "blmeself - Not get ahead, blame self, not system".

```

```

recode pesf1 (else=copy) into fl_bbus.
missing values fl_bbus (999).
compute fl_bbus=(fl_bbus)/100.
recode fl_bbus (9.98=.5).
value labels fl_bbus 0"Really Dislike" 1"Really Like".
variable label fl_bbus "fl_bbus - Rating>How feel about Big Business".

```

\* women.

```

recode pese1 (5=-1) (4=-.5) (3,8=0) (2=.5) (1=1) (else=sysmis)
into womendo.
*variable labels womendo 'how much should be done for women'.
*value labels womendo -1 'much less' -.5 'somewhat less'
0 'about the same/DK'
.5 'somewhat more' 1 'much more'.

```

\* aliénation régionale.

```

compute aliregi = 0.
if (cpsj12 eq 3) aliregi = 1.

```

```

compute Que = (fl_Que+c_doQue+c_distnt)/3.
value labels Que 0"Low" 1"High".

```

```

compute outgrp = (c_fed$AP+c_APvsCd+c_dominr)/3.
value labels outgrp 0"Low Support" 1"High Support".

```

```

compute Cda_US = (CdaUS_1+CanUsTie+fl_US)/3.
value labels Cda_US 0"Distant" 1"Close".

compute cynicism = (c_nocare+c_polie+c_lostch+c_keprom)/4.
value labels cynicism 0"Low" 1"High".

compute moraltrd = (c_mchild+c_wmhome+abort)/3.
value labels moraltrd 0"Low" 1"High".

compute free_ent = (blmeself+bus$all+fl_bbus)/3.
value labels free_ent 0"Low Support" 1"High Support".

```

\*PARTY IDENTIFICATION.

```

if (cpsk1 eq 1 and cpsk2 eq 1) spidlib2=1.
if (cpsk1 eq 1 and cpsk2 eq 3) spidlib2=1.
if (cpsk1 eq 1 and cpsk2 ge 5) spidlib2=0.
if (cpsk1 eq 2 and cpsk2 eq 1) spidlib2=-1.
if (cpsk1 eq 2 and cpsk2 eq 3) spidlib2=-1.
if (cpsk1 eq 2 and cpsk2 ge 5) spidlib2=0.
if (cpsk1 eq 3 and cpsk2 eq 1) spidlib2=-1.
if (cpsk1 eq 3 and cpsk2 eq 3) spidlib2=-1.
if (cpsk1 eq 3 and cpsk2 ge 5) spidlib2=0.
if (cpsk1 eq 4 and cpsk2 eq 1) spidlib2=-1.
if (cpsk1 eq 4 and cpsk2 eq 3) spidlib2=-1.
if (cpsk1 eq 4 and cpsk2 ge 5) spidlib2=0.
if (cpsk1 eq 5 and cpsk2 eq 1) spidlib2=-1.
if (cpsk1 eq 5 and cpsk2 eq 3) spidlib2=-1.
if (cpsk1 eq 5 and cpsk2 ge 5) spidlib2=0.
if (cpsk1 eq 6) spidlib2=0.
if (cpsk1 eq 0) spidlib2=0.
if (cpsk1 eq 98) spidlib2=0.
if (cpsk1 eq 4 and cpsk2 eq 1) spidref2=1.
if (cpsk1 eq 4 and cpsk2 eq 3) spidref2=1.
if (cpsk1 eq 4 and cpsk2 ge 5) spidref2=0.
if (cpsk1 eq 1 and cpsk2 eq 1) spidref2=-1.
if (cpsk1 eq 1 and cpsk2 eq 3) spidref2=-1.
if (cpsk1 eq 1 and cpsk2 ge 5) spidref2=0.
if (cpsk1 eq 2 and cpsk2 eq 1) spidref2=-1.
if (cpsk1 eq 2 and cpsk2 eq 3) spidref2=-1.
if (cpsk1 eq 2 and cpsk2 ge 5) spidref2=0.
if (cpsk1 eq 3 and cpsk2 eq 1) spidref2=-1.
if (cpsk1 eq 3 and cpsk2 eq 3) spidref2=-1.
if (cpsk1 eq 3 and cpsk2 ge 5) spidref2=0.
if (cpsk1 eq 5 and cpsk2 eq 1) spidref2=-1.
if (cpsk1 eq 5 and cpsk2 eq 3) spidref2=-1.
if (cpsk1 eq 5 and cpsk2 ge 5) spidref2=0.
if (cpsk1 eq 6) spidref2=0.
if (cpsk1 eq 0) spidref2=0.
if (cpsk1 eq 98) spidref2=0.
if (cpsk1 eq 1 and cpsk2 eq 1) spidpc2=-1.
if (cpsk1 eq 1 and cpsk2 eq 3) spidpc2=-1.
if (cpsk1 eq 1 and cpsk2 ge 5) spidpc2=0.
if (cpsk1 eq 2 and cpsk2 eq 1) spidpc2=1.
if (cpsk1 eq 2 and cpsk2 eq 3) spidpc2=1.
if (cpsk1 eq 2 and cpsk2 ge 5) spidpc2=0.
if (cpsk1 eq 3 and cpsk2 eq 1) spidpc2=-1.
if (cpsk1 eq 3 and cpsk2 eq 3) spidpc2=-1.
if (cpsk1 eq 3 and cpsk2 ge 5) spidpc2=0.
if (cpsk1 eq 4 and cpsk2 eq 1) spidpc2=-1.
if (cpsk1 eq 4 and cpsk2 eq 3) spidpc2=-1.
if (cpsk1 eq 4 and cpsk2 ge 5) spidpc2=0.
if (cpsk1 eq 5 and cpsk2 eq 1) spidpc2=-1.
if (cpsk1 eq 5 and cpsk2 eq 3) spidpc2=-1.
if (cpsk1 eq 5 and cpsk2 ge 5) spidpc2=0.
if (cpsk1 eq 6) spidpc2=0.
if (cpsk1 eq 0) spidpc2=0.
if (cpsk1 eq 98) spidpc2=0.
if (cpsk1 eq 1 and cpsk2 eq 1) spidndp2=-1.
if (cpsk1 eq 1 and cpsk2 eq 3) spidndp2=-1.
if (cpsk1 eq 1 and cpsk2 ge 5) spidndp2=0.
if (cpsk1 eq 2 and cpsk2 eq 1) spidndp2=-1.

```

```

if (cpsk1 eq 2 and cpsk2 eq 3) spidndp2=-1.
if (cpsk1 eq 2 and cpsk2 ge 5) spidndp2=0.
if (cpsk1 eq 3 and cpsk2 eq 1) spidndp2=1.
if (cpsk1 eq 3 and cpsk2 eq 3) spidndp2=1.
if (cpsk1 eq 3 and cpsk2 ge 5) spidndp2=0.
if (cpsk1 eq 4 and cpsk2 eq 1) spidndp2=-1.
if (cpsk1 eq 4 and cpsk2 eq 3) spidndp2=-1.
if (cpsk1 eq 4 and cpsk2 ge 5) spidndp2=0.
if (cpsk1 eq 5 and cpsk2 eq 1) spidndp2=-1.
if (cpsk1 eq 5 and cpsk2 eq 3) spidndp2=-1.
if (cpsk1 eq 5 and cpsk2 ge 5) spidndp2=0.
if (cpsk1 eq 6) spidndp2=0.
if (cpsk1 eq 0) spidndp2=0.
if (cpsk1 eq 98) spidndp2=0.
if (cpsk1 eq 1 and cpsk2 eq 1) spidbq2=-1.
if (cpsk1 eq 1 and cpsk2 eq 3) spidbq2=-1.
if (cpsk1 eq 1 and cpsk2 ge 5) spidbq2=0.
if (cpsk1 eq 2 and cpsk2 eq 1) spidbq2=-1.
if (cpsk1 eq 2 and cpsk2 eq 3) spidbq2=-1.
if (cpsk1 eq 2 and cpsk2 ge 5) spidbq2=0.
if (cpsk1 eq 3 and cpsk2 eq 1) spidbq2=-1.
if (cpsk1 eq 3 and cpsk2 eq 3) spidbq2=-1.
if (cpsk1 eq 3 and cpsk2 ge 5) spidbq2=0.
if (cpsk1 eq 4 and cpsk2 eq 1) spidbq2=-1.
if (cpsk1 eq 4 and cpsk2 eq 3) spidbq2=-1.
if (cpsk1 eq 4 and cpsk2 ge 5) spidbq2=0.
if (cpsk1 eq 5 and cpsk2 eq 1) spidbq2=1.
if (cpsk1 eq 5 and cpsk2 eq 3) spidbq2=1.
if (cpsk1 eq 5 and cpsk2 ge 5) spidbq2=0.
if (cpsk1 eq 6) spidbq2=0.
if (cpsk1 eq 0) spidbq2=0.
if (cpsk1 eq 98) spidbq2=0.
comment spid1 codes only very strong identifiers, while spid2 codes both
very strong and fairly
strong identifiers.

```

#### \* PERCEPTIONS ÉCONOMIQUES.

```

if (province eq 10) jobrate=19.5.
if (province eq 11) jobrate=15.8.
if (province eq 12) jobrate=12.9.
if (province eq 13) jobrate=13.6.
if (province eq 24) jobrate=11.6.
if (province eq 35) jobrate=8.7.
if (province eq 46) jobrate=6.7.
if (province eq 47) jobrate=6.1.
if (province eq 48) jobrate=6.0.
if (province eq 59) jobrate=8.8.
recode cpsm8a (1=1) (3=.67) (5=.33) (7,8=0) (9=sysmis) (else=0)
into jobfear.
variable labels jobfear 'worry about losing job'.
recode cpsc1 (1=1) (5,8=0) (3=-1) into retroper.
variable labels retroper 'personal retrospective'.
recode cpsc2 (1=1) (5,8=0) (3=-1) into prosprr.
variable labels prosprr 'personal prospective'.
recode cpsc5 (3=1) (5,8=0) (1=-1) into retrojob.
value labels retrojob 1 'gone down' 0 'same/DK' -1 'gone up'.
variable labels retrojob 'perceptions of unemployment rate'.
recode cpsc6 (3=1) (5,7,8=0) (1=-1) into prospjob.
value labels prospjob 1 'go down' 0 'stay same/DK' -1 'go up'.
variable labels prospjob 'perceptions of future unemployment'.
recode cpsg1 (1=1) (5,8=0) (3=-1) into retrocan.
variable labels retrocan 'Canadian economy retrospective'.
recode cpsg2 (1=1) (3,8=0) (5=-1) into retroprv.
variable labels retroprv 'provincial economy retrospective'.
recode cpsg3a (1=1) (5,7,8=0) (3=-1) into prospcan.
variable labels prospcan 'Canadian economy prospective'.
recode cpsg3b (1=1) (5,7,8=0) (3=-1) into prosprrv.
variable labels prosprrv 'provincial economy prospective'.
value labels retroper prosprr retrocan prospcan retroprv prosprrv
-1 'worse' 0 'same/dk' 1 'better'.

```

\* LES ENJEUX.

```

recode pese6c (5=-1) (3,8=0) (1=1) (else=sysmis) into pension.
recode pese6d (5=-1) (3,8=0) (1=1) (else=sysmis) into health.
recode pese6e (5=-1) (3,8=0) (1=1) (else=sysmis) into ui.
recode pese6f (5=-1) (3,8=0) (1=1) (else=sysmis) into educ.
*value labels pension health ui educ -1 'not at all' 0 'some/DK'
1 'a lot'.

```

```

*variable labels pension 'cut pension spending'/
health 'cut health spending'/ui 'cut ui spending'/
educ 'cut education spending'.
comment recodes variables for spending cuts factor.
compute spending=(pension+health+ui+educ)/4.

```

```

recode cpsa2d (3=-1) (2,7,8=0) (1=1) (else=sysmis) into taxcut.
*value labels taxcut -1 'not very' 0 'somewhat/not voting/DK'
1 'very important'.
*variable labels taxcut 'cutting taxes personally important'.
recode cpsa1a (2,3=-1) (7,8=0) (1=1) (else=sysmis) into taxsoc.
*value labels taxsoc -1 'do not cut taxes' 0 'cannot answer/DK'
1 'cut taxes'.
*variable labels taxsoc 'tax/programmes tradeoff'.
recode cpsa1 (10 thru 49,56 thru 97=-1) (50 thru 55=1) (98=0)
(99=sysmis) into taximp.
*value labels taximp -1 'other' 0 'DK' 1 'taxes'.
*variable labels taximp 'taxes most important issue personally'.
compute taxes=(taxcut+taxsoc+taximp)/3.

```

```

recode cpsf5 (7=-1) (5=-.5) (8=0) (3=.5) (1=1) (else=sysmis) into
defsoc.
*value labels defsoc -1 'strongly disagree' -.5 'somewhat
disagree' 0 'DK'
.5 'somewhat agree' 1 'strongly agree'.
*variable labels defsoc 'eliminate deficit to maintain
programmes'.
recode cpsa2b (3=-1) (2,7,8=0) (1=1) (else=sysmis) into defcut.
*value labels defcut -1 'not very' 0 'somewhat/not voting/DK'
1 'very important'.
*variable labels defcut 'reducing deficit personally important'.
recode cpsf8 (1=1) (2 thru 3,6 thru 7=-1) (5,98=0) (else=sysmis)
into defjobs.
*value labels defjobs 1 'eliminate deficit' 0 'DK/both'
-1 'do not eliminate'.
*variable labels defjobs 'eliminating deficit best way fight
unemployment'.
comment recodes variables for deficit factor.
compute deficit=(defsoc+defcut+defjobs)/3.

```

```

recode cpsf6 (1=-1) (3=-.5) (8=0) (5=.5) (7=1) (else=sysmis) into
jobpriv.
*value labels jobpriv -1 'strongly agree' -.5 'somewhat agree' 0
'DK'
.5 'somewhat disagree' 1 'strongly disagree'.
*variable labels jobpriv 'government leave job creation private
sector'.
recode cpsf4 (1=-1) (3=-.5) (8=0) (5=.5) (7=1) (else=sysmis) into
jobgovt.
*value labels jobgovt -1 'strongly agree' -.5 'somewhat agree' 0
'DK'
.5 'somewhat disagree' 1 'strongly disagree'.
*variable labels jobgovt 'not much any government can do re jobs'.
recode cpsa2c (3=-1) (2,7,8=0) (1=1) (else=sysmis) into jobsimp.
*value labels jobsimp -1 'not very' 0 'somewhat/DK' 1 'very
important'.
*variable labels jobsimp 'creating jobs personally important'.
comment recodes variables into jobs factor.
compute jobs=(jobpriv+jobgovt+jobsimp)/3.

```

```

*recode spending (-1.00=-1) (-.99 thru -.75=0) (-.74 thru 1.00=1).
*recode taxes (-1 thru -.665=-1) (-.664 thru -.33=0)
(-.32 thru 1.00=1).
*recode deficit (-1.00 thru -.166=-1) (-.165 thru .334=0)

```

```

(.335 thru 1.00=1).
*recode jobs (-1.00 thru .17=-1) (.33 thru .67=0) (.83 thru
1.00=1).

recode cpsj21 (1,5,9=1) (2=-1) (3 thru 4,6 thru 8,98=0) into crime.
*value labels crime -1 'rehabilitate' 0 'other/DK' 1 'get tough'.
*variable labels crime 'best way to deal with young offenders'.
comment get tough includes restitution and corporal punishment
0 includes both proactive change YO Act other depends.

recode pese12 (1=1) (3=.5) (5=-.5) (7=-1) (8=0) into guns.
*value labels guns 1 'strongly agree' .5 'somewhat agree' 0 'DK'
-.5 'somewhat disagree' -1 'strongly disagree'.
*variable labels guns 'only police and military have guns'.

recode cpsj18 (1=1) (5,8=0) (3=-1) into immig.
*value labels immig 1 'more' 0 'same/DK' -1 'fewer'.
*variable labels immig 'how many immigrants should be admitted'.

```

#### \* LA PERFORMANCE DES LIBÉRAUX.

```

recode cpsf10a (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfunity.
recode cpsf10b (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfdef.
recode cpsf10c (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfjobs.
recode cpsf10d (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfprom.
recode cpsf10e (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfqueb.
recode cpsf10f (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfcrime.
recode cpsf10g (1=1) (3=.5) (8=0) (5=-.5) (7=-1) into prfprogs.
*variable labels prfunity 'Liberal performance--national unity'.
*variable labels prfdef 'Liberal performance--deficit'.
*variable labels prfjobs 'Liberal performance--jobs'.
*variable labels prfprom 'Liberal performance--keeping promises'.
*variable labels prfqueb 'Liberal performance--defending Quebec
interests'.
*variable labels prfcrime 'Liberal performance--fighting crime'.
*variable labels prfprogs 'Liberal performance--protecting
programmes'.

```

```

compute gst = 0.
if (cpsj2 eq 8 and cpsj2b eq 5) gst = 1.
if (cpsj2 eq 1 and cpsj2b eq 5) gst = 1.

```

```

*value labels prfunity prfdef prfjobs prfprom prfqueb prfcrime
prfprogs 1 'very good' .5 'quite good' 0 'DK'
-.5 'not very good' -1 'not good at all'.

```

#### \* LEADERS.

```

compute charest=pesc1a.
compute chretien=pesc1b.
compute mcdonoug=pesc1c.
compute manning=pesc1d.
recode charest chretien mcdonoug manning (997,998,999=sysmis).
compute charest1=charest-(max(chretien,mcdonoug,manning)).
compute chretien1=chretien-(max(charest,mcdonoug,manning)).
compute mcdonou1=mcdonoug-(max(charest,chretien,manning)).
compute manning1=manning-(max(charest,chretien,mcdonoug)).
compute charest2 = charest1/100.
compute chretien2 = chretien1/100.
compute mcdonou2 = mcdonou1/100.
compute manning2 = manning1/100.
comment leader scales run from -1 to +1.

```

```

compute cchar=cpsd1a.
compute cchre=cpsd1b.
compute cmcdo=cpsd1c.
compute cmann=cpsd1d.
recode cchar cchre cmcdo cmann (997,998,999=sysmis).
compute cchar1=cchar-(max(cchre,cmcdo,cmann)).
compute cchre1=cchre-(max(cchar,cmcdo,cmann)).
compute cmcdo1=cmcdo-(max(cchar,cchre,cmann)).
compute cmann1=cmann-(max(cchar,cchre,cmcdo)).

```



```

compute cchar2 = cchar1/100.
compute cchre2 = cchre1/100.
compute cmcdo2 = cmcdo1/100.
compute cmann2 = cmann1/100.
comment leader scales run from -1 to +1.

```

#### \*VOTE STRATÉGIQUE.

```

compute pcchrid = 0 .
if (cpsi1a > 0) & (cpsi1a < 101) pcchrid = cpsi1a .
compute libchrid = 0 .
if (cpsi1b > 0) & (cpsi1b < 101) libchrid = cpsi1b .
compute npdchrid = 0 .
if (cpsi1c > 0) & (cpsi1c < 101) npdchrid = cpsi1c .
compute refchrid = 0 .
if (cpsi1d > 0) & (cpsi1d < 101) refchrid = cpsi1d .
compute bqchrid = 0 .
if (cpsi1e > 0) & (cpsi1e < 101) bqchrid = cpsi1e .

```

```

compute libchopp = 0 .
if (cpsi3a > 0) & (cpsi3a < 101) libchopp = cpsi3a .
compute pcchopp = 0 .
if (cpsi3b > 0) & (cpsi3b < 101) pcchopp = cpsi3b .
compute npdchopp = 0 .
if (cpsi3c > 0) & (cpsi3c < 101) npdchopp = cpsi3c .
compute refchopp = 0 .
if (cpsi3d > 0) & (cpsi3d < 101) refchopp = cpsi3d .
compute bqchopp = 0 .
if (cpsi3e > 0) & (cpsi3e < 101) bqchopp = cpsi3e .

```

```

compute pcrd = pcchrid / (pcchrid + libchrid + npdchrid + refchrid).
compute librid = libchrid / (pcchrid + libchrid + npdchrid + refchrid).
compute npdrd = npdchrid / (pcchrid + libchrid + npdchrid + refchrid).
compute reffd = refchrid / (pcchrid + libchrid + npdchrid + refchrid).

```

```

compute pcopp = pcchopp / (pcchopp + libchopp + npdchopp + refchopp + bqchopp).
compute libopp = libchopp / (pcchopp + libchopp + npdchopp + refchopp + bqchopp).
compute npdopp = npdchopp / (pcchopp + libchopp + npdchopp + refchopp + bqchopp).
compute refopp = refchopp / (pcchopp + libchopp + npdchopp + refchopp + bqchopp).
compute bqopp = bqchopp / (pcchopp + libchopp + npdchopp + refchopp + bqchopp).

```

```

compute sumopp = pcopp + libopp + npdopp + refopp + bqopp.
compute sumrid = pcrd + librid + npdrd + reffd.

```

```

compute antrdlib = librid - (max(pcrd, npdrd, reffd)).
compute antrdpc = pcrd - (max(librid, npdrd, reffd)).
compute antrdnpd = npdrd - (max(pcrd, librid, reffd)).
compute antrdref = reffd - (max(pcrd, npdrd, librid)).

```

```

compute antoplib = libopp - (max(pcopp, npdopp, refopp, bqopp)).
compute antoppc = pcopp - (max(libopp, npdopp, refopp, bqopp)).
compute antopnpd = npdopp - (max(pcopp, libopp, refopp, bqopp)).
compute antopref = refopp - (max(pcopp, npdopp, libopp, bqopp)).

```

```

compute anoplib2 = 999.
if (antoplib > 0) anoplib2 = 1.
if (antoplib <= 0) anoplib2 = 0.
recode anoplib2 (999 = sysmis).

```

```

compute anoppc2 = 999.
if (antoppc > 0) anoppc2 = 1.
if (antoppc <= 0) anoppc2 = 0.
recode anoppc2 (999 = sysmis).

```

```

compute anopnpd2 = 999.
if (antopnpd > 0) anopnpd2 = 1.
if (antopnpd <= 0) anopnpd2 = 0.
recode anopnpd2 (999 = sysmis).

```

```

compute anopref2 = 999.
if (antopref > 0) anopref2 = 1.
if (antopref <= 0) anopref2 = 0.

```

```
recode anopref2 (999 = sysmis).

compute anrdlib2 = 999.
if (anrdlib > 0) anrdlib2 = 0.
if (anrdlib <= 0) anrdlib2 = anrdlib.
recode anrdlib2 (999 = sysmis).

compute anrdpc2 = 999.
if (anrdpc > 0) anrdpc2 = 0.
if (anrdpc <= 0) anrdpc2 = anrdpc.
recode anrdpc2 (999 = sysmis).

compute anrdnpd2 = 999.
if (anrdnpd > 0) anrdnpd2 = 0.
if (anrdnpd <= 0) anrdnpd2 = anrdnpd.
recode anrdnpd2 (999 = sysmis).

compute anrdref2 = 999.
if (anrdref > 0) anrdref2 = 0.
if (anrdref <= 0) anrdref2 = anrdref.
recode anrdref2 (999 = sysmis).
```

*Support for Quebec Sovereignty Model (1997CES)*

```
compute voteref = cpsk16.
recode voteref (5=0) (7,8,9=sysmis).

compute evalecon = -99.
if (pese10a eq 5) evalecon = .5.
if (pese10a eq 8) evalecon = .5.
if (pese10b eq 1) evalecon = 1.
if (pese10b eq 3) evalecon = .75.
if (pese10b eq 8) evalecon = .75.
if (pese10c eq 1) evalecon = 0.
if (pese10c eq 3) evalecon = .25.
if (pese10c eq 8) evalecon = .25.
recode evalecon (-99=sysmis).

compute zevaleco = (evalecon*2)-1.

compute evalling = -99.
if (pese10e eq 5) evalling = .5.
if (pese10e eq 8) evalling = .5.
if (pese10f eq 1) evalling = 1.
if (pese10f eq 3) evalling = .75.
if (pese10f eq 8) evalling = .75.
if (pese10g eq 1) evalling = 0.
if (pese10g eq 3) evalling = .25.
if (pese10g eq 8) evalling = .25.
recode evalling (-99=sysmis).

compute zevallin = (evalling*2)-1.

compute frthreat = pese10d.
recode frthreat (1=1) (3=0) (8=.5) (9=sysmis).

compute likeunio = pese11d.
recode likeunio (1=1) (3=.75) (8=.5) (5=.25) (7=0) (9=sysmis).

recode pesf11a pesf11b (998,999=sysmis).
compute attachem = (pesf11b-pesf11a+100)/200.

compute zattach = attachem.

compute zage = 1997 - cpsage.
recode zage (-8002=sysmis).

compute zfemale = cpsrgen.
recode zfemale (1=0) (5=1).

compute income=cpsm16a.
recode income (98,99=sysmis).
compute zincome = (income-1).
if (cpsm16 lt 20) zincome = 0.
if (cpsm16 ge 20 and cpsm16 lt 30) zincome = 1.
if (cpsm16 ge 30 and cpsm16 lt 40) zincome = 2.
if (cpsm16 ge 40 and cpsm16 lt 50) zincome = 3.
if (cpsm16 ge 50 and cpsm16 lt 60) zincome = 4.
if (cpsm16 ge 60 and cpsm16 lt 70) zincome = 5.
if (cpsm16 ge 70 and cpsm16 lt 80) zincome = 6.
if (cpsm16 ge 80 and cpsm16 lt 90) zincome = 7.
if (cpsm16 ge 90 and cpsm16 lt 100) zincome = 8.
if (cpsm16 ge 100 and cpsm16 lt 998) zincome = 9.
```

## Appendix 2: Estimation Results for Chapter 2

Table A.2.1: Cognitive Sources of Heterogeneity, 1992 Referendum Vote outside Quebec (OLS Unstand. Coefficients)

		Homo- geneous Model	Heterogeneous Models				
			Level	Information	Media Attention	Refer. Interest	Education
<i>Specific Elements</i>							
Distinct society	.12 ***	Low	.22 ••	.15	.27 •	.06	.16
		Med.	.03	.12 *	.10 *	.09 *	.10 *
		High	.14	.09	.10	.21 •	.11
25% guarantee	.14 ***	Low	.23	.26 •	.21	.31 •	.29 •
		Med.	.15 *	.08	.18 **	.08	.13 *
		High	.09	.03	.08	.13	-.00
Senate reform	.03	Low	-.13 ••	.01	-.15	.08	-.07 •
		Med.	.09 *	.05	.02	.07 *	.09 *
		High	.04	.02	.06	-.04 •	.04
Aboriginal self-gov.	.04	Low	.01	.00 •	.01	.01	.03
		Med.	.08 *	.13 **	.06	.05	.11 *
		High	.01	-.03 •	-.00	.00	-.03 •
<i>General arguments</i>							
Best compromise	.18 ***	Low	.08 ••	.20	-.04 •	.03 ••	.12 •
		Med.	.32 ***	.15 **	.20 ***	.28 ***	.28 ***
		High	.14 •	.20	.24	.08 •	.19
Move on	.13 ***	Low	-.01	.01 •	.08	.12	.06
		Med.	.09 *	.14 **	.17 ***	.08 *	.10 *
		High	.28 •	.29 •	.10	.23 •	.25 •
Province winner	.08 *	Low	.05	.13	.06	.11	.07
		Med.	.14 *	.06	.05	.06	.13 *
		High	.02	.04	.10	.08	-.00
Fear of separation	.07 *	Low	.07	.13	.12	.15	.10
		Med.	.08	.14 **	.07	.10 **	.05
		High	.09	.02	.05	-.01	.10
Qc never satisfied	-.03	Low	.07	.04	.05	.06	.10 •
		Med.	.02	-.02	.00	.00	-.06
		High	-.13 •	-.06	-.04	-.03	-.10
<i>(continued)</i>							

Table A.2.1: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Refer. Interest	Education	Index
<i>Intervenors</i>							
Feeling for Unions	-.07	Low	-.04	-.10	-.11	-.10	-.06
		Med.	-.13	-.14	-.13	.01	-.04
		High	.02	.25 ••	.01	-.18	.05
Feeling for Business	.26 ***	Low	.28	.21	.03	.33	.14
		Med.	.18	.31 **	.29 **	.24 *	.31 **
		Hig	.32	.17	.29	.23	.28
Women's Movement	-.22 **	Low	-.49 •	-.30	-.38	-.52	-.48
		Med.	-.07	-.31 *	-.32 **	-.28 **	-.23 *
		High	-.33	-.09	-.05 •	.11 •	-.05
B. Mulroney	.33 ***	Low	.49	.21	.44	.37	.40
		Med.	.32 **	.43 ***	.25 **	.46 ***	.31 **
		High	.25	.38	.43	.25	.34
Other Leaders	.30 **	Low	.46	.32	.53	.09	.40 •
		Med.	.13	.43 *	.26 *	.18	.02
		High	.31	.11	.22	.50	.37
P.E. Trudeau	-.09	Low	.05	.04	.06	.05	.04
		Med.	-.00	-.15	-.06	-.14 *	-.12
		High	-.18	-.19	-.20	-.13	-.18
P. Manning	-.43 ***	Low	-.39	-.33 •	-.41	-.31	-.42
		Med.	-.52 ***	-.61 ***	-.63 ***	-.36 ***	-.48 ***
		High	-.33	-.29 •	-.28 ••	-.51	-.39
<i>Group Sentiments</i>							
Feeling for Québec	-.00	Low	.15	.00	-.21 •	-.09	.09
		Med.	-.03	.13	.14	.07	.11
		High	-.07	-.14 •	-.09 •	-.13	-.27 ••
Minority Rights	.05 *	Low	.06	.12	.06	.11	.10
		Med.	.08	.03	.05	.07 *	.08
		High	.04	-.02	.06	-.03 •	-.03
Founding People	.00	Low	-.06	-.06	-.02	.08 •	-.04
		Med.	-.00	-.02	.02	-.08 *	-.03
		High	.02	.06	.04	.06 •	.12 •
<i>(continued)</i>							

Table A.2.1: (Continued)

	Homo- geneous Model	Heterogeneous Models				
		Information	Media Attention	Refer. Interest	Education	Index
<i>Sociodemographics</i>						
Atlantic	.07	.08 *	.04	.08 *	.08 *	.04
Prairies	-.06 *	-.05	-.07 *	-.06 *	-.06 *	-.07 *
British Columbia	-.02	-.01	-.03	-.01	-.00	-.02
Over 55 years	.07 *	.09 **	.08 *	.08 *	.06	.06 *
Male	-.05 *	-.05 *	-.06 *	-.05 *	-.06 *	-.05 *
Catholic	.03	.03	.04	.03	.04	.05
Other Religion	-.04	-.07	-.04	-.01	-.04	-.03
No Religion	.00	.02	.01	.00	-.01	.02
French	-.06	-.07	-.06	-.07	-.06	-.07
North European	-.04	-.04	-.04	-.03	-.05	-.02
Non European	.02	.01	.01	.00	.03	.00
East European	.04	.03	.01	.03	.02	.03
South European	-.06	-.07	-.07	-.04	-.07	-.04
Unemployed	-.03	-.02	-.05	-.03	-.06	-.05
Union Household	-.03	-.04	-.04	-.03	-.03	-.03
Under 40 000\$	-.01	-.02	-.01	-.01	-.02	-.03
70 000 - 90 000\$	-.05	-.04	-.05	-.05	-.05	-.05
Over 90 000\$	-.02	-.03	-.04	-.03	-.03	-.03
<i>Discriminators</i>						
Political Information	.14 **	.29 *	.16 **	.12 *	.17 **	-
Media Attention	.00	.01	-.01	-.01	.02	-
Political Interest	.01	-.01	-.00	-.27	-.00	-
Education	.16 *	.17 *	.18 *	.17 *	-.06	-
Index	-	-	-	-	-	.25 *
Constant	-.03	-.09	-.04	.15	.06	.00
Number of cases	958	969	969	969	969	969
R-squared	.442	.492	.484	.473	.481	.484
<i>Heterogeneity Measures</i>						
Significant Gaps		7	9	6	10	9
Low/Medium Gaps		2.60	1.91	2.62	1.98	2.11
High/Medium Gaps		2.21	2.53	2.40	2.56	2.26
Low/High Gaps		2.25	2.56	1.80	2.82	2.71
Total Gaps		7.06	7.00	6.82	7.36	7.08
R-Squared Difference		.050 ***	.042 ***	.031 *	.039 **	.042 ***

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Table A.2.2: Cognitive Sources of Heterogeneity, 1992 Quebec Referendum Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Refer. Interest	Education	Index
<i>Specific Elements</i>							
Distinct society	-.00	Low	-.03	.08	-.07	-.03	.01
		Med.	.07	.00	.02	-.04	.05
		High	-.00	-.10	-.01	.04	-.02
25% guarantee	-.01	Low	.00	.02	-.05	.01	.03
		Med.	-.02	.00	.01	-.04	-.04
		High	.00	-.02	.00	-.00	.00
Senate reform	.08 *	Low	.13	.17	.07	.07	.09
		Med.	.04	.03	.07	-.00	.15 *
		High	.07	.05	.11	.19 •	.04
Aboriginal self-gov.	.06 *	Low	.07	-.00	.11 •	.04	.03
		Med.	-.01	.07	-.00	.10 *	.02
		High	.08	.14	.08	.11	.13
<i>General arguments</i>							
Best compromise	.16 ***	Low	.07	.22	.04	.02 ••	.05 •
		Med.	.19 *	.06	.17 **	.39 ***	.22 **
		High	.27	.26 •	.28	.19 •	.33
Move on	.04	Low	-.04 •	-.05 •	.06	.04	-.05
		Med.	.10 *	.09	.02	.02	.08
		High	.05	.07	.07	.09	.09
Province winner	.12 **	Low	.20	.02	.12	.15	.11
		Med.	.09	.12 *	.13 *	.05	.11
		High	.07	.30 •	.08	.12	.13
<i>Intervenors</i>							
R. Bourassa	.55 ***	Low	.70 •	.58	.57	.83 •••	.73
		Med.	.37 **	.68 ***	.54 ***	.19	.48 ***
		High	.50	.22 ••	.40	.28	.25
J. Parizeau	-.32 ***	Low	-.41	-.53 •	-.41	-.39	-.50 •
		Med.	-.29 **	-.28 *	-.25 **	-.26 *	-.13
		High	-.06	-.18	-.21	-.25	-.20
<i>(continued)</i>							

Table A.2.2: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Refer. Interest	Education	Index
<i>Group Sentiments</i>							
Feeling for Quebec	-.16	Low	-.33	-.05	-.12	-.32 •	-.19
		Med.	-.10	-.24 *	-.17	.21	-.21
		High	-.14	-.06	-.03	-.09 •	-.07
Feeling for Canada	.11	Low	.08	.10	.03	.13	.18
		Med.	.13	.21	.17	-.19	.04
		High	.05	.12	.14	.20 •	.20
Linguistic threat	-.02	Low	-.06	.00	-.00	-.00	.01
		Med.	.02	-.03	-.02	-.03	-.04
		High	-.02	.03	-.04	.02	.02
Economic concern	.07	Low	.20	.09	.11	.13	.07
		Med.	.02	.08	.16 *	.05	.21 *
		High	.05	.01	-.09 •	-.03	-.07 •
Sovereignty support	-.06	Low	.12	-.12	.00	.05 •	.00
		Med.	-.17	-.04	-.12	-.16 *	-.13
		High	-.19	-.00	-.00	-.21	-.06
Fear of separation	.04	Low	-.04	.10	.02	-.01	.04
		Med.	.09	-.05	.04	.13	.02
		High	.11	.02	.08	.08	.05
<i>(Continued)</i>							



Table A.2.2: (Continued)

	Homo- geneous Model	Heterogeneous Models				
		Information	Media Attention	Refer. Interest	Education	Index
<i>Sociodemographics</i>						
Non Francophone	.06	.05	.05	.05	.03	.04
Over 55 years	.08 *	.07 *	.07 *	.10 *	.06	.06
Male	.03	.04	.02	.02	.02	.02
Union Household	-.07 *	-.06 *	-.08 **	-.06 *	-.06 *	-.05 *
Unemployed	.01	.02	.00	.01	.01	.00
Under 40 000\$	-.06 *	-.06 *	-.07 *	-.05	-.05	-.05 *
70 000 - 90 000\$	-.03	-.05	-.03	-.03	-.04	-.07
Over 90 000\$	-.02	-.04	.00	.02	-.03	.00
Protestant	.11	.12	.11	.10	.16 *	.12
Other Religion	-.02	-.02	-.05	-.01	-.07	-.03
No Religion	.02	.05	-.01	.02	-.00	.03
British	.02	.03	.03	.03	.03	.04
North European	.07	.07	.02	.04	.06	.03
Non European	.14	.17	.14	.12	.10	.14
East European	.17	.22 *	.21*	.19 *	.18 *	.18 *
South European	.03	-.01	.06	.05	.09	.04
<i>Discriminators</i>						
Political Information	.03	-.18	.04	.01	.03	-
Media Attention	-.02	-.01	-.10	-.02	.01	-
Political Interest	.11 *	.12 *	.10 *	-.18	.10 *	-
Education	-.02	-.02	.02	.02	-.06	-
Index	-	-	-	-	-	-.08
Constant	.09	.17	.07	.20	.11	.14
Number of cases	618	618	618	618	618	618
R-squared	.586	.617	.618	.608	.631	.615
<i>Heterogeneity Measures</i>						
Significant Gaps		2	5	2	8	3
Low/Medium Gaps		2.17	1.63	1.03	1.68	1.60
High/Medium Gaps		0.99	1.78	1.15	2.76	1.51
Low/High Gaps		1.94	1.97	2.18	2.04	1.79
Total Gaps		5.10	5.38	3.52	6.48	4.90
R-Squared Difference		.031 *	.032 *	.022	.045 ***	.029 *

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Table A.2.3: Cognitive Sources of Heterogeneity, 1993 Liberal Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Partisan Identification</i>	.30 ***	Low	.43	.46 ••	.21	.38	.41 •
		Med.	.30 ***	.19 **	.26 ***	.45 ***	.23 ***
		High	.25	.35 •	.39 •	.10 •••	.32
<i>Values</i>							
Populism	-.18 *	Low	.06 •	.04 •	-.18	-.15	.01 •
		Med.	-.36 *	-.34 *	-.32 *	.03	-.38 *
		High	-.21	-.10	-.01 •	-.34 •	-.17
Feeling for Minorities	-.21 **	Low	-.41 •	-.26	-.48	-.17	-.31
		Med.	.04	-.07	-.05	-.29 *	-.06
		High	-.20	-.30	-.42 •	-.28	-.20
Feeling for French	.00	Low	.04	-.13	-.10	.13	-.02
		Med.	-.06	-.09	-.02	.04	.02
		High	.04	.04	.06	-.25	.04
Feeling for Oth. Min.	.09	Low	.10	.12	-.09	.17	.27
		Med.	.13	.29 *	.19 *	.08	.15
		High	-.08	-.08 •	.02	-.11	-.27 •
Welfare State	.08	Low	.07	.16	.15	.01	.19
		Med.	.03	.01	.12	.20	-.10
		High	.18	.12	.15	.08	.20
Capitalism	-.12	Low	-.05 •	-.30	-.04	-.16	-.24
		Med.	-.47 **	-.26	-.39 **	-.31	-.26
		High	.19 ••	.21 •	.23 ••	.18 •	.29 •
Continentalism	-.07	Low	.07	-.08	.05	-.09	-.09
		Med.	-.06	-.20 *	-.03	-.00	-.06
		High	-.19	.04 •	-.21	-.05	-.08
Macroeconomics	-.06	Low	.18	-.05	.05	.06	.10
		Med.	.08	.02	-.19 *	-.10	-.13
		High	-.35 ••	-.19	.05	-.15	-.31
Anti-unionism	.03	Low	.04	-.05	.32	-.04	-.05 •
		Med.	.17	.22 *	.04	-.00	.26 *
		High	-.09	-.11 •	.05	.01	-.15 •
<i>(Continued)</i>							

Table A.2.3: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Values (continued)</i>							
Moral Traditionalism	.20 *	Low	.06	.30	.49	.24	.05 •
		Med.	.18	.11	.11	.07	.39 **
		High	.34	.33	.18	.45	.07
<i>Economic Perceptions</i>							
Personal Retrospective	.02	Low	.02	.04	-.09	-.05 •	-.00
		Med.	.06	-.19 *	.01	.22 *	.02
		High	-.05	.08 •	.12	-.04 •	-.00
National Retrospective	.09	Low	.14	.01	.04	.28 •	.11
		Med.	.04	.13	.15	-.06	.14
		High	.07	-.02	-.03	-.08	-.05
<i>Leader Evaluations</i>							
Brian Mulroney	-.08	Low	-.03	-.02	-.11	-.03	-.11
		Med.	-.01	-.05	-.15 *	-.19	-.00
		High	-.03	-.03	.11 •	-.10	-.07
Kim Campbell	-.16 *	Low	-.20	-.19	-.87 ••	-.26 •	-.16
		Med.	-.22	-.15	-.04	.06	-.42 **
		High	-.14	-.14	-.21	-.27	-.00 •
Jean Chrétien	.90 ***	Low	.63	.95	1.28	.73	.84
		Med.	.88 ***	1.09 ***	1.00 ***	.69 ***	1.08 ***
		High	.90	.66 •	.64 •	1.48 ••	.91
Preston Manning	-.56 ***	Low	-.83 •	-.57	-.54	-.68	-.70
		Med.	-.44 **	-.69 ***	-.50 ***	-.46 **	-.65 ***
		High	-.44	-.47	-.70	-.41	-.15 •
Andrey McLaughlin	.02	Low	.19	-.09	.12	-.04	.15
		Med.	-.15	-.07	.08	.04	.06
		High	.02	.10	-.08	-.08	-.04
<i>(Continued)</i>							

Table A.2.3: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Sociodemographics</i>							
Atlantic	-.04		-.08	-.04	-.05	-.03	-.03
British Columbia	-.10 *		-.08	-.10 *	-.09 *	-.07	-.08
Prairies	-.07		-.08 *	-.06	-.07	-.06	-.07
18 to 24 years	-.06		-.08	-.02	-.05	-.06	-.05
40 to 49 years	.01		.00	-.00	.02	-.02	-.00
50 to 65 years	-.08 *		-.10 *	-.08	-.08 *	-.08	-.08
65 years or more	-.00		-.00	-.00	.00	-.00	-.01
Woman	-.05		-.05	-.05	-.05	-.05	-.03
Catholic	.02		-.00	.02	.01	.02	.00
Other Religion	.06		.07	.06	.07	.08	.07
No Religion	-.01		-.02	.03	-.03	.03	-.03
French	.10		.08	.06	.11	.10	.12
North European	-.12 *		-.13 *	-.11 *	-.12 *	-.12 *	-.13 *
Non European	-.05		.03	-.04	-.01	-.01	.03
East European	-.02		-.01	-.02	-.00	-.04	-.06
South European	-.12		-.16	-.10	-.14	-.19	-.14
Unemployed	.09		.06	.08	.12	.11	.06
Union Household	.02		.03	.03	.02	.01	.02
Married	.02		.02	.03	.03	.02	.01
Under 30 000 \$	.04		.06	.04	.03	.03	.06
Over 60 000 \$	.08 *		.08 *	.08 *	.07 *	.09 **	.10**
<i>Discriminators</i>							
Political Information	-.12 *		-.10	-.11 *	-.12 *	-.10	-
Media Attention	.10		.12 *	.07	.11	.10	-
Political Interest	-.12 *		-.12	-.13 *	-.01	-.11	-
Education	.06		.10	.07	.04	-.28	-
Index	-		-	-	-	-	-.24
Constant	.32 *		.34	.32	.26	.48 *	.29
Number of Cases	810		810	810	810	810	810
R-squared	.417		.460	.455	.456	.470	.451
<i>Heterogeneity Measures</i>							
Significant Gaps			6	9	7	8	9
Low/Medium Gaps			3.23	2.59	3.78	2.80	3.03
High/Medium Gaps			2.97	3.98	3.65	4.01	4.13
Low/High Gaps			3.42	1.85	3.95	3.67	2.73
Total Gaps			9.62	8.42	11.38	10.48	9.89
R-sq. Difference (F-test)			.043 *	.038 *	.039 *	.053 ***	.034

Table A.2.4: Cognitive Sources of Heterogeneity, 1993 Conservative Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Partisan Identification</i>	.22 ***	Low	.08 **	.24	.10	.24	.11 ***
		Med.	.27 ***	.23 ***	.23 ***	.15 *	.36 ***
		High	.26	.23	.26	.25	.21 •
<i>Values</i>							
Populism	-.09	Low	-.26	-.16	-.23	-.27	-.30 •
		Med.	-.08	-.03	-.13	-.07	.01
		High	.04	-.15	-.03	.13	.02
Feeling for Minorities	-.01	Low	.01	.07	-.15	-.12 •	-.01
		Med.	-.11	.02	.03	.14	-.04
		High	.06	-.02	-.06	.08	.02
Feeling for French	-.05	Low	.02	-.06	.07	.09 •	.06
		Med.	.05	-.12	-.04	-.23 *	-.04
		High	-.16 •	-.03	-.07	-.05	-.09
Feeling for Oth. Min.	.09	Low	.08	.22 •	.11	.13	.03
		Med.	.03	-.12	.06	.20 *	.07
		High	.14	.15 •	.21	.02	.22
Welfare State	-.10 *	Low	-.18	-.17 •	-.05	-.13	-.15
		Med.	-.13	.14	-.15 *	-.05	-.02
		High	.08	-.32 **	-.04	-.03	-.07
Capitalism	.21 *	Low	.29	-.05	-.08	.19	.27
		Med.	.39 **	.25 *	.31 **	.24	.28 *
		High	-.06 •	.27	.05	.32	.00
Continentalism	.01	Low	-.02	-.09	.09	.07	-.02
		Med.	-.10	.03	-.06	.05	.02
		High	.10 •	.08	.16 •	-.07	.08
Macroeconomics	.22 ***	Low	.13	.20	.72 **	.26	.22
		Med.	.24 **	.13	.09	.21 *	.23 *
		High	.21	.32	.32	.08	.28
Anti-unionism	.07	Low	.10	.14 •	.22	.11	.15 •
		Med.	.04	-.08	.04	.13	-.17 *
		High	.17	.16 •	.08	-.02	.20 **
<i>(Continued)</i>							

Table A.2.4: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Values (continued)</i>							
Moral Traditionalism	-.05	Low	.10	-.13	-.12	-.03	.03
		Med.	-.07	.04	-.03	-.05	-.11
		High	-.15	-.12	-.11	-.16	-.04
<i>Economic Perceptions</i>							
Personal Retrospective	-.05	Low	.01	-.07	.16	-.01	.02
		Med.	-.14 *	-.06	-.04	-.15 *	-.07
		High	-.06	-.01	-.15	-.02	-.11
National Retrospective	-.02	Low	.13	.27 •	-.03	-.07 •	.02
		Med.	-.10	-.03	.03	.17	-.02
		High	.01	-.18	-.06	-.01	-.05
<i>Leader Evaluations</i>							
Brian Mulroney	.07	Low	-.15 •	.12	-.17 •	-.06	-.04
		Med.	.09	.01	.15 *	-.04	.11
		High	.14	.06	-.06 •	.28 •	.16
Kim Campbell	.57 ***	Low	.48	.71	.74	.71	.71 •
		Med.	.73 ***	.61 ***	.52 ***	.49 ***	.43 ***
		High	.49 •	.44	.55	.55	.54
Jean Chrétien	-.36 ***	Low	-.27	-.49	-.36	-.24	-.40
		Med.	-.27 *	-.23	-.23 *	-.35 *	-.30 *
		High	-.44	-.45	-.42	-.43	-.47
Preston Manning	-.27 ***	Low	-.06 •	-.24	-.27	-.24	-.14
		Med.	-.38 ***	-.24 *	-.27 **	-.31 *	-.30 **
		High	-.40	-.25	-.29	-.35	-.53
Andrey McLaughlin	-.01	Low	-.15	.04	-.02	.04	-.16
		Med.	.01	-.10	-.10	-.13	.03
		High	.08	.03	.09	-.02	.05
<i>(Continued)</i>							

Table A.2.4: (Continued)

	Homo- geneous Model	Heterogeneous Models				
		Information	Media Attention	Election Interest	Education	Index
<i>Sociodemographics</i>						
Atlantic	-.01	.01	-.01	-.01	-.00	-.00
British Columbia	-.10 **	-.09 *	-.10 **	-.10 **	-.09 **	-.11 **
Prairies	-.03	-.02	-.03	-.03	-.03	-.03
18 to 24 years	.00	-.01	-.01	.00	-.00	-.01
40 to 49 years	.04	.05	.06	.02	.04	.04
50 to 65 years	-.01	-.00	.01	-.02	-.01	-.02
65 years or more	.04	.08	.07	.03	.04	.06
Woman	.05	.05	.05 *	.05 *	.06 *	.04
Catholic	.00	.01	.00	-.01	.01	.01
Other Religion	-.03	-.02	-.05	-.04	-.04	-.04
No Religion	.05	.04	.03	.03	.05	.05
French	.02	.03	-.02	.02	.02	.02
North European	.02	.03	.01	.00	.02	.01
Non European	.13	.13	.11	.10	.10	.12
East European	-.09	-.09	-.10 *	-.10 *	-.09	-.08
South European	.01	.02	.02	.03	.07	.04
Unemployed	-.01	-.01	.00	-.05	-.00	-.01
Union Household	-.03	-.03	-.02	-.03	-.02	-.04
Married	-.01	-.01	-.01	-.00	-.01	.00
Under 30 000 \$	-.03	-.06	-.02	-.03	-.03	-.05
Over 60 000 \$	-.07 **	-.07 **	-.06 *	-.07 *	-.07 *	-.09 **
<i>Discriminators</i>						
Political Information	.13 **	.15	.12 **	.14 **	.13 **	-
Media Attention	-.03	-.06	.08	-.01	-.03	-
Political Interest	.07	.07	.07	.19	.08	-
Education	-.03	-.05	-.04	-.01	.13	-
Index	-	-	-	-	-	.24
Constant	.02	.02	-.02	-.10	-.16	.02
Number of Cases	810	810	810	810	810	810
R-squared	.391	.443	.431	.429	.427	.423
<i>Heterogeneity Measures</i>						
Significant Gaps		7	7	4	4	6
Low/Medium Gaps		2.49	2.70	3.12	2.15	2.39
High/Medium Gaps		2.46	2.42	2.18	2.25	1.95
Low/High Gaps		3.36	1.90	2.28	2.60	2.66
Total Gaps		8.31	7.02	7.58	7.00	7.00
R-sq. Difference (F-test)		.052 **	.040 *	.038	.036	.032

Table A.2.5: Cognitive Sources of Heterogeneity, 1993 Reform Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Partisan Identification</i>	.28 ***	Low	.18	.25	.58 •	.34	.38 •
		Med.	.29 ***	.26 **	.22 **	.23 *	.07
		High	.26	.33	.33	.21	.31 •
<i>Values</i>							
Populism	.11	Low	.15	.02	.27	.35 •	.09
		Med.	.24 *	.06	.14	-.03	.34 *
		High	.05	.29	.07	-.08	-.02 •
Feeling for Minorities	.12 *	Low	-.07	.09	-.01	.19	-.01
		Med.	.09	.04	.02	-.03	.17
		High	.28	.20	.37 •	.12	.24
Feeling for French	.15 *	Low	.22	.23	.12	-.04 •	.19
		Med.	.04	.11	.19 *	.29 *	.14
		High	.18	.06	-.02	.35	.04
Feeling for Oth. Min.	-.12	Low	-.11	-.23 •	-.01	-.17	-.05
		Med.	-.06	.07	-.17 *	-.30 *	-.23 *
		High	-.15	-.16	-.08	.01 •	.07 •
Welfare State	.05	Low	.25	-.03	.11	.13	.10
		Med.	-.01	-.02	.20 *	-.14	.09
		High	-.09	.22	-.16 •	.01	-.07
Capitalism	.04	Low	-.20 •	.34	.24	-.02	.12
		Med.	.23	-.01	.14	.30 *	-.03
		High	.08	-.09	-.11	-.13 •	.01
Continentalism	.13 **	Low	.06	.13	.02	.12	.13
		Med.	.19 *	.24 **	.14 *	.05	.15
		High	.15	.03 •	.18	.17	.14
Macroeconomics	-.10	Low	-.14	-.17	-.70 **	-.20	-.27 •
		Med.	-.23 *	-.10	.03	-.07	-.01
		High	.10 •	-.05	-.16	.07	.08
Anti-unionism	.08	Low	.09	.17	.27	.04	.11
		Med.	.12	-.01	.02	.07	.06
		High	-.07	.03	-.01	.25	-.01
<i>(Continued)</i>							



Table A.2.5: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Election Interest	Education	Index
<i>Values (continued)</i>							
Moral Traditionalism	-.07	Low	-.14	-.15	-.03	-.12	-.10
		Med	-.02	.08	-.01	.06	-.03
		High	.01	-.14	-.05	-.01	-.03
<i>Economic Perceptions</i>							
Personal Retrospective	-.01	Low	-.00	-.06	-.02	.03	-.01
		Med.	-.02	.04	-.02	-.08	-.06
		High	.05	.00	-.04	.02	.06
National Retrospective	-.11 *	Low	-.18	-.35 •	-.29	-.22	-.19
		Med.	-.05	.01	-.10	-.07	-.19 *
		High	-.08	-.00	-.07	-.05	.03
<i>Leader Evaluations</i>							
Brian Mulroney	-.02	Low	.22 •	.03	-.01	.05	.00
		Med.	-.11	-.03	-.13	.15	-.02
		High	-.16	-.06	.02	-.21 •	-.13
Kim Campbell	-.24 **	Low	-.19	-.32	.06	-.27	-.23
		Med.	-.30 *	-.19	-.26 *	-.23 *	-.16
		High	-.18	-.24	-.25	-.20	-.32
Jean Chrétien	-.33 ***	Low	-.33	-.33	-.75	-.33	-.37
		Med.	-.49 **	-.47 **	-.39 **	-.47 **	-.49 **
		High	-.10 •	-.25	-.13	-.41	-.19
Preston Manning	.97 ***	Low	1.18	1.13	.92	1.05	1.07
		Med.	1.13 ***	.92 ***	.99 ***	1.17 ***	1.12 ***
		High	.75 •	.86	.94	.66 •	.67 •
Andrey McLaughlin	-.30 ***	Low	-.29	-.31	-.16	-.35	-.29
		Med.	-.32 *	-.31 *	-.37 **	-.20	-.45 **
		High	-.38	-.22	-.27	-.23	-.25
<i>(Continued)</i>							

Table A.2.5: (Continued)

	Homo- geneous Model	Heterogeneous Models				
		Information	Media Attention	Election Interest	Education	Index
<i>Sociodemographics</i>						
Atlantic	-.01	-.01	-.00	-.01	-.03	.00
British Columbia	.12 ***	.11 **	.13 ***	.13 ***	.11 **	.11**
Prairies	.07 *	.05	.07 *	.07 *	.05	.08*
18 to 24 years	-.07	-.07	-.08	-.08	-.05	-.05
40 to 49 years	-.11 **	-.12 ***	-.11 **	-.11 **	-.10 **	-.12***
50 to 65 years	.00	-.00	.01	.01	-.01	.00
65 years or more	-.08	-.12 *	-.09	-.09	-.08	-.07
Woman	-.01	-.00	-.01	-.01	-.02	.01
Catholic	.00	-.00	.02	.02	.01	.01
Other Religion	.08	.07	.08	.08	.08	.08
No Religion	.05	.08 *	.05	.06	.04	.06
French	-.09	-.09	-.08	-.08	-.08	-.09
North European	.04	.05	.03	.06	.05	.05
Non European	-.10	-.11	-.07	-.15	-.10	-.10
East European	.02	.04	.01	.00	.02	.01
South European	.12	.15	.12	.12	.08	.12
Unemployed	-.05	-.02	-.05	-.03	-.06	-.01
Union Household	-.03	-.04	-.05	-.03	-.03	-.03
Married	-.01	-.01	-.01	-.02	.00	.00
Under 30 000 \$	-.00	.00	-.01	-.02	-.00	-.02
Over 60 000 \$	-.04	-.04	-.04	-.04	-.05	-.05
<i>Discriminators</i>						
Political Information	-.05	-.06	-.04	-.04	-.05	-
Media Attention	-.01	-.01	-.13	-.02	-.03	-
Political Interest	.03	.03	.05	.03	.03	-
Education	-.04	-.03	-.04	-.06	.09	-
Index	-	-	-	-	-	-.01
Constant	.10	.06	.15	.12	.09	.06
Number of Cases	810	810	810	810	810	810
R-squared	.462	.492	.492	.498	.494	.486
<i>Heterogeneity Measures</i>						
Significant Gaps		5	3	4	6	6
Low/Medium Gaps		2.48	2.47	3.27	2.98	2.00
High/Medium Gaps		2.56	2.08	2.36	2.79	3.00
Low/High Gaps		3.28	2.77	3.96	3.17	2.66
Total Gaps		8.32	7.32	9.59	8.94	7.66
R-sq. Difference (F-test)		.030	.030	.036 *	.032	.024

Table A.2.6: Cognitive Sources of Heterogeneity, 1997 Liberal Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Partisan Identification</i>	.22 ***	Low	.26 •	.21	.22	.22	.20
		Med.	.18 ***	.21 ***	.18 ***	.24 ***	.25 ***
		High	.23	.22	.24	.18	.18 •
<i>Values</i>							
Do more for Women	-.04	Low	.07 •	-.05	-.00	.01	.05 •
		Med.	-.11 *	-.15 **	-.09	-.07	-.12 *
		High	-.06	.05 ••	-.05	-.07	-.03
Regional Alienation	-.06 *	Low	-.06	-.07	-.03	-.08	.00 •
		Med.	-.05	-.05	-.07	-.07	-.12 **
		High	-.04	-.07	-.13	.02	-.07
Feeling for Quebec	.15 **	Low	-.06 •	.17	.02	.05	.15
		Med.	.27 **	.18 *	.22 *	.23 *	.13
		High	.08	.16	.21	.17	.21
Feeling for Oth. Minor.	-.01	Low	.01	-.05	.12 •	.03	.06
		Med.	-.05	.08	-.08	-.10	-.04
		High	-.03	-.07	-.14	-.03	-.03
Continentalism	-.08	Low	-.07	.07	-.08	-.05	-.02
		Med.	.06	-.16	-.19	.13	-.05
		High	-.16	-.09	-.03	-.23 •	-.28
Cynicism	-.03	Low	-.00	-.23 ••	-.16	-.07	-.20 •
		Med.	-.02	.15	-.03	-.09	.03
		High	-.08	.06	.14	.05	.08
Moral Traditionalism	-.02	Low	.03	-.05	.01	.05	.08
		Med.	-.05	-.05	-.03	-.03	-.07
		High	-.05	.05	-.11	-.09	-.04
Free Enterprise	.01	Low	.13	-.04	-.09 •	.09	-.01
		Med.	-.03	.00	.19 *	-.01	.10
		High	.02	.03	-.03	-.10	-.02

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: •• &lt; .001; •• &lt; .01; • &lt; .1

Table A.2.6: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Issues</i>							
Spending	-.02	Low	-.03	-.06	-.04	.01	.01
		Med.	.01	.05	-.03	.10	-.04
		High	-.09	-.00	-.01	-.11 •	-.03
Taxes	.02	Low	.12 •	.03	-.00	.01	.01
		Med.	.00	-.01	.09 *	-.00	.03
		High	-.03	.06	-.00	.06	.01
Deficit	.06 **	Low	-.04 •	.09	.02	-.01 ••	.02
		Med.	.09 *	.07 *	.09 *	.16 ***	.04
		High	.07	.05	.07	.09	.12
Jobs	-.02	Low	-.12 •	-.04	-.00	-.06 •	-.04
		Med.	.07	.04	-.02	.08	.03
		High	-.05 •	-.04	-.06	-.01	-.04
Crime	.01	Low	.00	.06 •	.00	.02	.06 •
		Med.	.03	-.03	.02	-.02	-.01
		High	-.01	-.00	.01	.03	-.02
Guns	.01	Low	-.04	.02	.03	.02	.01
		Med.	.00	-.01	-.02	.01	.03
		High	.05	.02	.02	-.03	-.01
Immigration	-.02	Low	-.03	-.01	-.04	-.05	-.03
		Med.	-.03	-.02	.02	.01	-.01
		High	-.02	-.03	-.00	-.03	-.05
<i>Liberal Performance</i>							
National Unity	-.02	Low	.06	-.04	-.03	.02	.03 •
		Med.	-.03	-.07 *	-.04	-.01	-.08 *
		High	-.05	.06 •	.03	-.05	.02 •
Deficit	.02	Low	-.01	.06	.01	.02	-.01
		Med.	-.02	-.00	-.04	.08 *	.04
		High	.01	.02	.06 •	-.04 •	.00
Jobs	.06 **	Low	.03	.04	.08	.06	.04
		Med.	.10 *	.03	.07	.00	.04
		High	.04	.08	-.02	.12 •	.10
<i>(Continued)</i>							

Table A.2.6: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Liberal Performance (continued)</i>							
Crime	.04 *	Low	.01 •	.04	.02 •	.05	.01
		Med.	.10 **	.07 *	.11 **	.05	.08 *
		High	.02	-.00	-.02	.03	.01
Social Programs	-.02	Low	-.03	.00	-.00	-.01	-.01
		Med.	-.03	.01	-.08 *	-.05	-.03
		High	-.01	-.09 •	.02	-.03	-.02
GST	-.05 *	Low	-.07	.07 ••	-.07	-.04	-.06
		Med.	-.04	-.11 *	-.01	-.08	-.05
		High	-.05	-.11	-.00	-.04	-.01
<i>Economic Perceptions</i>							
National Retrospective	-.03	Low	.02	-.04	.02	-.02	.00
		Med.	-.01	-.05	-.04	-.09 *	-.03
		High	-.06	.00	-.07	.02 •	-.06
Personal Retrospective	-.01	Low	-.06	.01	-.05 •	-.04	-.02
		Med.	-.02	-.04	.02	.01	.00
		High	.02	-.01	.03	-.00	-.01
National Prospective	.05 *	Low	.02	.02	.02	.02	-.00
		Med.	-.03	.04	.05	.04	.04
		High	.13 ••	.10	.06	.09	.11
Personal Prospective	.02	Low	.04	.03	.07 •	.02	.06 •
		Med.	.02	.04	-.03	.03	-.03
		High	.03	-.01	.01	.01	.07 •
<i>Leader Evaluation</i>	.52 ***	Low	.61	.60	.54	.47	.62 •
		Med.	.47 ***	.53 ***	.75 ***	.29 **	.35 ***
		High	.54	.47	.38 ••	.78 ••	.63 •
<i>Strategic Voting</i>							
Riding	-.06	Low	.44 •	-.06	-.02	.08 •	.03
		Med.	.04	-.05	.01	-.19 *	.01
		High	-.23 •	-.16	-.08	-.13	-.18
<i>(Continued)</i>							

Table A.2.6: (Continued)

		Homo- geneous Model	Heterogeneous Models				
			Information	Media Attention	Political Interest	Education	Index
<i>Strategic Voting (continued)</i>							
Opposition	-.01	Low	.02	.02	-.04	-.01	-.01
		Med.	-.13 *	-.01	-.02	-.07	-.05
		High	.23 **	-.05	.13	.05	.14
<i>Sociodemographics</i>							
Atlantic	-.10 *		-.10 *	-.10 *	-.10 *	-.10 *	-.10 *
Prairies	-.03		-.03	-.03	-.03	-.05	-.03
British Columbia	-.12 ***		-.13 ***	-.12 **	-.12 **	-.15 ***	-.11 **
Rural/urban	-.02		-.03	-.03	-.03	-.03	-.01
North European	-.03		-.04	-.03	-.04	-.02	-.03
Non European	.12 **		.12 **	.10 *	.11 *	.14 **	.11 *
Catholic	.07 *		.09 **	.08 **	.06 *	.06 *	.07 *
No Religion	.00		.03	.01	-.00	-.00	.00
Employed	.06 *		.04	.06 *	.07 *	.05 *	.04
Public employment	.09 ***		.09 ***	.09 **	.09 ***	.09 **	.10 ***
Union Household	-.05 *		-.04 *	-.05 *	-.04 *	-.04	-.05 *
Low income	.02		.03	.02	.05	.01	.01
High income	-.01		-.01	-.01	-.01	-.01	-.02
Generation boom	.06 *		.06 *	.07 *	.06 *	.06 *	.07 *
Generation X	.03		.03	.03	.02	.04	.03
Traditionally married	.07 **		.08 **	.05 *	.07 **	.06 *	.08 **
Male	-.00		-.00	-.02	-.00	-.00	.01
<i>Discriminators</i>							
Political Information	.01		-.01	-.03	.01	.03	-
Media Attention	-.02		.01	-.15	-.02	-.03	-
Political Interest	.04		.01	.04	-.14	.07	-
Education	-.13 *		-.10	-.10	-.12 *	-.08	-
Index	-		-	-	-	-	-.17
Constant	.42 ***		.42 ***	.47 ***	.56 ***	.38 **	.44 ***
Number of Cases	1020		1020	1020	1020	1020	1020
R-squared	.509		.555	.545	.544	.544	.543
<i>Heterogeneity Measures</i>							
Significant Gaps			12	6	6	9	11
Low/Medium Gaps			2.72	1.79	2.27	2.21	2.02
High/Medium Gaps			2.20	1.67	2.30	2.71	2.13
Low/High Gaps			2.48	1.92	2.35	2.40	1.95
Total Gaps			7.40	5.38	6.92	7.32	6.10
R-squared Difference (F-test)			.046 *	.036	.035	.035	.034

Table A.2.7: Cognitive Sources of Heterogeneity, 1997 Conservative Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Partisan Identification</i>	.14 ***	Low	.23 **	.16	.15	.18	.13
		Med.	.09 ***	.15 ***	.12 ***	.12 ***	.15 ***
		High	.14	.13	.13	.09	.11
<i>Values</i>							
Do more for Women	.08 **	Low	-.03 *	.09	.07	.01 *	.05
		Med.	.09 *	.13 **	.12 *	.15 **	.13 **
		High	.08	.01 *	.04	.10	.02 *
Regional Alienation	.01	Low	.15 ***	-.01	-.00	-.02	-.00
		Med.	-.12 **	.01	.05	-.03	-.03
		High	.08 ***	.04	.01	.02	.08 *
Feeling for Quebec	-.08	Low	-.01	-.19	-.05	-.01 **	-.15
		Med.	-.16 *	-.10	-.16 *	-.35 ***	-.14 *
		High	-.08	.04	-.04	-.03 **	-.06
Feeling for Oth. Minor.	.02	Low	-.06	-.03	-.04	.02	-.02
		Med.	.08	.01	.08	.07	.03
		High	.10	.07	.07	.10	.17
Continentalism	.01	Low	-.08 *	-.04	.05	.00	.04
		Med.	.20 *	.09	.13	-.17	-.05
		High	-.04 *	-.02	-.01	.14 *	.10
Cynicism	-.04	Low	-.20	.02	-.03	-.10	-.11
		Med.	.01	-.08	-.06	.05	.08
		High	.01	-.09	-.01	-.13	-.11
Moral Traditionalism	-.06	Low	.09 *	-.04	-.04	-.06	-.04
		Med.	-.12 *	-.08	-.02	-.08	-.11
		High	-.02	-.14	-.04	-.08	-.03
Free Enterprise	.21 ***	Low	-.05 *	.28	.19	.10 *	.15
		Med.	.20 *	.12	.13	.31 **	.19 *
		High	.28	.17	.29	.27	.24

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Table A.2.7: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Issues</i>							
Spending	-.04	Low	-.20 •	-.11	-.03	-.12	-.09
		Med.	-.00	-.07	-.01	-.01	-.06
		High	-.01	-.01	-.01	-.01	.03
Taxes	.01	Low	.06	.01	.03 •	.05	.07 •
		Med.	-.01	.02	-.08 *	-.03	-.05
		High	.02	.00	.02	-.03	.01
Deficit	-.00	Low	.10 ••	.03 •	.06 •	-.03	.00
		Med.	-.06 *	-.05	-.06 *	-.07	-.01
		High	.02 •	.03 •	-.04	.05 •	.00
Jobs	.02	Low	.19 ••	.05	.04	.01	.05
		Med.	-.04	.02	.07	-.04	.00
		High	.03	-.01	-.02	-.02	.03
Crime	-.02	Low	.00	-.07	-.03	-.05 •	-.04
		Med.	-.01	-.02	-.02	.01	.01
		High	-.04	.02	-.02	.00	-.01
Guns	.00	Low	-.01	-.00	-.02 •	-.01	-.00
		Med.	.00	.02	.04	.03	.02
		High	.01	-.00	.01	-.00	.00
Immigration	-.03 *	Low	-.01	-.01 •	-.05	-.06	-.01
		Med.	-.03	-.09 *	-.06 *	-.08 *	-.06 *
		High	-.02	-.01	-.01	.01 •	.00
<i>Liberal Performance</i>							
National Unity	-.01	Low	-.03	-.04 •	.01 •	-.03	.01
		Med.	-.03	.05	-.06 *	.01	-.05
		High	-.00	-.08 ••	-.03	.01	-.01
Deficit	-.02	Low	.01	.05 •	-.03 •	-.09 •	-.05
		Med.	.00	-.06 *	.08 *	-.01	-.01
		High	-.04	-.05	-.11 •••	.05	-.03
Jobs	-.04 *	Low	-.04	-.05	-.09	-.06	-.07 •
		Med.	-.03	-.00	-.01	.02	.03
		High	-.02	-.02	.04	-.07	-.06 •
<i>(Continued)</i>							



Table A.2.7: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Liberal Performance (continued)</i>							
Crime	.00	Low	-.00	.01	.00 •	.05 •	-.00
		Med.	-.05	-.06	-.09 *	-.04	.02
		High	.03 •	.04 •	.08 ••	-.07	-.01
Social Programs	-.01	Low	.00	-.09 •	-.05 •	.02	-.02
		Med.	-.04	.02	.04	-.00	.01
		High	.00	.02	-.03	-.05	-.02
GST	-.01	Low	.05	-.06	.00	-.06	.00
		Med.	-.04	-.04	-.04	.04	-.07
		High	-.01	.06	.00	-.00	.01
<i>Economic Perceptions</i>							
National Retrospective	-.01	Low	-.01	.05	-.00	.02	.02
		Med.	.02	.01	-.05 *	.00	-.03
		High	-.02	-.06 •	.01	-.07	-.00
Personal Retrospective	.03 *	Low	.07	.01	.08	.04	.04
		Med.	.00	.06 *	.02	-.01	.01
		High	.03	.00	-.04	.04	.03
National Prospective	.01	Low	.04	.03	.06 •	.03	.06
		Med.	.04	-.01	-.04	.05	.01
		High	-.03	-.01	-.00	-.05 •	-.05
Personal Prospective	-.01	Low	-.01	.01	-.00	.03	.04
		Med.	-.00	.02	-.02	-.04	.00
		High	-.03	-.02	.02	-.03	-.05
<i>Leader Evaluation</i>	.43 ***	Low	.46	.38	.37	.23 ••	.34
		Med.	.36 ***	.37 ***	.44 ***	.57 ***	.44 ***
		High	.55 •	.50	.52	.69	.67 •
<i>Strategic Voting</i>							
Riding	.10 **	Low	-.06 •	.17	.01 •	.06	.04
		Med.	.16 **	.02	.23 **	.03	.13 *
		High	.00 •	.14	.04 •	.17	.05
<i>(Continued)</i>							

Table A.2.7: (Continued)

	Homo- geneous Model		Heterogeneous Models				
			Information	Media Attention	Political Interest	Education	Index
<i>Strategic Voting (continued)</i>							
Opposition	.01	Low	-.00	-.01	-.02	.04	-.01
		Med.	-.00	-.00	.06	-.04	-.01
		High	.03	.09	.00	-.00	.04
<i>Sociodemographics</i>							
Atlantic	.13 ***		.15 ***	.13 ***	.13 ***	.13 ***	.13 ***
Prairies	.02		.03	.01	.00	.05 *	.03
British Columbia	-.03		-.03	-.05	-.06 *	.00	-.05
Rural/urban	-.00		-.02	-.01	.00	.01	-.00
North European	.00		.02	-.00	.00	-.02	.01
Non European	-.04		-.04	-.02	-.04	-.06	-.03
Catholic	-.05 *		-.05 *	-.05 *	-.05 *	-.04 *	-.05 *
No Religion	-.04		-.06 *	-.05	-.04	-.05 *	-.05 *
Employed	-.06 *		-.07 *	-.07 **	-.06 *	-.04 *	-.06 *
Public employment	-.07 **		-.07 **	-.06 **	-.06 **	-.07 **	-.08 **
Union Household	.01		.01	.01	.02	.01	.01
Low income	-.03		-.02	-.03	-.03	-.03	-.02
High income	.02		.03	-.00	.03	.02	.04
Generation boom	-.05 *		-.04	-.06 *	-.04	-.05 *	-.05
Generation X	-.02		-.01	-.05	-.01	-.05	-.02
Traditionally married	-.02		-.05 *	.01	-.01	-.02	-.01
Male	.03		.02	.03	.03	.02	.01
<i>Discriminators</i>							
Political Information	-.03		-.22 *	.00	-.02	-.01	-
Media Attention	.00		-.00	.11	-.01	.00	-
Political Interest	.02		.02	-.00	.12	.00	-
Education	.12 *		.15 *	.13 *	.08	-.01	-
Index	-		-	-	-	-	-.16
Constant	.23 *		.31 *	.21 *	.15	.32 **	.39 **
Number of Cases	979		979	979	979	979	979
R-squared	.350		.419	.411	.410	.428	.404
<i>Heterogeneity Measures</i>							
Significant Gaps			16	10	12	12	5
Low/Medium Gaps			3.10	1.70	1.99	2.57	1.59
High/Medium Gaps			1.80	1.80	2.00	2.08	2.05
Low/High Gaps			2.24	1.96	1.39	2.39	1.50
Total Gaps			7.14	5.46	5.38	7.04	5.14
R-squared Difference (F-test)			.069 ***	.061 **	.060 *	.078 ***	.054 *

Table A.2.8: Cognitive Sources of Heterogeneity, 1997 Reform Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Partisan Identification</i>	.15 ***	Low	.15	.11	.15	.18 ***	.15
		Med.	.17 ***	.16 ***	.16 ***	.07 **	.16 ***
		High	.12	.17	.14	.17 **	.14
<i>Values</i>							
Do more for Women	-.01	Low	-.05	-.02	-.01	.04 **	-.07
		Med.	.05	-.04	-.07	-.11 **	.02
		High	-.03	-.01	.00	-.01	-.01
Regional Alienation	.05 **	Low	.07	.12 •	.03	.04	.05
		Med.	.15 ***	.03	.04	.05	.11 ***
		High	-.03 ***	.02	.08	.03	.01 •
Feeling for Quebec	-.12 ***	Low	-.11	-.11	-.04	-.17	-.19
		Med.	-.13 *	-.13	-.12	-.00	-.10
		High	-.08	-.19	-.22	-.13	-.17
Feeling for Oth. Minor.	-.02	Low	.13 •	-.02	-.09	-.10	-.04
		Med.	-.07	.08	.05	.04	-.00
		High	-.08	-.05	.02	.07	-.04
Continentalism	-.08	Low	-.09	-.00	-.08	-.03	-.08
		Med.	-.18 *	-.22 *	-.06	-.12	-.02
		High	-.04	-.01	-.08	-.15	-.11
Cynicism	.03	Low	.13	.14	.13	.06	.19 **
		Med.	-.06	.03	.12	.09	-.11
		High	.08	-.00	-.10 •	.04	.07
Moral Traditionalism	.08 **	Low	.08	-.00	.06	.01	.02
		Med.	.14 **	.10	.07	.08	.10
		High	.03	.12	.13	.15	.08
Free Enterprise	-.02	Low	-.06	-.06	-.01	.06	-.01
		Med.	.07	.05	-.04	-.08	.01
		High	-.08	.00	-.02	.05	.01

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; • &lt; .1

Table A.2.8: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Issues</i>							
Spending	.06 *	Low	.12	.10	.06	.07 •	.07
		Med.	.08	.06	.06	-.08	.05
		High	.03	.03	.03	.18 ***	.06
Taxes	.03 *	Low	-.06 •	-.01	.03	.01 •	.03
		Med.	.05	.04	.06	.11 **	.05
		High	.06	.03	.06	.02 •	.03
Deficit	-.02	Low	.03	-.03	-.05	.02 •	.01
		Med.	-.04	-.05	-.03	-.07 *	-.06 *
		High	-.04	.00	.02	-.04	-.01
Jobs	-.03	Low	.04	-.02	-.02 •	.02 •	-.03
		Med.	-.06	-.09 **	-.12 ***	-.09 *	-.04
		High	-.01	.02 •	.05 ***	-.04	-.05
Crime	.04 ***	Low	.03	.01 ••	.02	.06	.00
		Med.	.03 *	.08 ***	.06 ***	.04 *	.05 **
		High	.06	.02 •	.03	.00	.04
Guns	-.01	Low	.01	-.06 ••	-.03	.01	-.03
		Med.	-.01	.02	-.00	-.03	-.01
		High	-.03	-.00	-.02	-.04	-.02
Immigration	.05 ***	Low	.13 ••	.04	.07	.06	.04
		Med.	.02	.07 **	.04	.05	.06 **
		High	.05	.08	.02	.05	.04
<i>Liberal Performance</i>							
National Unity	-.02	Low	-.05	.02	.01	-.10 ••	-.02
		Med.	.01	-.05	-.05	-.01	-.00
		High	-.02	-.03	-.03	.05	-.01
Deficit	-.02	Low	.02	-.05	-.03	.05 •	-.04
		Med.	-.05 *	-.01	-.03	-.02	-.03
		High	.01	-.02	-.00	-.09	-.01
Jobs	-.02	Low	.04 •	-.02	.02	-.00	.06 ••
		Med.	-.05	-.02	-.05	.00	-.06
		High	-.03	-.01	-.06	-.11 •	-.07
<i>(Continued)</i>							

Table A.2.8: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
<i>Liberal Performance (continued)</i>							
Crime	-.03	Low	-.06	-.03	-.06 •	-.04	-.02
		Med.	-.03	-.01	.03	-.07 **	-.04
		High	-.05	-.03	-.05 •	-.01	-.04
Social Programs	.03	Low	.02	.02	.04	.05	.02
		Med.	.06 *	.01	.04	.00	.06 *
		High	.03	.07	.04	.07	.04
GST	.05 **	Low	.10	.03	.08 •	.04	.08
		Med.	.02	.03	-.02	.08 *	.02
		High	-.01	.05	.02	.01	-.02
<i>Economic Perceptions</i>							
National Retrospective	-.02	Low	-.08	-.01	-.05	-.05 •	-.05 •
		Med.	-.03	-.05 *	.01	.03	.03
		High	.02	.00	.01	-.02	-.01
Personal Retrospective	-.00	Low	-.02	.00	.01	-.01	.01
		Med.	.04	-.04	-.04	.05	-.02
		High	-.04 ••	.02	.03 •	-.01	-.01
National Prospective	.02	Low	.05	-.00 ••	.02	.05 ••	.04
		Med.	.04	.10 ***	.08 **	-.07 *	.04
		High	-.04 •	-.03 •••	-.03 ••	.02 •	-.04
Personal Prospective	-.03 *	Low	-.03	-.03	-.07 ••	-.04	-.08
		Med.	-.04	-.04	.02	-.03	-.01
		High	-.04	-.02	-.04	.02	-.02
<i>Leader Evaluation</i>	.50 ***	Low	.53	.58	.57	.49	.58
		Med.	.51 ***	.58 ***	.47 ***	.58 ***	.57 ***
		High	.47	.42 •	.45	.44	.36 ••
<i>Strategic Voting</i>							
Riding	.14 ***	Low	.33 ••	.11	.18	.15	.10
		Med.	.06	.03	.13	.20 **	.10
		High	.20	.24 ••	.12	.11	.20
<i>(Continued)</i>							

Table A.2.8: (Continued)

		Homo- geneous Model	Heterogeneous Models				
			Information	Media Attention	Political Interest	Education	Index
<i>Strategic Voting (continued)</i>							
Opposition	.08 ***	Low	.07	.06	.04	.09	.07
		Med.	.05	.11 **	.11 **	.02	.04
		High	.08	.05	.08	.11	.11
<i>Sociodemographics</i>							
Atlantic	-.09 *		-.10 **	-.08 *	-.07 *	-.08 *	-.07 *
Prairies	.01		.00	-.00	.01	.00	-.00
British Columbia	.11 ***		.10 **	.11 ***	.12 ***	.09 **	.09 **
Rural/urban	-.00		-.00	.01	-.01	-.00	-.02
North European	.06 *		.05 *	.06 *	.06 *	.06 *	.04
Non European	-.13 ***		-.14 ***	-.13 ***	-.12 **	-.13 **	-.13 ***
Catholic	-.03		-.04 *	-.04 *	-.03	-.03	-.03
No Religion	-.02		-.04	-.04	-.02	-.03	-.02
Employed	.01		.02	.01	.01	-.00	.02
Public employment	-.03		-.03	-.03	-.03	-.02	-.03
Union Household	-.03		-.04 *	-.02	-.03	-.02	-.02
Low income	.04		.02	.05	.03	.04	.05
High income	.03		.01	.03	.02	.04 *	.02
Generation boom	-.04		-.04	-.04	-.05 *	-.05 *	-.05
Generation X	-.04		-.03	-.03	-.05	-.05	-.04
Traditionally married	.02		.03	.01	.01	.01	.01
Male	-.00		.00	.01	.00	-.00	-.01
<i>Discriminators</i>							
Political Information	.02		.20 *	.03	.02	-.00	-
Media Attention	.06		.03	.16	.04	.06	-
Political Interest	-.01		-.02	-.00	.01	-.00	-
Education	.04		.04	.04	.06	.09	-
Index	-		-	-	-	-	.28 *
Constant	.55 ***		.51 ***	.47 ***	.54 ***	.50 ***	.47 ***
Number of Cases	1011		1011	1011	1011	1011	1011
R-squared	.605		.639	.632	.629	.642	.627
<i>Heterogeneity Measures</i>							
Significant Gaps			8	9	9	15	5
Low/Medium Gaps			2.15	1.64	1.42	2.19	1.45
High/Medium Gaps			1.71	1.67	1.38	2.15	1.30
Low/High Gaps			1.70	1.43	1.54	1.63	1.33
Total Gaps			5.56	4.74	4.34	5.97	4.08
R-squared Difference (F-test)			.034 *	.027	.024	.037**	.022

Table A.2.9: Cognitive Sources of Heterogeneity, Support for Quebec Sovereignty (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models					
		Level	Information	Media Attention	Political Interest	Education	Index
Quebec identity	.77 ***	Low	.79	.55 •	.71	.73	.67
		Med.	.73 ***	.95 ***	.70 ***	.73 ***	.64 ***
		High	.77	.90	.89	.86	.99 •
Economic gains	.54 ***	Low	.43	.50	.52	.52	.54
		Med.	.62 ***	.57 ***	.60 ***	.44 ***	.52 ***
		High	.59	.50	.50	.68	.56
Linguistic gains	.20 ***	Low	.26	.34	.23	.21	.30
		Med.	.24 ***	.13	.23 **	.19 *	.24 **
		High	.09	.14	.14	.21	.10
French threatened	.11 ***	Low	.09	.10	.09	.10	.08
		Med.	.10 **	.07 *	.13 ***	.16 **	.14 ***
		High	.14	.16	.11	.09	.12
Economic assoc.	.18 ***	Low	.19	.22	.19	.22	.18
		Med.	.15 *	.16 **	.15 **	.23 ***	.24 ***
		High	.21	.14	.22	.04 •	.13
<i>Sociodemographics</i>							
Age	-.00		-.00	-.00	-.00	-.00	-.00
Female	-.04 *		-.04 *	-.04 *	-.04 *	-.04 *	-.05 *
Income	-.00		-.00	-.00	-.00	-.00	-.00
<i>Discriminators</i>							
Political Information	.05		.07	.05	.05	.05	-
Media Attention	-.14 **		-.13 **	-.21 *	-.13 **	-.14 **	-
Political Interest	.11 **		.12 **	.11 **	.03	.12 **	-
Education	-.00		-.01	-.01	.01	.00	-
Index	-		-	-	-	-	-.05
Constant	-.43 ***		-.43 ***	-.41 ***	-.38 ***	-.41 ***	-.37 ***
Number of cases	586		586	586	586	586	586
R-Squared	.597		.602	.608	.601	.603	.595
<i>Heterogeneity Measures</i>							
Significant Gaps			0	1	0	1	1
Low/Medium Gaps			0.32	0.77	0.17	0.17	0.23
High/Medium Gaps			0.32	0.24	0.47	0.65	0.66
Low/High Gaps			0.42	0.79	0.34	0.48	0.63
Total Gaps			1.06	1.80	0.98	1.30	1.52
R-squared Difference (F-test)			.005	.011 *	.004	.006	-.002

Table A.2.10: Cognitive Sources of Heterogeneity, 1984 Presidential Vote (OLS Unstand. Coefficients)

	Homo- geneous Model	Heterogeneous Models						
		Level	Inform.	Media Attention	Political Interest	Education	Intelligence	Index
<i>Party Identification</i>	.76 ***	Low	.76	1.03 •	.76	.93 •	.85 •	.77
		Med.	.72 ***	.69 ***	.84 ***	.69 ***	.64 ***	.73 ***
		High	.74	.73	.67 •	.72	.74	.73
<i>Attitudes</i>								
Ideology	.26 ***	Low	.28	-.07	.17	-.03	.16	.10
		Med.	.36 **	.30 *	.25 *	.26 **	.15	.26 *
		High	.10	.31	.36	.46	.54 •	.40
State role	-.11	Low	-.25 •	-.40	.35 ••	-.08	-.11	-.07
		Med.	.11	-.04	-.25 *	-.10	.05	.01
		High	-.17	-.09	-.12	-.22	-.14	-.27
Equal wealth	-.02	Low	.08 ••	.05	-.20 •	-.13	-.04	-.07
		Med.	-.23 *	-.08	.06	.01	-.05	-.05
		High	.07 •	-.01	-.00	.01	.02	.11
Federal taxes	.10	Low	.13	.09	-.07 •	.20	.18	.15
		Med.	-.01	.08	.28 ***	.03	.02	-.00
		High	.25 •	.11	-.07	.14	.10	.11
Tolerance	-.12 *	Low	-.10	.04 •	-.16	-.09	-.06	-.03
		Med.	-.15 *	-.25 *	-.16 *	-.13 *	-.15 *	-.15 *
		High	-.11	-.11	-.03 ••	-.08	-.18	-.18
Gov. spending	.36 **	Low	.24	-.22	.90 ••	.27	.23 •	.44
		Med.	.56 **	.28	.19	.51 **	.71 ***	.47 *
		High	.34	.45	.37	.10 •	.16 •	.24

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: ••• &lt; .001; •• &lt; .01; • &lt; .1



Table A.2.10: (Continued)

	Homo- geneous Model	Heterogeneous Models					
		Inform.	Media Attention	Political Interest	Education	Intelligence	Index
<i>Sociodemographics</i>							
Age	-.22 *	-.18 *	-.26 **	-.22 *	-.21 *	-.20 *	-.18 *
Male	.00	.00	.01	.00	-.01	-.00	-.01
Married	-.09 **	-.09 **	-.09 **	-.10 **	-.09 **	-.12 **	-.08 *
Black	-.24 ***	-.25 ***	-.25 ***	-.24 ***	-.23 ***	-.25 ***	-.24 ***
Other	-.23 *	-.20	-.21	-.22	-.25 *	-.26 *	-.20
East	.02	.02	.03	.01	.03	.01	.03
South	.10 **	.09 *	.09 **	.10 **	.10 **	.10 **	.09 **
West	.03	.04	.03	.04	.04	.05	.03
Protestant	.05	.05	.05	.05	.05	.04	.05
Catholic	.09	.09	.09	.08	.09	.09	.09
Jew	.14	.14	.12	.16	.13	.17	.14
Community Size	.23 *	.21 *	.20 *	.27 **	.20	.22 *	.23 *
Union	-.04	-.04	-.05	-.04	-.04	-.04	-.03
Unemployed	.07	.06	.09	.06	.06	.06	.10
Retired	-.00	-.01	-.00	-.01	.01	-.02	.01
Student	.25 **	.27 **	.27 **	.23 *	.27 **	.28 **	.25 **
Housekeeper	.15 **	.14 **	.15 **	.16 **	.16 **	.15 **	.14 **
Manager	.05	.05	.05	.08	.06	.05	.04
Professional	.10	.10	.10	.12 *	.12 *	.11 *	.08
Clerk	.11 *	.14 **	.11 *	.14 **	.10	.10	.10
Worker	.04	.05	.05	.05	.04	.04	.05
Farmer	.23	.22	.19	.28 *	.25	.23	.20
Income	.17 *	.14	.15	.19 *	.18 *	.23 **	.18 *
Political Inform.	-.11	-.19	-.11	-.11	-.13	-.12	-
Media Attention	.07	.06	-.51	.05	.09	.06	-
Political Interest	-.08	-.08	-.09	.19	-.08	-.07	-
Education	-.25	-.22	-.25	-.25	.43	-.28	-
Intelligence	-.11	-.12	-.11	-.11	-.10	-.08	-
Index	-	-	-	-	-	-	-.21
Constant	.13	.16	.68	-.13	.24	.09	-.03
Number of cases	603	603	603	603	603	603	603
R-squared	.588	.601	.606	.606	.599	.601	.592
<i>Heterogeneity Measures</i>							
Significant Gaps		3	2	6	2	3	0
Low/Medium Gaps		1.30	2.00	2.08	1.14	1.12	0.60
High/Medium Gaps		1.38	0.51	1.13	0.92	1.41	0.95
Low/High Gaps		0.52	1.89	1.61	1.22	0.85	1.11
Total Gaps		3.20	4.40	4.82	3.28	3.38	2.66
R-squared Difference (F-test)		.013	.018 *	.018 *	.011	.013	.004

Table A.2.11: Interest in the Election, 1997 Federal Election (OLS Unstandardized Coefficients)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Partisan Identification</i>	.22 ***	Low	.25 **	.14 ***	Low	.15	.15 ***	Low	.14
		Med.	.15 ***		Med.	.11 ***		Med.	.18 ***
		High	.24 **		High	.14		High	.14
<i>Values</i>									
Do more for Women	-.04	Low	-.07	.08 ***	Low	.13 ***	-.01	Low	.01
		Med.	.05		Med.	-.05		Med.	-.05
		High	-.05		High	.11 **		High	-.03
Regional Alienation	-.06 **	Low	.01	.00	Low	-.00	.05 **	Low	.06
		Med.	-.06		Med.	-.02		Med.	.06
		High	-.09		High	-.01		High	.04
Feeling for Quebec	.15 ***	Low	.25	-.07	Low	.17	-.12 ***	Low	-.08
		Med.	.17 *		Med.	-.07		Med.	-.14 *
		High	.04		High	-.05		High	-.15
Feeling for Oth. Minor.	-.02	Low	-.07	.02	Low	-.07	-.02	Low	.04
		Med.	.04		Med.	.03		Med.	.01
		High	.07		High	.08		High	-.10
Continentalism	-.09	Low	.07	.02	Low	.08	-.08	Low	-.20
		Med.	.05		Med.	-.06		Med.	-.12
		High	-.33 **		High	.02		High	.00
Cynicism	-.03	Low	-.19	-.05	Low	.08	.03	Low	.16 **
		Med.	-.07		Med.	.07		Med.	-.09
		High	.21 **		High	-.17 **		High	-.04
Moral Traditionalism	-.03	Low	-.00	-.06	Low	-.01 ***	.09 **	Low	.08
		Med.	.04		Med.	-.29 ***		Med.	.14 *
		High	.04		High	-.03 ***		High	.05
Free Enterprise	.01	Low	-.04	.21 ***	Low	.09 ***	-.02	Low	-.07
		Med.	-.20 *		Med.	.48 ***		Med.	.06
		High	.13 **		High	.14 ***		High	.02

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Table A.2.11: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Issues</i>									
Spending	-.02	Low	-.04	-.04	Low	-.04	.06 *	Low	.05
		Med.	-.02		Med.	-.10		Med.	.05
		High	.07		High	-.05		High	.04
Taxes	.02	Low	.02	.01	Low	-.02	.03 *	Low	.03
		Med.	.02		Med.	.05		Med.	.03
		High	.07		High	-.01		High	.04
Deficit	.06 ***	Low	.01	-.00	Low	.06	-.02	Low	-.01
		Med.	.09 **		Med.	-.00		Med.	-.07 *
		High	.06		High	-.05		High	.01 •
Jobs	-.03	Low	-.02	.03	Low	.10	-.03	Low	-.10
		Med.	-.02		Med.	.03		Med.	-.04
		High	-.08		High	-.02		High	.03
Crime	.01	Low	.03	-.02	Low	-.05	.04 ***	Low	.02
		Med.	.01		Med.	-.01		Med.	.04 *
		High	-.02		High	.01		High	.05
Guns	.01	Low	.01	.01	Low	-.01 •	-.01	Low	-.02
		Med.	.02		Med.	.05 **		Med.	-.04 *
		High	.03		High	-.00		High	-.01
Immigration	-.02	Low	-.01	-.03 *	Low	-.03	.05 ***	Low	.04
		Med.	.01		Med.	-.07 **		Med.	.03
		High	-.03		High	-.00		High	.06
<i>Liberal Performance</i>									
National Unity	-.02	Low	-.01	-.01	Low	-.05 ••	-.02	Low	.07 •••
		Med.	-.07 *		Med.	.05		Med.	-.06 *
		High	.07 •••		High	-.05 ••		High	-.07
Deficit	.02	Low	-.02 ••	-.02	Low	.02	-.02	Low	-.02
		Med.	.09 **		Med.	-.06		Med.	-.06
		High	-.04 ••		High	-.03		High	.02
Jobs	.06 **	Low	.00 ••	-.04 *	Low	.02 •	-.02	Low	-.04
		Med.	.17 ***		Med.	-.07 *		Med.	-.06
		High	.05 •		High	-.06		High	.01
(Continued)									

Table A.2.11: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Liberal Perf. (continued)</i>									
Crime	.04 *	Low	.04 •	.00	Low	.03	-.03	Low	-.10 ***
		Med.	-.05		Med.	-.01		Med.	.04
		High	.11 ***		High	-.02		High	-.01
Social Programs	-.02	Low	-.01	-.01	Low	-.08 •	.03	Low	.05
		Med.	.03		Med.	.02		Med.	.00
		High	-.06		High	.03		High	.03
GST	-.05 *	Low	.02	-.01	Low	-.01	.05 **	Low	-.03 ••
		Med.	-.07		Med.	-.08 *		Med.	.10 **
		High	-.08		High	.03 •		High	.09
<i>Economic Perceptions</i>									
National Retrospective	-.03 *	Low	-.00	-.00	Low	-.01	-.02	Low	-.01
		Med.	-.04		Med.	.02		Med.	-.01
		High	-.04		High	.00		High	-.02
Personal Retrospective	-.01	Low	-.01	.02 *	Low	.05 •	-.00	Low	-.02
		Med.	.02		Med.	-.03		Med.	-.01
		High	-.03		High	.04		High	.02
National Prospective	.05 **	Low	.00	.01	Low	.03	.01	Low	.04
		Med.	.01		Med.	-.00		Med.	.03
		High	.11 •		High	-.01		High	-.02
Personal Prospective	.02	Low	-.00	-.01	Low	.03	-.03 *	Low	-.04
		Med.	.05		Med.	-.04		Med.	-.02
		High	.04		High	-.03		High	-.02
Leader Evaluation	.54 ***	Low	.57	.42 ***	Low	.48	.51 ***	Low	.63
		Med.	.61 ***		Med.	.53 ***		Med.	.49 ***
		High	.46		High	.31 ••		High	.44
<i>Strategic Voting</i>									
Riding	-.05	Low	.05	.10 ***	Low	.10	.14 ***	Low	.05
		Med.	-.06		Med.	.22 ***		Med.	.12
		High	-.13		High	.05		High	.26
(Continued)									

Table A.2.11: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Strategic Voting (continued)</i>									
Opposition	-.00	Low	-.01	.01	Low	.00	.08 ***	Low	.00
		Med.	.07		Med.	.00		Med.	.09 *
		High	-.02		High	.06		High	.08
<i>Sociodemographics</i>									
Atlantic	-.09 **		-.13 ***	.13 ***		.16 ***	-.08 **		-.07 *
Prairies	-.02		-.04	.02		.04	.01		.01
British Columbia	-.12 ***		-.13 ***	-.03		-.03	.11 ***		.10 ***
Rural/urban	-.02		-.01	-.01		-.00	-.00		-.01
North European	-.05		-.04	.01		.01	.06 **		.05
Non European	.12 ***		.09 **	-.04		-.00	-.13 ***		-.12 ***
Catholic	.07 ***		.07 **	-.05 **		-.06 **	-.03		-.03
No Religion	.01		.00	-.05		-.04	-.02		-.01
Employed	.05 *		.07 **	-.06 **		-.07 ***	.01		.00
Public employment	.10 ***		.09 ***	-.07 ***		-.06 **	-.03		-.03
Union Household	-.04 *		-.04	.00		-.00	-.03		-.02
Low income	.02		.02	-.03		-.03	.04		.03
High income	-.01		-.01	.02		.02	.03		.03
Generation boom	.07 **		.06 *	-.05 *		-.04	-.04		-.05 *
Generation X	.03		.05	-.03		-.02	-.04		-.05
Traditionally married	.07 ***		.06 **	-.02		-.01	.02		.02
Male	.00		.00	.02		.04	-.00		-.00
<i>Discriminators</i>									
Political Information	.01		.00	-.01		.01	.02		.01
Media Attention	-.06		-.07	.03		.07	.06		.07
Interest in the election	.14 **		.07	-.06		-.04	-.02		.05
Education	-.11 *		-.06	.11 *		.11 *	.03		.02
Constant	.37 ***		.40 ***	.26 ***		.19 *	.57 ***		.55 ***
Number of Cases	1014		1014	973		973	1005		1005
R-squared	.512		.560	.349		.416	.604		.633
<i>Heterogeneity Measures</i>									
Significant Gaps			13			15			5
Total Gaps			7.35			6.60			4.88
R-squared Difference (F-test)			.048 **			.057 *			.029

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

### Appendix 3: Estimation Results for Chapter 3

Table A.3.1: Homogeneous and Heterogeneous Models, 1992 Referendum outside Quebec (OLS Unstand. Coeff.)

	Basic Model	Interactive Model	
<i>Specific Elements</i>			
Distinct society	.12 ***	Low	.22 ••
		Med.	.03
		High	.14
25% guarantee	.14 ***	Low	.23
		Med.	.15 *
		High	.09
Senate reform	.03	Low	-.13 ••
		Med.	.09 *
		High	.04
Aboriginal self-government	.04	Low	.01
		Med.	.08 *
		High	.01
<i>General arguments</i>			
Best compromise	.18 ***	Low	.08 ••
		Med.	.32 ***
		High	.14 •
Move on	.13 ***	Low	-.01
		Med.	.09 *
		High	.28 •
Province winner	.08 *	Low	.05
		Med.	.14 *
		High	.02
Fear of separation	.07 *	Low	.07
		Med.	.08
		High	.09
Quebec never satisfied	-.03	Low	.07
		Med.	.02
		High	-.13 •
<i>(continued)</i>			

Table A.3.1: (Continued)

	Basic Model	Interactive Model	
<i>Intervenors</i>			
Feeling for Unions	-.07	Low	-.04
		Med.	-.13
		High	.02
Feeling for Business	.26 ***	Low	.28
		Med.	.18
		High	.32
Women's Movement	-.22 **	Low	-.49 •
		Med.	-.07
		High	-.33
B. Mulroney	.33 ***	Low	.49
		Med.	.32 **
		High	.25
Other Leaders	.30 **	Low	.46
		Med.	.13
		High	.31
P.E. Trudeau	-.09	Low	.05
		Med.	-.00
		High	-.18
P. Manning	-.43 ***	Low	-.39
		Med.	-.52 ***
		High	-.33
<i>Group Sentiments</i>			
Feeling for Quebec	-.00	Low	.15
		Med.	-.03
		High	-.07
Minority Rights	.05 *	Low	.06
		Med.	.08
		High	.04
Founding People	.00	Low	-.06
		Med.	-.00
		High	.02
<i>(continued)</i>			

Table A.3.1: (Continued)

	Basic Model	Interactive Model
<i>Sociodemographics</i>		
Atlantic	.07	.08 *
Prairies	-.06 *	-.05
British Columbia	-.02	-.01
Over 55 years	.07 *	.09 **
Male	-.05 *	-.05 *
Catholic	.03	.03
Other Religion	-.04	-.07
No Religion	.00	.02
French	-.06	-.07
North European	-.04	-.04
Non European	.02	.01
East European	.04	.03
South European	-.06	-.07
Unemployed	-.03	-.02
Union Household	-.03	-.04
Under 40 000\$	-.01	-.02
70 000 - 90 000\$	-.05	-.04
Over 90 000\$	-.02	-.03
Political Information	.14 **	.29 *
Media Attention	.00	.01
Political Interest	.01	-.01
Education	.16 *	.17 *
Constant	-.03	-.09
Number of cases	969	969
R-squared	.442	.492
<i>Heterogeneity Measures</i>		
Significant Gaps		7
Low/Medium Gaps		2.60
High/Medium Gaps		2.21
Low/High Gaps		2.25
Total Gaps		7.06
R-squared Difference (F-test)		.050 ***

Statistical significance of medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Statistical significance of difference from medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1



Table A.3.2: Homogeneous and Heterogeneous Models, 1992 Quebec Referendum (OLS Unstand. Coefficients)

	Basic Model	Interactive Model	
<i>Specific Elements</i>			
Distinct society	-.00	Low	-.03
		Med.	.07
		High	-.00
25% guarantee	-.01	Low	.00
		Med.	-.02
		High	.00
Senate reform	.08 *	Low	.13
		Med.	.04
		High	.07
Aboriginal self-government	.06 *	Low	.07
		Med.	-.01
		High	.08
<i>General arguments</i>			
Best compromise	.16 ***	Low	.07
		Med.	.19 *
		High	.27
Move on	.04	Low	-.04 •
		Med.	.10 *
		High	.05
Province winner	.12 **	Low	.20
		Med.	.09
		High	.07
<i>Intervenors</i>			
R. Bourassa	.55 ***	Low	.70 •
		Med.	.37 **
		High	.50
J. Parizeau	-.32 ***	Low	-.41
		Med.	-.29 **
		High	-.06
<i>(continued)</i>			

Table A.3.2: *(Continued)*

	Basic Model	Interactive Model	
<i>Group Sentiments</i>			
Feeling for Quebec	-.16 *	Low	-.33
		Med.	-.10
		High	-.14
Feeling for Canada	.11	Low	.08
		Med.	.13
		High	.05
Linguistic threat	-.02	Low	-.06
		Med.	.02
		High	-.02
Economic concern	.07	Low	.20
		Med.	.02
		High	.05
Sovereignty support	-.06	Low	.12
		Med.	-.17
		High	-.19
Fear of separation	.04	Low	-.04
		Med.	.09
		High	.11
<i>(Continued)</i>			

Table A.3.2: (Continued)

	Basic Model	Interactive Model
<i>Sociodemographics</i>		
Non Francophone	.06	.05
Over 55 years	.08 *	.07 *
Male	.03	.04
Union Household	-.07 *	-.06 *
Unemployed	.01	.02
Under 40 000\$	-.06 *	-.06 *
70 000 - 90 000\$	-.03	-.05
Over 90 000\$	-.02	-.04
Protestant	.11	.12
Other Religion	-.02	-.02
No Religion	.02	.05
British	.02	.03
North European	.07	.07
Non European	.14	.17
East European	.17	.22 *
South European	.03	-.01
Political Information	.03	-.18
Media Attention	-.02	-.01
Political Interest	.11 *	.12 *
Education	-.02	-.02
Constant	.09	.17
Number of cases	618	618
R-squared	.586	.617
<i>Heterogeneity Measures</i>		
Significant Gaps		2
Low/Medium Gaps		2.17
High/Medium Gaps		0.99
Low/High Gaps		1.94
Total Gaps		5.10
R-squared Difference (F-test)		.031 *

Statistical significance of medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Statistical significance of difference from medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Table A.3.3: Homogeneous and Heterogeneous Models, 1993 Federal Election (OLS Unstand. Coefficients)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Partisan Identification</i>	.30 ***	Low	.43	.22 ***	Low	.08 ••	.28 ***	Low	.18
		Med.	.30 ***		Med.	.27 ***		Med.	.29 ***
		High	.25		High	.26		High	.26
<i>Values</i>									
Populism	-.18 *	Low	.06 •	-.09	Low	-.26	.11	Low	.15
		Med.	-.36 *		Med.	-.08		Med.	.24 *
		High	-.21		High	.04		High	.05
Feeling for Minorities	-.21 **	Low	-.41 •	-.01	Low	.01	.12 *	Low	.00
		Med.	.04		Med.	-.11		Med.	.00
		High	-.20		High	.06		High	.00
Feeling for French	.00	Low	.04	-.05	Low	.02	.15 *	Low	.22
		Med.	-.06		Med.	.05		Med.	.04
		High	.04		High	-.16 •		High	.18
Feeling for Oth. Min.	.09	Low	.10	.09	Low	.08	-.12 *	Low	-.11
		Med.	.13		Med.	.03		Med.	-.06
		High	-.08		High	.14		High	-.15
Welfare State	.08	Low	.07	-.10 *	Low	-.18	.05	Low	.25
		Med.	.03		Med.	-.13		Med.	-.01
		High	.18		High	.08		High	-.09
Capitalism	-.12	Low	-.05 •	.21 *	Low	.29	.04	Low	-.20 •
		Med.	-.47 **		Med.	.39 ***		Med.	.23
		High	.19 ••		High	-.06 •		High	.08
Continentalism	-.07	Low	.07	.01	Low	-.02	.13 **	Low	.06
		Med.	-.06		Med.	-.10		Med.	.19 *
		High	-.19		High	.10 •		High	.15
Macroeconomics	-.06	Low	.18	.22 ***	Low	.13	-.10	Low	-.14
		Med.	.08		Med.	.24		Med.	-.23 *
		High	-.35 ••		High	.21		High	.10 •
Anti-unionism	.03	Low	.04	.07	Low	.10	.08	Low	.09
		Med.	.17		Med.	.04		Med.	.12
		High	-.09		High	.17		High	-.07
<i>(Continued)</i>									

Table A.3.3: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model	Interactive Model		Basic Model	Interactive Model		Basic Model	Interactive Model	
Values (continued)									
Moral Traditionalism	.20 *	Low .06 Med. .18 High .34		-.05	Low .10 Med. -.07 High -.15		-.07	Low -.14 Med. -.02 High .01	
<i>Economic Perceptions</i>									
Personal Retrospective	.02	Low .02 Med. .06 High -.05		-.05	Low .01 Med. -.14 * High -.06		-.01	Low -.00 Med. -.02 High .05	
National Retrospective	.09	Low .14 Med. .04 High .07		-.02	Low .13 Med. -.10 High .01		-.11 *	Low -.18 Med. -.05 High -.08	
<i>Leader Evaluations</i>									
Brian Mulroney	-.08	Low -.03 Med. -.01 High -.03		.07	Low -.15 • Med. .09 High .14		-.02	Low .22 • Med. -.11 High -.16	
Kim Campbell	-.16 *	Low -.20 Med. -.22 High -.14		.57 ***	Low .48 Med. .73 *** High .49 •		-.24 **	Low -.19 Med. -.30 * High -.18	
Jean Chrétien	.90 ***	Low .63 Med. .88 *** High .90		-.36 ***	Low -.27 Med. -.27 * High -.44		-.33 ***	Low -.33 Med. -.49 ** High -.10 •	
Preston Manning	-.56 ***	Low -.83 • Med. -.44 ** High -.44		-.27 ***	Low -.06 • Med. -.38 *** High -.40		.97 ***	Low 1.18 Med. 1.13 *** High .75 •	
Andrey McLaughlin	.02	Low .19 Med. -.15 High .02		-.01	Low -.15 Med. .01 High .08		-.30 ***	Low -.29 Med. -.32 * High -.38	
(Continued)									

Table A.3.3: (Continued)

	Liberal Vote		Conservative Vote		Reform Vote	
	Basic Model	Interactive Model	Basic Model	Interactive Model	Basic Model	Interactive Model
<i>Sociodemographics</i>						
Atlantic	-.04	-.08	-.01	.01	-.01	-.01
British Columbia	-.10 *	-.08	-.10 **	-.09 *	.12 ***	.11 **
Prairies	-.07	-.08 *	-.03	-.02	.07 *	.05
18 to 24 years	-.06	-.08	.00	-.01	-.07	-.07
40 to 49 years	.01	.00	.04	.05	-.11 **	-.12 ***
50 to 65 years	-.08 *	-.10 *	-.01	-.00	.00	-.00
65 years or more	-.00	-.00	.04	.08	-.08	-.12 *
Woman	-.05	-.05	.05	.05	-.01	-.00
Catholic	.02	-.00	.00	.01	.00	-.00
Other Religion	.06	.07	-.03	-.02	.08	.07
No Religion	-.01	-.02	.05	.04	.05	.08 *
French	.10	.08	.02	.03	-.09	-.09
North European	-.12 *	-.13 *	.02	.03	.04	.05
Non European	-.05	.03	.13	.13	-.10	-.11
East European	-.02	-.01	-.09	-.09	.02	.04
South European	-.12	-.16	.01	.02	.12	.15
Unemployed	.09	.06	-.01	-.01	-.05	-.02
Union Household	.02	.03	-.03	-.03	-.03	-.04
Married	.02	.02	-.01	-.01	-.01	-.01
Under 30 000 \$	.04	.06	-.03	-.06	-.00	.00
Over 60 000 \$	.08 *	.08 *	-.07 **	-.07 **	-.04	-.04
Political Information	-.12 *	-.10 *	.13 **	.15	-.05	-.06
Media Attention	.10	.12	-.03	-.06	-.01	-.01
Political Interest	-.12 *	-.12	.07	.07	.03	.03
Education	.06	.10	-.03	-.05	-.04	-.03
Constant	.32 *	.34	.02	.02	.10	.06
Number of Cases	810	810	810	810	810	810
R-squared	.417	.460	.391	.443	.462	.492
<i>Heterogeneity Measures</i>						
Significant Gaps		6		7		5
Low/Medium Gaps		3.23		2.49		2.48
High/Medium Gaps		2.97		2.46		2.56
Low/High Gaps		3.42		3.36		3.28
Total Gaps		9.62		8.31		8.32
R-squared Difference (F-test)		.043 *		.052 **		.030

Table A.3.4: Homogeneous and Heterogeneous Models, 1997 Federal Election (OLS Unstand. Coefficients)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Partisan Identification</i>	.22 ***	Low	.26 •	.14 ***	Low	.23 ••	.15 ***	Low	.15
		Med.	.18 ***		Med.	.09 ***		Med.	.17 ***
		High	.23		High	.14		High	.12
<i>Values</i>									
Do more for Women	-.04	Low	.07 •	.08 **	Low	-.03 •	-.01	Low	-.05
		Med.	-.11 *		Med.	.09 *		Med.	.05
		High	-.06		High	.08		High	-.03
Regional Alienation	-.06 *	Low	-.06	.01	Low	.15 •••	.05 *	Low	.07
		Med.	-.05		Med.	-.12 **		Med.	.15 ***
		High	-.04		High	.08 •••		High	-.03 •••
Feeling for Quebec	.15 **	Low	-.06 •	-.08	Low	-.01	-.12 **	Low	-.11
		Med.	.27 **		Med.	-.16 *		Med.	-.13 *
		High	.08		High	-.08		High	-.08
Feeling for Oth. Minor.	-.01	Low	.01	.02	Low	-.06	-.02	Low	.13 •
		Med.	-.05		Med.	.08		Med.	-.07
		High	-.03		High	.10		High	-.08
Continentalism	-.08	Low	-.07	.01	Low	-.08 •	-.08	Low	-.10
		Med.	.06		Med.	.20 *		Med.	-.18 *
		High	-.16		High	-.04 •		High	-.04
Cynicism	-.03	Low	-.00	-.04	Low	-.20	.03	Low	.13
		Med.	-.02		Med.	.01		Med.	-.06
		High	-.08		High	.01		High	.08
Moral Traditionalism	-.02	Low	.03	-.06	Low	.09 •	.08 *	Low	.08
		Med.	-.05		Med.	-.12 *		Med.	.14 *
		High	-.05		High	.02		High	.03
Free Enterprise	.01	Low	.13	.21 ***	Low	-.05 •	-.02	Low	-.06
		Med.	-.03		Med.	.20 *		Med.	.07
		High	.02		High	.28		High	-.08

(Continued)

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: ••• &lt; .001; •• &lt; .01; • &lt; .1

Table A.3.4: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Issues</i>									
Spending	-.02	Low	-.03	-.04	Low	-.20 •	.06 *	Low	.12
		Med.	.01		Med.	-.00		Med.	.08
		High	-.09		High	-.01		High	.03
Taxes	.02	Low	.12 •	.01	Low	.06	.03 *	Low	-.06 •
		Med.	.00		Med.	-.01		Med.	.05
		High	-.03		High	.02		High	.06
Deficit	.06 **	Low	-.04 •	-.00	Low	.10 ••	-.02	Low	.03
		Med.	.09 *		Med.	-.06 *		Med.	-.04
		High	.07		High	.02 •		High	-.04
Jobs	-.02	Low	-.12 •	.02	Low	.19 ••	-.03	Low	.04
		Med.	.07		Med.	-.04		Med.	-.06
		High	-.05 •		High	.03		High	-.01
Crime	.01	Low	.00	-.02	Low	.00	.04 **	Low	.03
		Med.	.03		Med.	-.01		Med.	.03 *
		High	-.01		High	-.04		High	.06
Guns	.01	Low	-.04	.00	Low	-.01	-.01	Low	.01
		Med.	.00		Med.	.00		Med.	-.01
		High	.05		High	.01		High	-.03
Immigration	-.02	Low	-.03	-.03 *	Low	-.01	.05 **	Low	.13 •
		Med.	-.03		Med.	-.03		Med.	.02
		High	-.02		High	-.02		High	.05
<i>Liberal Performance</i>									
National Unity	-.02	Low	.06	-.01	Low	-.03	-.02	Low	-.05
		Med.	-.03		Med.	-.03		Med.	.01
		High	-.05		High	-.00		High	-.02
Deficit	.02	Low	-.01	-.02	Low	.01	-.02	Low	.02
		Med.	-.02		Med.	.00		Med.	-.05 *
		High	.01		High	-.04		High	.01
Jobs	.06 **	Low	.03	-.04 *	Low	-.04	-.02	Low	.04 •
		Med.	.10 *		Med.	-.03		Med.	-.05
		High	.04		High	-.02		High	-.03
(Continued)									



Table A.3.4: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model		Interactive Model	Basic Model		Interactive Model	Basic Model		Interactive Model
<i>Liberal Perf. (continued)</i>									
Crime	.04 *	Low	.01 •	.00	Low	-.00	-.03	Low	-.06
		Med.	.10 **		Med.	-.05		Med.	-.03
		High	.02		High	.03 •		High	-.05
Social Programs	-.02	Low	-.03	-.01	Low	.00	.03	Low	.02
		Med.	-.03		Med.	-.04		Med.	.06 *
		High	-.01		High	.00		High	.03
GST	-.05 *	Low	-.07	-.01	Low	.05	.05 *	Low	.10
		Med.	-.04		Med.	-.04		Med.	.02
		High	-.05		High	-.01		High	-.01
<i>Economic Perceptions</i>									
National Retrospective	-.03	Low	.02	-.01	Low	-.01	-.02	Low	-.08
		Med.	-.01		Med.	.02		Med.	-.03
		High	-.06		High	-.02		High	.02
Personal Retrospective	-.01	Low	-.06	.03 *	Low	.07	-.00	Low	-.02
		Med.	-.02		Med.	.00		Med.	.04
		High	.02		High	.03		High	-.04 •
National Prospective	.05 *	Low	.02	.01	Low	.04	.02	Low	.05
		Med.	-.03		Med.	.04		Med.	.04
		High	.13 ••		High	-.03		High	-.04 •
Personal Prospective	.02	Low	.04	-.01	Low	-.01	-.03 *	Low	-.03
		Med.	.02		Med.	-.00		Med.	-.04
		High	.03		High	-.03		High	-.04
Leader Evaluation	.52 ***	Low	.61	.43 ***	Low	.46	.50 ***	Low	.53
		Med.	.47 ***		Med.	.36 ***		Med.	.51 ***
		High	.54		High	.55 •		High	.47
Strategic Voting									
Riding	-.06	Low	.44 •	.10 **	Low	-.06 •	.14 ***	Low	.33 •
		Med.	.04		Med.	.16 **		Med.	.06
		High	-.23 •		High	.00 •		High	.20
<i>(Continued)</i>									

Table A.3.4: (Continued)

	Liberal Vote			Conservative Vote			Reform Vote		
	Basic Model	Interactive Model		Basic Model	Interactive Model		Basic Model	Interactive Model	
<i>Strategic Voting (continued)</i>									
Opposition	-.01	Low .02 Med. -.13 * High .23 **		.01	Low -.00 Med. -.00 High .03		.08 **	Low .07 Med. .05 High .08	
<i>Sociodemographics</i>									
Atlantic	-.10 *	-.10 *		.13 ***	.15 ***		-.09 *	-.10 **	
Prairies	-.03	-.03		.02	.03		.01	.00	
British Columbia	-.12 ***	-.13 ***		-.03	-.03		.11 ***	.10 **	
Rural/urban	-.02	-.03		-.00	-.02		-.00	-.00	
North European	-.03	-.04		.00	.05		.06 *	.05 *	
Non European	.12 **	.12 **		-.04	-.04		-.13 ***	-.14 ***	
Catholic	.07 *	.09 **		-.05 *	-.05 *		-.03	-.04 *	
No Religion	.00	.03		-.04	-.06 *		-.02	-.04	
Employed	.06 *	.04		-.06 *	-.07 *		.01	.02	
Public employment	.09 ***	.09 ***		-.07 **	-.07 **		-.03	-.03	
Union Household	-.05 *	-.04 *		.01	.01		-.03	-.04 *	
Low income	.02	.03		-.03	-.02		.04	.02	
High income	-.01	-.01		.02	.03		.03	.01	
Generation boom	.06 *	.06 *		-.05 *	-.04		-.04	-.04	
Generation X	.03	.03		-.02	-.01		-.04	-.03	
Traditionally married	.07 **	.08 **		-.02	-.05 *		.02	.03	
Male	-.00	-.00		.03	.02		-.00	.00	
<i>Political Information</i>									
Political Information	.01	-.01		-.03	-.22 *		.02	.20 *	
Media Attention	-.02	.01		.00	-.00		.06	.03	
Political Interest	.04	.01		.02	.02		-.01	-.02	
Education	-.13 *	-.10		.12 *	.15 *		.04	.04	
Constant	.42 ***	.42 ***		.23 *	.31 *		.55 ***	.51 ***	
Number of Cases	1020	1020		979	979		1011	1011	
R-squared	.509	.555		.350	.419		.605	.639	
<i>Heterogeneity Measures</i>									
Significant Gaps		12			16			8	
Low/Medium Gaps		2.72			3.10			2.14	
High/Medium Gaps		2.20			1.84			1.71	
Low/High Gaps		2.64			2.20			1.71	
Total Gaps		7.56			7.14			5.56	
R-squared Difference (F-test)		.046 *			.069 ***			.034 *	

Table A.3.5: Homogeneous and Heterogeneous Models, Support for Quebec Sovereignty (OLS Unstand. Coeff.)

	Basic Model	Interactive Model	
Quebec identity	.77 ***	Low	.79
		Med.	.73 ***
		High	.77
Economic gains	.54 ***	Low	.43
		Med.	.62 ***
		High	.59
Linguistic gains	.20 ***	Low	.26
		Med.	.24 ***
		High	.09
French threatened	.11 ***	Low	.09
		Med.	.10 **
		High	.14
Economic assoc.	.18 ***	Low	.19
		Med.	.15 *
		High	.21
Age	-.00		-.00
Female	-.04 *		-.04 *
Income	-.00		-.00
Political Information	.05		.07
Constant	-.43 ***		-.43 ***
Number of cases	614		614
R-squared	.597		.602
<i>Heterogeneity Measures</i>			
Significant Gaps			0
Low/Medium Gaps			2.60
High/Medium Gaps			2.21
Low/High Gaps			2.25
Total Gaps			1.06
R-squared Difference (F-test)			.005

Statistical significance of medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Statistical significance of difference from medium behaviour: \*\*\* < .001; \*\* < .01; \* < .1

Table A.3.6: Homogeneous and Heterogeneous Models, 1984 Presidential Vote (OLS Unstand. Coefficients)

	Basic Model	Interactive Model	
<i>Party Identification</i>	.76 ***	Low	.76
		Med.	.72 ***
		High	.74
<i>Attitudes</i>			
Ideology	.26 ***	Low	.28
		Med.	.36 **
		High	.10
State role	-.11	Low	-.25 •
		Med.	.11
		High	-.17
Equal wealth	-.02	Low	.08 ••
		Med.	-.23 *
		High	.07 •
Federal taxes	.10	Low	.13
		Med.	-.01
		High	.25 •
Tolerance	-.12 *	Low	-.10
		Med.	-.15 *
		High	-.11
Government spending	.36 **	Low	.24
		Med.	.56 **
		High	.34

*(Continued)*

Statistical significance of medium behaviour and F-test: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: ••• &lt; .001; •• &lt; .01; • &lt; .1

Table A.3.6: (Continued)

	Basic Model	Interactive Model
<i>Sociodemographics</i>		
Age	-.22 *	-.18 *
Male	.00	.00
Married	-.09 **	-.09 **
Black	-.24 ***	-.25 ***
Other	-.23 *	-.20
East	.02	.02
South	.10 **	.09 *
West	.03	.04
Protestant	.05	.05
Catholic	.09	.09
Jew	.14	.14
Community Size	.23 *	.21 *
Union	-.04	-.04
Unemployed	.07	.06
Retired	-.00	-.01
Student	.25 **	.27 **
Housekeeper	.15 **	.14 **
Manager	.05	.05
Professional	.10	.10
Clerk	.11 *	.14 **
Worker	.04	.05
Farmer	.23	.22
Income	.17 *	.14
Political Information	-.11	-.19
Media Attention	.07	.06
Political Interest	-.08	-.08
Education	-.25	-.22
Intelligence	-.11	-.12
Constant	.13	.16
Number of cases	603	603
R-squared	.588	.601
<i>Heterogeneity Measures</i>		
Significant Gaps		4
Low/Medium Gaps		2.60
High/Medium Gaps		2.21
Low/High Gaps		2.25
Total Gaps		7.06
R-squared Difference (F-test)		.013

# Appendix 4: Estimation Results for Chapter 4

Table A.4.1: Campaign Dynamics of Heterogeneity, 1992 Referendum outside Quebec (OLS Unstand. Coeff.)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Specific Elements</i>										
Distinct society	.00	.10 *	.10 *	.11 ***	Low	-.01	.15	.17		.22 ••
					Med.	-.07	-.00	.09		.01
					High	.20 •	.16	.17		.15 •
25% guarantee	-.02	-.01	.04	.15 ***	Low	-.03	.02	-.22 •		.24
					Med.	.01	.03	.10		.14 *
					High	.04	.00	.14		.10
Senate reform	.03	.11 *	.07 *	.03	Low	.07	.16	.04		-.13 ••
					Med.	.07	.04	.14 *		.08
					High	-.12	.12	.09		.04
Aboriginal self-gov.	.12 *	-.02	.01	.03	Low	.12	-.21 ••	.04		.01
					Med.	.10	.14 *	.18 *		.07
					High	-.04	-.10 •	-.15 ••		.01
<i>General arguments</i>										
Best compromise	.30 ***	.36 ***	.31 ***	.18 ***	Low	.16	.26 •	.29		.08 ••
					Med.	.32 ***	.57 ***	.44 ***		.31 ***
					High	.41	.26 •	.26		.13 •
Move on	.22 ***	.18 ***	.20 ***	.13 ***	Low	.31	-.02 •	.14		-.02 •
					Med.	.14	.24 *	.05		.11 *
					High	.15	.30	.36 ••		.27 •
Province winner	.10 *	.19 ***	.08	.07 *	Low	.15	.29	.35 ••		.03
					Med.	.25 *	.13	-.05		.14 *
					High	-.07 •	.19	-.05		.01
Fear of separation	.15 **	.19 ***	.04	.08 **	Low	.11	.22	.11		.09
					Med.	.08	.16 *	.08		.07
					High	.14	.16	.08		.10
Quebec never satisfied	-.15 **	-.07	-.02	-.03	Low	-.16	-.02	-.13 •		.05
					Med.	-.21 *	.05	.07		.04
					High	.06 •	-.11 •	-.02		-.14 ••
<i>(continued)</i>										

Table A.4.1: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Intervenors</i>										
Feeling for Unions	-.07	-.02	-.02	-.07	Low	.13	.15	-.02	-.07	
					Med.	.23	-.05	.06	-.08	
					High	-.15	-.08	.06	.02	
Feeling for Business	.14	-.01	.28 **	.27 ***	Low	-.08	-.36 •	.07	.24	
					Med.	.28	.20	.23	.19 *	
					High	.07	.18	.11	.34	
Women's Mov.	-.02	-.10	.03	-.23 **	Low	-.26	.07	.24	-.42 •	
					Med.	-.02	-.19	-.21	-.12	
					High	.02	-.12	.20	-.33	
B. Mulroney	.07	-.00	.21 *	.33 ***	Low	.18	.26	.12	.50	
					Med.	-.11	-.01	.16	.31 **	
					High	.18	-.06	.25	.26	
Other Leaders	.08	.31 *	.43 **	.27 **	Low	-.28 •	-.03	.57	.37	
					Med.	.42	-.12	.25	.12	
					High	-.16	.30	.27	.29	
P.E. Trudeau	.12	-.12	-.28 ***	-.09	Low	.39	.27 ••	-.13	.10	
					Med.	.03	-.36 *	-.21	-.06	
					High	-.04	.06 •	-.29	-.18	
P. Manning	-.23 *	-.13	-.21 *	-.42 ***	Low	.28 •	-.07	-.13	-.35	
					Med.	-.32 *	-.01	-.10	-.54 ***	
					High	-.31	-.23	-.27	-.33	
<i>Group Sentiments</i>										
Feeling for Quebec	.07	.20 *	.07	-.01	Low	.11	.29	.28	.11	
					Med.	.07	.34 *	.24	-.00	
					High	.19	-.00 •	-.16 •	-.10	
Minority Rights	.06	.09 *	-.02	.04	Low	.04	.12	.04	.04	
					Med.	.02	.09	-.12	.06	
					High	.09	.12	-.00	.03	
Founding People	-.01	-.07	-.12 *	.01	Low	.03	-.09	-.33 •	-.05	
					Med.	-.04	-.07	-.09	.02	
					High	.08	-.02	-.00	.01	
<i>(continued)</i>										

Table A.4.1: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Atlantic	-.23 **	.03	.04	.07 *	-.18 *	.00	.04	.09 *
Prairies	-.06	-.10 *	-.04	-.05 *	-.06	-.07 *	-.05	-.04
British Columbia	-.18 **	-.02	-.03	-.01	-.15 *	-.01	-.06	-.01
Over 55 years	.00	.07	.02	.07 *	-.04	.05	.05	.08 *
Educ 1	.05	-.13 *	.04	-.07 *	.08	-.09	.07	-.06 *
Educ 2	.04	-.01	-.01	-.07 *	-.03	.01	-.03	-.08 *
Educ 3	.00	-.00	.06	.02	-.04	.02	.07	.03
Male	.00	-.01	.00	-.06 *	-.02	.03	-.03	-.05 *
Catholic	.05	.03	-.03	.03	.06	.05	-.03	.03
Other Religion	-.19 *	.08	-.01	-.03	-.15	.07	-.02	-.06
No Religion	.04	-.16 **	.02	-.00	.02	-.08	.01	.01
French	.09	.03	.08	-.06	.05	.01	.09	-.07
North European	.02	.00	.03	-.06 *	.03	-.04	.08	-.06 *
Non European	.22 *	-.01	-.05	.01	.24	-.13	-.01	.01
East European	.05	.01	-.07	.05	.10	-.00	-.08	.04
South European	.08	.00	-.00	-.07	.09	-.03	.05	-.08
Unemployed	.10	.10	.15 *	-.03	.03	.10	.16 *	-.03
Union Household	-.12 *	-.02	-.12 **	-.03	-.14 **	-.01	-.11 *	-.05 *
Under 40 000\$	-.11 *	-.08 *	-.06	-.02	-.14 *	-.05	-.06	-.03
70 000 - 90 000\$	-.13 *	.00	-.04	-.06	-.09	.03	-.06	-.06
Over 90 000\$	.00	.05	-.03	-.02	-.06	.05	-.03	-.03
Political Inform.	-.09	-.10	.15 *	.16 ***	.19	-.05	.48 **	.32
Constant	.25 *	.15	-.09	.10	.21	.01	-.25	.05
Number of cases	333	394	390	996	333	394	390	996
R-Squared	.559	.604	.548	.443	.634	.670	.617	.491

Statistical significance of medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: ••• &lt; .001; •• &lt; .01; • &lt; .1



Table A.4.2: Campaign Dynamics of Heterogeneity, 1992 Quebec Referendum (OLS Unstand. Coefficients)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Specific Elements</i>										
Distinct society	.04	.03	.05	-.02	Low		-.03	.15	-.02	-.03
					Med.		.06	.03	.14	.05
					High		.25	-.05	.10	-.02
25% guarantee	-.00	.09 *	.04	.01	Low		-.22 •	.25	-.03	.00
					Med.		.10	.09	.12	.00
					High		.16	.08	.02	.01
Senate reform	.19 *	.07	-.05	.08 *	Low		.03 •	.15	-.17	.13
					Med.		.45***	-.01	-.04	.05
					High		.08	.32 •	.08	.07
Aboriginal self-gov.	.05	.03	.06	.09 *	Low		.09	-.04	.19	.07
					Med.		-.05	.06	.06	-.00
					High		.10	-.03	.05	.08
<i>General arguments</i>										
Best compromise	.22 **	.19 **	.22 **	.15 ***	Low		.23	.04	.13	.07
					Med.		.12	.15	.27 *	.16 *
					High		.07	.56 •	.24	.27
Move on	.05	.08	.12 *	.03	Low		.08	-.03	.05	-.05 •
					Med.		.09	.11	.10	.10 *
					High		-.01	.00	.08	.03
Province winner	.11	.14 *	.15 *	.12 **	Low		.01	.13	.34 •	.21
					Med.		.07	.17	-.02	.08
					High		.61 •	.13	.33 •	.06
<i>Intervenors</i>										
R. Bourassa	.29 *	.38***	.32 **	.55 ***	Low		.15	.39	.76 •	.69 •
					Med.		.32	.25	.22	.39 ***
					High		.46	.31	.31	.49
J. Parizeau	-.24 *	-.51***	-.25 *	-.30 ***	Low		-.10	-.48	-.47	-.38
					Med.		-.39 *	-.63 **	-.29 *	-.29 **
					High		-.20	-.29	-.07	-.06
<i>(continued)</i>										

Table A.4.2: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Group Sentiments</i>										
Feeling for Quebec	.08	.05	-.02	-.15 *	Low	-.13	-.08	-.39	-.34	
					Med.	.17	-.13	.03	-.06	
					High	-.15	.17	.00	-.13	
Feeling for Canada	.21	.08	.16	.11	Low	.63	.11	.51	.09	
					Med.	.19	.21	.07	.10	
					High	-.20	-.04	.06	.09	
Linguistic threat	.03	.03	-.04	-.01	Low	.11	-.09	-.13	-.06	
					Med.	.03	.12	-.06	.02	
					High	.14	.02	.01	-.03	
Economic concern	.26 **	-.00	.10	.07	Low	.40	-.19	.12	.19	
					Med.	.28 *	-.11	.13	.02	
					High	.12	.04	-.01	.06	
Sovereignty support	-.16	.04	-.06	-.05	Low	-.10	.10	.25	.10 •	
					Med.	-.10	.16	-.07	-.16 *	
					High	-.10	-.17	-.25	-.15	
Fear of separation	-.00	.18 **	.06	.04	Low	.08	.46	.08	-.06 •	
					Med.	-.03	.27 *	.19 *	.11 *	
					High	.09	.00	-.07	.11	
<i>(Continued)</i>										

Table A.4.2: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Non Francophone	.08	.12	.20 *	.06	.11	-.07	.23 *	.05
Over 55 years	-.02	-.01	.04	.08 *	-.00	.03	-.00	.08 *
Male	.06	-.05	-.01	.03	.06	-.04	.01	.04
Union Household	-.01	-.03	.06	-.06 *	.00	-.02	.08	-.05 *
Unemployed	-.01	.06	.05	.01	.00	.09	.06	.02
Educ 1	-.02	-.06	-.01	-.01	-.05	-.10	.01	-.01
Educ 2	-.10	-.01	.02	-.09 *	-.12 *	-.03	.05	-.09 *
Educ 3	-.03	-.05	-.03	.02	-.04	-.04	-.03	.01
Under 40 000\$	.02	-.04	-.01	-.06 *	.02	-.05	-.01	-.05 *
70 000 - 90 000\$	-.10	-.00	-.04	-.02	-.07	-.05	-.09	-.04
Over 90 000\$	-.05	.15	.11	-.02	-.05	.06	.11	-.04
Protestant	.09	-.19	.18	.15 *	.10	-.15	.04	.18 *
Other Religion	-.10	.13	.13	-.01	-.21	.24	.08	-.01
No Religion	-.02	.02	.00	.01	-.09	.06	.00	.05
British	.01	-.02	.05	.03	.05	-.01	.05	.03
North European	.05	-.10	-.05	.07	.16	-.07	-.08	.08
Non European	-.16	.03	.04	.12	-.10	.20	-.08	.16
East European	-.10	.11	.11	.15	.17	.26	.15	.20 *
South European	-.21	.37 *	.01	.08	-.29 *	.52 **	-.01	.03
Political Inform.	.05	.21 *	-.09	.05	.19	.07	-.00	-.18
Constant	-.20	-.06	-.11	.12	-.35	.09	-.19	.22 *
Number of cases	204	231	234	629	204	231	234	629
R-Squared	.634	.641	.625	.587	.712	.696	.689	.616

Statistical significance of medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Statistical significance of difference from medium behaviour: \*\*\* &lt; .001; \*\* &lt; .01; \* &lt; .1

Table A.4.3: Campaign Dynamics of Heterogeneity, 1993 Liberal Support (OLS Unstand. Coefficients)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.43 ***	.44 ***	.27 ***	.30 ***	Low	.50	.36	.43		.42
					Med.	.28 *	.57 ***	.55 ***		.29 ***
					High	.37	.41	.09 ***		.25
<i>Values</i>										
Populism	.11	-.04	-.35 **	-.19 **	Low	.44	-.12	-.62 **		.06 **
					Med.	-.36	-.08	.20		-.40 ***
					High	.20	.05	-.33		-.23
Feeling for Minorities	-.23 *	-.25 *	.10	.10	Low	-.62	-.24	.24		.12
					Med.	-.15	.11	-.14		.14
					High	-.63	-.31	.04		-.10
Feeling for French	.20	-.19	.05	.01	Low	.21	-.70	.10		.05
					Med.	.09	-.15	-.00		-.08
					High	.39	-.07	.40		.05
Feeling for Oth. Min.	.09	.30 **	-.05	-.21 ***	Low	.17	.70 •	.40 •		-.43 **
					Med.	.16	.03	-.16		.04
					High	.23	.21	-.05		-.18
Welfare State	-.06	-.06	.08	.07	Low	-.19	.02	.12		.09
					Med.	-.01	-.25	-.02		-.01
					High	-.12	.20	.17		.18
Capitalism	-.61 ***	-.02	.10	-.11	Low	-.60	-.18	-.24		-.03 •
					Med.	-.72 **	-.53	.20		-.46 ***
					High	-.13	.42 **	.31		.22 ***
Continentalism	.31 ***	-.08	-.15 *	-.06	Low	.34	.38	.42 ***		.06
					Med.	.40 **	.06	-.34 ***		-.05
					High	-.00	-.38 •	-.04		-.17
Macroeconomics	-.09	-.33 **	-.13	-.05	Low	-.19	-.56 •	.01		.18
					Med.	.14	.12	.09		.09
					High	.00	-.44 •	-.36 •		-.37 ***

(Continued)

Table A.4.3: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Values (continued)</i>										
Anti-unionism	-.07	.04	-.12	.03	Low	-.43 **	.30	-.40 **	.04	
					Med.	.43 *	.02	.18	.16	
					High	.05	-.25	-.31 •	-.09	
Moral Traditionalism	.33 *	-.04	.18	.18 **	Low	.27	-.22	.09	.03	
					Med.	.33	.10	-.03	.19	
					High	.31	-.20	.24	.28	
<i>Leader Evaluations</i>										
Brian Mulroney	.01	-.01	-.06	-.07	Low	.54 **	-.07	-.01	-.00	
					Med.	-.43 *	-.16	.05	-.02	
					High	.05	.23	-.26	-.06	
Kim Campbell	-.66 ***	-.08	-.04	-.14 *	Low	-1.25	-.24	-.16	-.17	
					Med.	-1.05 ***	.08	-.23	-.24 *	
					High	-.40 •	-.41	.18	-.11	
Jean Chrétien	1.09 ***	.52 ***	.91 ***	.91 ***	Low	1.22	.87	1.16 **	.63	
					Med.	1.13 ***	.30	.23	1.00***	
					High	.92	.72	.76	.89	
Preston Manning	-.32 **	-.08	-.67 ***	-.60 ***	Low	.24	-.41	-.81	-.86 •	
					Med.	-.40	.01	-.56 ***	-.53 ***	
					High	-.56	-.08	-.84	-.44	
Andrey McLaughlin	-.09	-.25	-.21	.02	Low	-.24	-.41	.05	.17	
					Med.	.46	-.49 **	.17	-.14	
					High	-.18	-.07	-.27	.03	
<i>(Continued)</i>										

Table A.4.3: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Atlantic	-.03	.14	.11	-.04	-.05	.12	.09	-.07
British Columbia	-.01	-.02	-.14 *	-.10 **	.00	-.01	-.16 **	-.08 **
Prairies	-.03	-.06	-.03	-.06 *	-.02	-.07	-.06	-.07 **
18 to 24 years	.08	.13	.10	-.05	.08	.06	.23 **	-.06
40 to 49 years	.04	.12 *	-.04	.01	.00	.08	-.04	-.00
50 to 65 years	-.14 *	.06	-.12 **	.08 *	-.22 **	.08	-.09	-.09 **
65 years or more	-.12	.14	-.07	.03	-.15	.19	.04	.03
Woman	.02	-.11 **	.02	-.06 *	.04	-.07	.05	-.05
Catholic	.06	.16 **	-.08	.01	.08	.15 **	-.11 *	-.00
Other Religion	-.12	.15	.17 *	.07	.01	.33 **	.26 **	.08
No Religion	-.02	.11	-.06	-.00	-.05	.11	-.12	-.01
French	.09	-.07	.29 **	.10	.21	-.06	.34 ***	.07
North European	-.16 *	.03	-.15	-.13 ***	-.15	.02	-.16	-.15 ***
Non European	-.25	.26	-.06	-.08	.07	.33	.03	.01
East European	.15	.23 *	-.02	-.03	.30 **	.18	-.15	-.02
South European	-.34	-.11	.43 ***	-.13	-.37	-.06	.33 *	-.18 *
Unemployed	-.06	.09	-.18	.07	-.05	.10	-.05	.04
Union Household	-.05	.06	-.08	.03	-.04	.05	-.00	.04
Married	-.12 *	.02	.10	.03	-.13 *	-.02	.07	.03
Under 30 000 \$	-.04	.17 **	.10	.04	-.03	.13	.13 *	.05
Over 60 000 \$	.10	.05	-.01	.08 **	.09	.04	.01	.08 **
Less than High School	-.17 **	.15 *	-.21 ***	.01	-.13	.09	-.21 ***	.00
College	-.09	.07	-.01	.06 *	-.13	.01	-.04	.07 *
University	-.12	.15 **	-.15 **	.04	-.13 *	.15 *	-.14	.05
Political Information	-.25 **	-.05	.02	-.14 **	-.59 *	-.26	.54 **	-.17
Constant	.66 ***	.22	.49 **	.35 **	.91 **	.43	.11	.41 **
Number of Cases	211	237	289	826	211	237	289	826
R-squared	.622	.588	.581	.418	.699	.676	.671	.459

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Table A.4.4: Campaign Dynamics of Heterogeneity, 1993 Conservative Support (OLS Unstand. Coefficients)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.43 ***	.45 ***	.20 ***	.22	Low	.59	.54	-.09 ***	.09 ***	
					Med.	.45 ***	.41 ***	.31 ***	.29 ***	
					High	.35	.46	.19	.25	
<i>Values</i>										
Populism	-.18	-.01	.18	-.08	Low	-.07	.11	.50	-.27	
					Med.	-.06	-.13	.41 *	-.11	
					High	-.45	-.17	-.07 •	.04	
Feeling for Minorities	.19	.01	-.00	.08	Low	.69 **	-.01	-.10	.10	
					Med.	-.05	-.11	.08	.01	
					High	.56 **	.33	-.09	.16	
Feeling for French	-.09	.05	-.15	-.06	Low	-.38	-.12	-.49	.03	
					Med.	.02	.33 *	-.10	.05	
					High	-.32	.13	-.23	-.20 •	
Feeling for Oth. Min.	.04	-.10	-.11	-.00	Low	-.32	.13	-.07	.03	
					Med.	.08	.09	-.16	-.07	
					High	.07	-.35	-.09	.04	
Welfare State	.31 ***	.02	.02	-.09	Low	.32	-.06	.18	-.17	
					Med.	.22	.09	-.09	-.11	
					High	.48	-.11	.00	.07	
Capitalism	.08	.14	.06	.19 **	Low	.45	.38	.64 •	.32	
					Med.	.31	.38	.01	.33 **	
					High	-.82 ***	-.30 •	-.12	-.06 **	
Continentalism	-.14 *	.03	.19 **	.01	Low	-.28	.11	-.33 ***	-.02	
					Med.	-.15	.05	.39 ***	-.11	
					High	.20 •	-.16	.20	.08 •	
Macroeconomics	.22 **	.04	.22 **	.21 ***	Low	.32	.03	.41	.13	
					Med.	-.10	-.12	.06	.20 **	
					High	.21	.23	.22	.21	

(Continued)

Table A.4.4: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Values (continued)</i>										
Anti-unionism	.02	-.05	.17 *	.07	Low	.26 ***	-.26	-.00		.05
					Med.	-.59 ***	-.19	.07		.05
					High	.13 ***	.40 **	.42		.19
Moral Traditionalism	-.21	-.14	-.15	-.05	Low	-.45	.09	.00		.07
					Med.	-.28	-.26	-.11		-.07
					High	-.02	-.35	-.03		-.13
<i>Leader Evaluations</i>										
Brian Mulroney	.20 *	.30 ***	.13	.06	Low	-.13 •	.13	.13		-.13
					Med.	.44 **	.25	.20		.07
					High	.10	.68 •	.12		.15
Kim Campbell	.72 ***	.36 ***	.51 ***	.55 ***	Low	.83	.33	.72		.45
					Med.	1.04 ***	.48 **	.43 **		.69 ***
					High	.66	.28	.45		.48
Jean Chrétien	-.35 **	-.30 **	-.58 ***	-.38 ***	Low	-.17	-.19	-.79		-.29
					Med.	-.09	-.09	-.65 ***		-.36 ***
					High	-.33	-.53	-.47		-.47
Preston Manning	-.23 **	-.42 ***	-.23 ***	-.24 ***	Low	-.35	-.36	-.11		-.04 •
					Med.	-.10	-.57 ***	-.21		-.32 ***
					High	-.15	-.30	-.23		-.38
Andrey McLaughlin	-.23	-.13	.17	-.01	Low	-.88	-.20	-.09		-.07
					Med.	-.34	-.25	.19		-.00
					High	-.13	-.23	.36		.07
<i>(Continued)</i>										



Table A.4.4: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Atlantic	.06	.00	-.05	-.02	-.00	.03	-.03	.00
British Columbia	-.12 *	.02	-.07	-.11 ***	-.18 **	.02	-.03	-.10 ***
Prairies	.01	.02	-.02	-.03	.00	-.01	-.02	-.02
18 to 24 years	.03	.04	-.12	-.01	-.03	.12	-.23 ***	-.01
40 to 49 years	.02	-.09 *	.04	.04	.13 *	-.08	.06	.05
50 to 65 years	.07	-.03	.04	-.01	.14 **	.00	.04	-.01
65 years or more	.25 ***	-.08	.05	.04	.30 ***	-.10	-.02	.07
Woman	-.01	.08 *	-.02	.05 **	-.04	.02	-.04	.05 **
Catholic	.06	-.01	-.11 **	.01	.05	-.02	-.11 **	.02
Other Religion	.16	.01	-.26 ***	-.03	.05	.02	-.31 ***	-.01
No Religion	.07	.05	-.12 *	.04	.09	-.01	-.05	.03
French	-.07	.08	.09	.02	-.25 **	.00	.13	.02
North European	-.05	-.06	.02	.02	.02	-.03	.03	.03
Non European	.32	-.27	-.18	.09	.20	-.37 *	-.27	.06
East European	-.15	.04	-.14 *	-.09 **	-.21 **	-.12	-.12	-.09 **
South European	.24	.17	-.10	.01	.46	.24	.06	.01
Unemployed	.15 *	-.10	.22 **	.00	.22 **	-.05	.25 **	.00
Union Household	-.00	-.02	.01	-.03	-.02	-.04	-.08	-.03
Married	.10 *	.08	-.05	-.02	.11 **	.09 *	-.04	-.01
Under 30 000 \$	.12 *	-.11 *	.01	-.04	.10	-.09	.02	-.07 **
Over 60 000 \$	.02	-.06	-.00	-.08 ***	.03	-.09	-.01	-.08 ***
Less than High School	.04	.01	.06	-.04	.09	.02	.03	-.04
College	.04	-.01	.02	-.04	.10	.01	.03	-.05 *
University	.06	-.12 *	.06	-.04	.10	-.07	.04	-.05
Political Information	.13	.11	-.04	.15 ***	.38	.40	.08	.15
Constant	-.27	.24	.10	.06	-.40	.01	.04	.07
Number of Cases	211	237	289	826	211	237	289	826
R-squared	.726	.631	.507	.385	.826	.703	.611	.431

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Table A.4.5: Campaign Dynamics of Heterogeneity, 1993 Reform Support (OLS Unstand. Coefficients)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.48 ***	.47 ***	.23 ***	.28	Low	.88	.31	.19	.18	
					Med.	.41 ***	.31	.14	.31 ***	
					High	.47	.61	.22	.26	
<i>Values</i>										
Populism	-.09	-.01	-.05	.12	Low	-.32	-.23	-.23	.17	
					Med.	-.30	.14	-.29	.22 *	
					High	.02	-.08	.04	.07	
Feeling for Minorities	-.10	-.03	-.01	-.11 *	Low	-.24	.08	-.02	-.11	
					Med.	-.09	.00	.11	-.05	
					High	-.07	-.33	.20	-.14	
Feeling for French	.22 **	-.07	.14	.14 **	Low	.46	.31 •	.56	.20	
					Med.	.15	-.36 *	.28 *	.03	
					High	.19	-.04	-.36 ••	.19	
Feeling for Oth. Min.	.09	.08	.13	.13 *	Low	.33	-.21	-.20	-.07	
					Med.	.07	-.13	.25	.10	
					High	-.02	.43 •	.24	.28	
Welfare State	.05	.02	-.18 *	.05	Low	-.08	-.03	-.18	.22	
					Med.	.04	.19	-.24	.00	
					High	.00	.01	-.08	-.08	
Capitalism	.08	.08	.11	.05	Low	-.10	.01	.34	-.22 ••	
					Med.	.17	.17	-.08	.24	
					High	.09	.05	.05	.07	
Continentalism	-.06	.06	-.02	.13 ***	Low	-.14	-.23	-.01	.06	
					Med.	-.06	.05	-.07	.20 **	
					High	-.08	.31	.04	.16	
Macroeconomics	-.09	.24 **	-.08	-.10	Low	.01	.43	-.29	-.13	
					Med.	-.27	.06	-.15	-.23 **	
					High	-.05	.14	.16	.12 ••	

(Continued)

Table A.4.5: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Values (continued)</i>										
Anti-unionism	.13	.12	-.07	.08	Low		.14	.19	-.09	.13
					Med.		.09	.11	-.21	.11
					High		.26	.01	-.18	-.10
Moral Traditionalism	.09	.01	.01	-.05	Low		-.15 •	.07	.10	-.09
					Med.		.45 **	-.12	-.16	.00
					High		.01	.34	-.03	.03
<i>Leader Evaluations</i>										
Brian Mulroney	-.09	-.38 ***	-.09	-.05	Low		.21	-.15	-.20	.18 •
					Med.		-.01	-.48 **	-.01	-.11
					High		-.21	-.80	-.16	-.17
Kim Campbell	-.21 *	-.23 *	-.18	-.26 ***	Low		-.40	-.64 •	.04	-.21
					Med.		-.16	.02	-.20	-.33 ***
					High		-.25	.07	-.33	-.19
Jean Chrétien	-.28 **	-.18	-.08	-.31 ***	Low		.01	-.23	-.49 ••	-.32
					Med.		-.39	-.49 *	.26	-.48 ***
					High		-.41	-.33	.30	-.07 ••
Preston Manning	.58 ***	.76 ***	1.06 ***	.97 ***	Low		-.18	1.00	1.09	1.20
					Med.		.64 ***	1.02 ***	1.29 ***	1.10***
					High		.61	.56	.90	.74 ••
Andrey McLaughlin	-.02	.01	-.23 *	-.29 ***	Low		.26	-.03	-.21	-.33
					Med.		-.26	.15	-.44 **	-.27 **
					High		-.01	-.09	-.44	-.38
<i>(Continued)</i>										

Table A.4.5: (Continued)

	Homogeneous Models				Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Per. 1	Per. 2	Per. 3	Vote
<i>Sociodemographics</i>								
Atlantic	-.01	-.10	-.13 *	-.01	.05	-.14	-.11	-.01
British Columbia	-.03	-.02	.10	.12 ***	-.01	-.09	.11	.11 ***
Prairies	.01	.01	.01	.06 *	.00	.01	.05	.05
18 to 24 years	-.14 *	-.06	.02	-.08 *	-.15	-.06	-.03	-.08
40 to 49 years	-.02	.01	-.00	-.11 ***	-.06	-.02	.00	-.12 ***
50 to 65 years	.03	-.04	.06	.00	.01	-.08	.05	-.01
65 years or more	-.03	.07	.01	-.09 *	-.07	.02	.02	-.13 **
Woman	.02	-.03	.00	.00	.01	-.02	-.02	.00
Catholic	-.05	-.11 *	.21 ***	.01	-.03	-.09	.20 ***	.00
Other Religion	-.07	-.08	.13	.07	-.03	-.09	.14	.05
No Religion	.08	-.07	.27 ***	.06	.12 *	-.02	.28 ***	.08
French	-.02	-.22	-.26 **	-.10	-.01	-.23	-.22 *	-.09 **
North European	-.11	.01	.10	.07	-.13	-.02	.12	.06
Non European	.13	-.00	.05	-.07	.15	-.06	.04	-.07
East European	-.16 *	-.16	.07	.02	-.19 *	-.12	.07	.05
South European	.07	.05	-.28 **	.14	-.12	-.01	-.16	.16 *
Unemployed	-.00	.04	-.01	-.03	-.06	.02	-.06	-.02
Union Household	.09 *	-.04	-.00	-.03	.08	-.02	-.04	-.04
Married	-.08	-.06	.04	-.01	-.08	-.04	.01	-.01
Under 30 000 \$	-.04	-.01	-.13 **	-.00	-.00	.02	-.14 **	.00
Over 60 000 \$	-.03	.03	-.05	-.04	-.02	.05	-.03	-.04
Less than High School	-.02	-.14 *	.16 **	.02	-.07	-.12	.12	.02
College	-.03	-.06	.05	-.04	-.04	-.07	.00	-.03
University	-.06	-.06	.06	-.02	-.09	-.13 *	.03	.02
Political Information	.06	-.24 **	-.08	-.05	-.26	-.31	-.34	-.03
Constant	.07	.26	-.10	.04	.47	.40	.16	-.00
Number of Cases	211	237	289	826	211	237	289	826
R-squared	.614	.499	.620	.463	.651	.588	.671	.492

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Table A.4.6: Campaign Dynamics of Heterogeneity, 1997 Liberal Support (OLS Unstand. Coefficients)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.26 ***	.28 ***	.25 ***	.21 ***	Low	.41 •	.40 •	.28	.26 •	
					Med.	.24 ***	.21 ***	.28 ***	.18 ***	
					High	.18	.20	.16 •	.22	
<i>Values</i>										
Do more for Women	.03	-.06	-.04	-.04	Low	.14	.36 •	-.15	.07 ••	
					Med.	.04	-.03	-.07	-.12 ***	
					High	-.07	-.12	-.05	-.06	
Regional Alienation	-.04	-.07	-.03	-.06 **	Low	.31 •••	.04	-.13	-.06	
					Med.	-.26 ***	-.07	-.05	-.05	
					High	.10 •••	-.11	.02	-.04	
Feeling for Quebec	-.08	-.06	-.17 **	.15 ***	Low	.36 •	-.27	.19	-.05 ••	
					Med.	-.07	-.10	-.21	.26 ***	
					High	-.18	.05	-.19	.07 •	
Feeling for Oth. Minor.	-.08	.14	-.02	-.02	Low	.05 ••	.17	-.11	-.01	
					Med.	-.08	.09	.03	-.05	
					High	.02	.14	.09	-.03	
Continentalism	-.11	.10	.04	-.08	Low	.49	.23	.14	-.08	
					Med.	-.19	.43 *	.27	.05	
					High	.24	-.19 •	-.07	-.15	
Cynicism	-.23 **	-.02	.02	-.03	Low	-.56	-.35	.29	.01	
					Med.	-.18	-.23	-.10	-.02	
					High	-.19	.16	-.01	-.10	
Moral Traditionalism	.04	-.00	-.02	-.01	Low	.02	.32	-.09	.03	
					Med.	.18	-.03	.02	-.05	
					High	-.09	.18	-.20	-.04	
Free Enterprise	.19 *	-.03	.06	.02	Low	-.12 •	-.17	-.06	.14	
					Med.	.28 *	-.22	-.09	-.03	
					High	.27	-.12	.29 •	.03	

(Continued)

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: ••• &lt; .01; •• &lt; .05; • &lt; .1

Table A.4.6: (Continued)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Issues</i>									
Spending	-.10	.04	.00	-.02	Low	-.51	.11	.07	-.04
					Med.	-.13	-.10	.07	.02
					High	-.21	.09	-.02	-.10
Taxes	-.06	-.04	-.02	.02	Low	-.02	-.17	-.19	.12 •
					Med.	-.03	.02	-.05	.00
					High	-.03	.02	.04	-.03
Deficit	-.01	.06	.01	.06 ***	Low	.06	-.08	-.05	-.03 ***
					Med.	.04	.07	-.05	.09 **
					High	.03	.08	.06	.08
Jobs	.06	.02	-.04	-.02	Low	-.07	.01	.02	-.12
					Med.	.13 *	.03	.01	.08 *
					High	.17	.06	-.13	-.05 **
Crime	.00	.04 *	.02	.01	Low	.09	-.05	-.15 **	.00
					Med.	-.02	.02	.02	.03 *
					High	.09 •	.07	.01	-.01
Guns	.00	.00	-.01	.01	Low	-.01	-.04	-.12 •	-.04
					Med.	-.03	.04	.01	-.00
					High	.05	-.09 **	-.02	.04
Immigration	-.02	.07 **	.03	-.02	Low	.04	.00	-.02	-.02
					Med.	-.07	.01	.07	-.04
					High	-.07	.09	-.04	-.02
<i>Liberal Performance</i>									
National Unity	.10 **	.03	-.01	-.01	Low	.26	.10	-.04	.07
					Med.	.10	.07	-.03	-.03
					High	-.06	-.02	.10	-.04
Deficit	-.02	.09 **	.03	.03	Low	.04	-.05	-.01	-.01
					Med.	-.10	.07	.04	-.00
					High	.04	.17	.04	.02
Jobs	.00	.05	-.07	.06 **	Low	-.09	-.08	.01	.03
					Med.	-.05	.10	-.14 *	.09 **
					High	.18 **	.02	-.01	.03

(Continued)

Table A.4.6: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Liberal Performance (continued)</i>										
Crime	.03	-.06	.03	.04 *	Low	-.10	-.07	.05	.01 •	
					Med.	.02	-.03	.03	.11 **	
					High	.24 **	-.05	.12	.02 •	
Social Programs	.00	-.00	.02	-.02	Low	.06	.04	-.07	-.03	
					Med.	.01	-.07	.10	-.03	
					High	-.09	.03	-.07 **	-.02	
GST	-.11 **	-.10 **	-.05	-.05 *	Low	-.17	-.19	-.14	-.08	
					Med.	.02	-.06	.02	-.03	
					High	-.28 ***	-.20	-.05	-.05	
<i>Economic Perceptions</i>										
National Retrospective	-.01	.01	.02	-.03	Low	-.08	.15	-.12 •	.02	
					Med.	-.03	.03	.09	-.00	
					High	.04	-.02	.04	-.06	
Personal Retrospective	-.02	.05	.05	-.01	Low	.32 ***	.06	.11	-.06	
					Med.	-.05	-.05	.00	-.02	
					High	.00	.09	.05	.02	
National Prospective	.01	.07 *	.10 **	.05 **	Low	-.16	-.03	.00	.02	
					Med.	.01	-.00	.07	-.04	
					High	.05	.06	.06	.13 ***	
Personal Prospective	.05	.04	-.02	.02	Low	-.03 •	-.06	-.06	.04	
					Med.	.16 ***	.07	-.04	.03	
					High	-.11 ***	-.01	.04	.03	
<i>Leader Evaluation</i>	.27 ***	.35 **	.53 ***	.53 ***	Low	-.43 ***	.10	.52	.61	
					Med.	.54 ***	.49 ***	.43 ***	.50 ***	
					High	.40	.44	.48	.52	
<i>Strategic Voting</i>										
Riding	.15	-.01	-.14	-.06	Low	.86 ***	.87	.89 **	.43 **	
					Med.	-.17	.07	-.19	.04	
					High	.18	-.12	-.05	-.21 **	
<i>(Continued)</i>										

Table A.4.6: (Continued)

	Homogeneous Models					Heterogeneous Models			
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
Strategic Voting (continued)									
Opposition	-.13	.13	-.12	-.01	Low	-.08	-.07	-.47 **	.02
					Med.	-.07	.08	-.03	-.12 *
					High	.17	.31	-.04	.19 **
Sociodemographics									
Atlantic	-.09	.03	-.02	-.10 **		-.05	.01	.01	-.10 **
Prairies	-.06	.03	-.10 *	-.04		-.02	.05	-.10	-.04
British Columbia	.06	.01	-.09	-.12 ***		.04	.04	-.11 *	-.13 ***
Rural/urban	-.00	-.02	-.12 **	-.02		-.05	-.02	-.09	-.03
North European	-.07	.06	-.12 **	-.03		-.01	.00	-.11 *	-.04
Non European	.05	.05	.04	.13 ***		-.01	.04	.03	.13 ***
Catholic	.05	.04	.05	.07 **		.04	.05	.03	.08 ***
No Religion	.03	.10	-.10 *	.00		.08	.17 **	-.12 **	.03
Employed	.04	-.05	.11 **	.06 **		.02	-.04	.15 ***	.05
Public employment	.01	-.04	.04	.09 ***		-.01	-.05	.10 *	.08 ***
Union Household	.01	.01	.07 *	-.05 *		-.04	-.01	.06	-.04 *
Low income	-.11	.16 **	.13 *	.02		-.10	.14	.11	.03
High income	-.18 ***	-.08	-.01	-.01		-.20 ***	-.09	-.01	-.02
Generation boom	.14 **	-.05	.03	.06 *		.11 *	-.07	.00	.06 *
Generation X	.12 *	-.11	-.03	.03		.07	-.12	-.08	.03
Dropout	.10	-.04	.12 **	.06		.05	-.02	.09	.06 *
University graduate	.03	-.00	.10 *	-.02		.11 *	.03	.06	-.01
Traditionally married	.04	-.01	-.00	.06 **		.02	-.03	-.04	.08 ***
Male	-.00	-.05	-.05	-.01		-.00	-.08	-.06	-.01
Political Information	.35 ***	-.02	-.10	.02		.34	-.39	-.29	-.00
Constant	.27	.49 ***	.48 ***	.36 ***		.11	.83 ***	.64 ***	.36 ***
Number of Cases	331	296	357	1029		331	296	357	1029
R-squared	.620	.611	.625	.508		.739	.717	.701	.553

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1



Table A.4.7: Campaign Dynamics of Heterogeneity, 1997 Conservative Support (OLS Unstand. Coefficients)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.20 ***	.25 ***	.20 ***	.14 ***	Low	.26	.61	.30	.23 ***
					Med.	.23 ***	.29 ***	.24 ***	.10 ***
					High	.15	.21	.17	.14
<i>Values</i>									
Do more for Women	-.02	.07	.01	.08 ***	Low	-.47	-.93 **	-.09	-.03 •
					Med.	-.11	-.04	-.08	.09 **
					High	.11 **	.11	.02	.08
Regional Alienation	-.10 **	-.01	.00	.01	Low	.28	.91 **	.33	.14 ***
					Med.	.01	.01	-.00	-.11 ***
					High	-.34 ***	-.01	.00	.07 ***
Feeling for Quebec	.17 *	.09	.11	-.08 *	Low	-.01	.28	.70	-.00
					Med.	.46 ***	-.32 **	-.02	-.16 **
					High	.39	.27 **	.21	-.07
Feeling for Oth. Minor.	-.05	-.09	.12	.03	Low	.08	-.97 •	.11	-.04
					Med.	.02	.06	.22	.08
					High	-.23	-.18	.12	.10
Continentalism	.02	-.04	-.22 *	.01	Low	-.84 •	1.59	-.64	-.07
					Med.	.28	-.23	-.84 ***	.19 *
					High	-.17 •	.00	.05 ***	-.04 •
Cynicism	.10	-.04	-.18 *	-.05	Low	.41	1.72	-.23	-.22 •
					Med.	-.13	.36	-.09	.01
					High	.37 **	-.06	-.44 •	.00
Moral Traditionalism	-.07	.02	-.09	-.06	Low	1.17 ***	-1.29	-.26	.11 **
					Med.	-.29 **	-.14	-.17	-.12 *
					High	.13 ***	.24 •	.10	-.03
Free Enterprise	.03	.22	.24 ***	.21 ***	Low	.96 **	-.86	.16	-.05 •
					Med.	.04	.61 ***	.39 **	.20 **
					High	.14	.39	-.11 **	.28

(Continued)

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; • &lt; .1

Table A.4.7: (Continued)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Issues</i>									
Spending	.12 *	.09	-.12 *	-.04	Low	.61 •	.38	-.50	-.20 ••
					Med.	.14	.29 **	-.23 *	.00
					High	.10	.12	-.10	-.00
Taxes	.02	.00	.11 ***	.01	Low	.52 ••	.31 •	.22	.06
					Med.	-.02	-.16 *	.28 ***	-.01
					High	.06	-.05	.05 ••	.02
Deficit	-.06	-.01	.09 **	-.00	Low	.31 •	.72 •	-.06	.10 •••
					Med.	-.10 *	-.02	.10	-.07 **
					High	-.12	.02	.09	.02 ••
Jobs	-.11 **	.06	.06	.02	Low	-.17	-.07	.01	.20 •••
					Med.	.06	.12	-.05	-.04
					High	-.03	.13	.10	.03
Crime	-.00	.04	-.04 *	-.02	Low	-.23 •••	-.26	-.04	.01
					Med.	.05	.08 *	-.02	-.01
					High	.01	.00	-.10	-.04
Guns	-.03	-.02	.01	.00	Low	-.32 ••	.33	.15	-.01
					Med.	-.06	-.07	.01	-.00
					High	-.05	-.01	.03	.01
Immigration	.08 **	-.03	-.00	-.04 **	Low	.05	-.20	.01	-.01
					Med.	-.01	-.07	.05	-.04
					High	.06	-.05	-.00	-.02
<i>Liberal Performance</i>									
National Unity	.03	.00	.01	-.01	Low	.00	.36	.12	-.03
					Med.	-.11 *	.06	.03	-.03
					High	.07 ••	-.12 •	-.09	.00
Deficit	-.04	-.09 **	-.09 ***	-.02	Low	-.16	-.45 •	-.20	.01
					Med.	-.01	-.10	-.03	.00
					High	-.03	.02	-.15	-.04
Jobs	-.04	-.10 *	-.01	-.04 *	Low	-.19	-.13	-.08	-.04
					Med.	-.06	-.15 *	-.06	-.03
					High	-.14	-.10	.02	-.02
(Continued)									

Table A.4.7: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Liberal Performance (continued)</i>										
Crime	.03	.10 **	-.02	.00	Low	.24	.51	.08	-.01	
					Med.	.17 ***	.15 **	.02	-.04	
					High	-.10 ***	.08	-.10	.02	
Social Programs	.01	-.09 *	-.01	-.01	Low	.03	.19	.19	.01	
					Med.	-.10 *	-.03	-.03	-.03	
					High	.09 **	-.15	.05	.00	
GST	.03	.12 **	-.01	-.01	Low	-.19 •	-.03	-.20	.07	
					Med.	.11	.20 **	.03	-.04	
					High	.14	.15	.01	-.00	
<i>Economic Perceptions</i>										
National Retrospective	.04	-.03	-.01	-.00	Low	-.45 ***	-.04	.28 **	-.01	
					Med.	.02	.04	-.04	.02	
					High	.08	-.01	-.07	-.01	
Personal Retrospective	.04	-.02	-.03	.03 *	Low	-.22 **	-.25	-.31 **	.08	
					Med.	.08 *	-.02	.00	.00	
					High	.03	-.01	.02	.03	
National Prospective	.01	.06	-.08 **	.00	Low	-.08	.29	-.57 ***	.03	
					Med.	.10	.09	.04	.03	
					High	-.02	.01	-.09	-.03	
Personal Prospective	-.02	-.05	-.04	-.01	Low	.33 ***	.71 •	-.30 •	-.01	
					Med.	-.12 **	-.09	.00	-.00	
					High	-.03	-.04	-.02	-.03	
<i>Leader Evaluation</i>	.23 **	.53 ***	.58 ***	.43 ***	Low	.27	-1.49 **	.98 **	.46	
					Med.	.04	.64 ***	.31 **	.36 ***	
					High	.39 •	.51	.69 •	.54 •	
<i>Strategic Voting</i>										
Riding	.18 **	-.03	.12	.10 **	Low	-.28	1.10	.59	-.04	
					Med.	.24 **	-.28 *	.20 *	.15 ***	
					High	.15	-.03	-.06	.00 •	
<i>(Continued)</i>										

Table A.4.7: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Strategic Voting (continued)</i>										
Opposition	.03	-.07	.09 **	.01	Low		-.22 •	.05	.06	-.01
					Med.		.16 **	-.02	.11	.00
					High		.01	-.01	.10	.04
<i>Sociodemographics</i>										
Atlantic	.28 ***	-.10	.02	.13 ***			.23 ***	-.12	-.01	.15 ***
Prairies	.16 ***	-.06	.07	.02			.20 ***	-.12 *	.11 *	.03
British Columbia	.06	-.19 ***	-.03	-.03			.10	-.10	-.01	-.03
Rural/urban	-.05	-.06	-.01	-.01			-.00	-.05	.00	-.02
North European	-.06	.11 *	-.00	.00			-.08	.16 **	-.01	.03
Non European	-.12 *	-.22 **	-.12	-.04			-.03	-.27 **	-.15	-.04
Catholic	-.06	.02	.02	-.05 **			-.06	-.03	.06	-.05 **
No Religion	-.11 *	-.16 **	.03	-.04			-.12 *	-.16 **	.04	-.05 *
Employed	.05	-.02	-.18 ***	-.06 **			.02	.04	-.26 ***	-.06 **
Public employment	-.05	.11 *	.03	-.07 ***			-.03	.11 *	.04	-.07 ***
Union Household	.02	-.04	-.10 **	.00			.10 **	-.00	-.02	.01
Low income	-.05	-.01	-.04	-.02			-.05	-.02	.04	-.01
High income	.03	.07	-.05	.01			.04	.07	.04	.04
Generation boom	-.00	.03	.07	-.05 *			.08	.02	.07	-.05
Generation X	-.06	.21 ***	.11	-.03			-.05	.22 **	.09	-.02
Dropout	.03	-.07	-.02	-.06 *			.05	-.08	-.04	-.07 **
University graduate	-.03	-.01	-.08	.04			-.03	-.07	-.12 **	.03
Traditionally married	-.03	.00	.05	-.02			-.02	-.00	.07	-.06 **
Male	-.07	.06	.08 *	.03			-.01	.10	.07	.02
Political Information	-.32 ***	.15	-.00	-.03			-.33	.02	-.34	-.21 *
Constant	.61 ***	.13	.38 **	.31 ***			.23	-.18	.71 ***	.40 ***
Number of Cases	252	248	296	987			252	248	296	987
R-squared	.562	.578	.589	.353			.790	.760	.722	.420

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; • &lt; .1

Table A.4.8: Campaign Dynamics of Heterogeneity, 1997 Reform Support (OLS Unstand. Coefficients)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Partisan Identification</i>	.20 ***	.18 ***	.19 ***	.15 ***	Low	.19	.35	.31	.15
					Med.	.13 ***	.15 ***	.33 ***	.17 ***
					High	.27 •	.24	.06 ***	.12
<i>Values</i>									
Do more for Women	-.04	-.04	.04	-.01	Low	.02	.13	.21	-.05
					Med.	.01	-.05	.13	.05
					High	-.12	.05	-.03	-.03
Regional Alienation	.08 *	.14 ***	.04	.05 **	Low	-.15 **	.41	-.08	.08
					Med.	.15 **	.14 *	.13 *	.15 ***
					High	.19	.10	.03	-.03 ***
Feeling for Quebec	-.04	.09	-.11	-.12 ***	Low	-.11	-.20	-.74 ***	-.11
					Med.	-.21 *	.11	.23	-.13 *
					High	.07	.12	-.26 ***	-.07
Feeling for Oth. Minor.	.04	-.06	-.04	-.01	Low	-.01	.06	-.04	.13 •
					Med.	.12	-.01	-.29 **	-.06
					High	.28	-.24	.09 **	-.08
Continentalism	-.05	-.17	.03	-.07	Low	.22	-.61	.17	-.09
					Med.	-.19	-.40 *	-.08	-.18 *
					High	.23 •	.02	.00 **	-.04
Cynicism	.15 *	-.00	.02	.02	Low	.45	.31	.09	.14
					Med.	.43 ***	-.32 *	-.23	-.07
					High	-.55 ***	.02	.17	.07
Moral Traditionalism	.06	.04	.16 *	.08 **	Low	-.05	.18	-.04	.07
					Med.	.13	.08	.18	.14 **
					High	.10	-.02	.22	.03
Free Enterprise	-.16 *	-.03	-.02	-.02	Low	-.04	-.17	.18	-.07
					Med.	.11	.21	.10	.07
					High	-.36 **	-.07	-.23 •	-.08

(Continued)

Statistical significance of medium behavior: \*\*\* < .01; \*\* < .05; \* < .1

Statistical significance of difference from medium behavior: \*\*\* < .01; \*\* < .05; • < .1

Table A.4.8: (Continued)

	Homogeneous Models					Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote		Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Issues</i>										
Spending	.03	-.11 *	.14 **	.06 **		Low	.02	-.12	.27	.13
						Med.	.16 *	-.27 **	.17 *	.08
						High	.14	-.16	.17	.04
Taxes	.13 ***	.08 **	.00	.04 *		Low	.10	-.00	.15	-.06 •
						Med.	.06	.08	.00	.05
						High	.16	.16	-.01	.07
Deficit	.01	-.01	-.04	-.02		Low	-.04	.04	-.01	.04
						Med.	-.05	-.04	-.11 *	-.04
						High	.11 •	-.06	-.04	-.03
Jobs	.06	.02	-.02	-.03		Low	.10	-.09	.06	.03
						Med.	.00	-.01	.02	-.06
						High	-.01	-.08	-.08	-.00
Crime	.01	.02	.03	.03 ***		Low	-.01	.06	.09	.03
						Med.	.03	.06	.01	.03 *
						High	-.07 •	.01	.06	.06
Guns	-.08 ***	-.02	.00	-.01		Low	-.11	.00	.03	.01
						Med.	-.05	-.02	-.04	-.01
						High	-.07	-.01	.01	-.03
Immigration	.03	-.00	.01	.05 ***		Low	.09	.29	.24 •	.13 **
						Med.	.07 *	.02	.02	.02
						High	-.02	-.00	.05	.06
<i>Liberal Performance</i>										
National Unity	-.10 ***	-.07 **	-.06 *	-.02		Low	-.32 ***	-.07	-.13	-.05
						Med.	-.02	-.07	.00	.01
						High	.03	-.00	-.14 •	-.02
Deficit	-.03	-.00	-.00	-.02		Low	.01	.02	.00	.02
						Med.	-.03	.09 *	-.01	-.05 *
						High	-.00	-.14 ***	-.01	.01
Jobs	.03	.09 **	.01	-.02		Low	.13	.11	.10	.04 •
						Med.	.02	.09	.05	-.05
						High	-.08	.09	.04	-.03
<i>(Continued)</i>										

Table A.4.8: (Continued)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Liberal Performance (continued)</i>									
Crime	.03	-.07 **	-.01	-.03	Low	.10	-.12	-.01	-.06
					Med.	.07	-.12 *	-.07	-.03
					High	-.12 **	-.09	-.01	-.05
Social Programs	.00	.03	.03	.03 *	Low	-.04	-.03	-.12	.02
					Med.	-.04	.04	.06	.06 *
					High	-.04	.08	.09	.03
GST	.01	.01	.05	.05 **	Low	-.02	.26	.26 **	.09
					Med.	-.08	.03	-.04	.02
					High	.12 **	.08	-.05	-.00
<i>Economic Perceptions</i>									
National Retrospective	-.04	-.03	.01	-.01	Low	-.00	.05	-.06	-.08
					Med.	-.00	-.06	-.04	-.03
					High	-.10	.02	-.01	.03
Personal Retrospective	-.01	-.04	.00	-.00	Low	-.13 **	.10	.07	-.02
					Med.	.03	-.11 *	.07	.04
					High	-.02	-.04	-.02	-.03 **
National Prospective	.01	-.01	.00	.02	Low	.01	.07	.10	.06
					Med.	-.03	-.03	-.02	.04
					High	.05	-.03	.02	-.04 **
Personal Prospective	.03	-.05 *	.03	-.03 *	Low	-.04	-.25	.12	-.03
					Med.	-.04	-.07	-.01	-.04
					High	-.01	.02	-.03	-.04
<i>Leader Evaluation</i>	.37 ***	.37 ***	.39 ***	.50 ***	Low	.34	.50	.25	.52
					Med.	.48 ***	.63 ***	.38 ***	.51 ***
					High	.23	.22 **	.41	.47
<i>Strategic Voting</i>									
Riding	.05	.27 ***	.24 ***	.15 ***	Low	-.25 •	.01	.28	.32 **
					Med.	.20	.33 **	-.05	.07
					High	.04	.15	.43 **	.20
<i>(Continued)</i>									

Table A.4.8: (Continued)

	Homogeneous Models				Heterogeneous Models				
	Per. 1	Per. 2	Per. 3	Vote	Info.	Per. 1	Per. 2	Per. 3	Vote
<i>Strategic Voting (continued)</i>									
Opposition	.05	.02	.11 **	.08 ***	Low	.15	-.11	.06	.08
					Med.	.15 **	.13	.15 **	.05
					High	.05	-.05	.09	.08
<i>Sociodemographics</i>									
Atlantic	-.08	-.12 *	-.08	-.08 **		-.06	-.14 *	-.03	-.09 **
Prairies	-.04	-.02	-.06	.01		-.12 **	-.06	-.08	.00
British Columbia	.00	-.01	.05	.11 ***		-.03	-.02	.05	.10 ***
Rural/urban	-.08 *	.04	.07	-.01		-.01	.08	.09 *	-.01
North European	.09 *	-.05	.07	.05 **		.09	-.03	.03	.05 *
Non European	-.09	.09	-.10	-.13 ***		-.04	.04	-.12 *	-.13 ***
Catholic	-.05	-.05	.04	-.03		-.07	-.10 *	.05	-.04
No Religion	-.05	.02	.03	-.02		-.04	-.00	.06	-.04
Employed	-.01	.09 **	-.02	.01		.01	.10 *	-.02	.01
Public employment	.03	.00	-.06	-.02		.05	.01	-.06	-.03
Union Household	.03	-.05	.00	-.03		.02	-.03	-.03	-.04 *
Low income	.12 **	-.06	.02	.03		.11 *	-.09	.01	.01
High income	.13 ***	.05	.11 **	.04		.12 **	.06	.08	.02
Generation boom	-.08	-.06	-.03	-.03		-.08	-.03	-.04	-.04
Generation X	-.14 **	-.06	-.02	-.03		-.07	-.01	-.05	-.02
Dropout	-.01	-.06	.00	.02		-.02	-.05	.03	.01
University graduate	.03	-.03	-.04	-.01		-.04	-.04	-.01	-.01
Traditionally married	.01	-.06	.01	.02		.07 *	-.06	.03	.03
Male	.07 *	-.03	-.09 **	-.00		.07	-.04	-.06	.00
Political Information	-.09	.08	.10	.04		.72 ***	.17	.09	.20 *
Constant	.50 ***	.51 ***	.53 ***	.58 ***		-.01	.47 **	.70 ***	.53 ***
Number of Cases	304	285	333	1020		304	285	333	1020
R-squared	.663	.685	.648	.605		.781	.759	.767	.639

Statistical significance of medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1

Statistical significance of difference from medium behavior: \*\*\* &lt; .01; \*\* &lt; .05; \* &lt; .1