

# Regions, Regionalism and Regional Differences in Canada

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## Introduction

Regional differences in opinions and behaviour generate theoretical, conceptual and methodological questions for political scientists. From the standpoint of social science theory, the main question is about the origins of these variations. What is it about the relationship between people and their environment that generates interregional variations in opinions and behaviour? The challenge here is to identify causal mechanisms. The focus on “region” and “context,” however, raises clear level-of-analysis issues. Each individual belongs to many regions simultaneously. People simultaneously belong to neighbourhoods, cities, provinces, regions and countries. From a methodological standpoint, then, testing hypotheses about the variations between people in different regions requires empirical analyses that include variables measured at different levels of analysis. Some are measured at the individual level, others at some higher level of analysis and still others at yet higher levels. The methodological challenge is to integrate these variables into a single model of opinion or behaviour.

This paper advances three arguments. The first argument, building on the work of Cutler (2007) and others, is that regionalism should be conceptualized not as empirically observed differences between people in different locales, but as a social psychological concept, as a psycho-

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logical attachment to the people, institutions, and characteristics of a given geographic area (Keating, 1998: 7). Regionalism is conceptually distinctive from “composition effects” and “context effects,” although the real-world consequences of regionalism are closely intertwined with the latter of these concepts. Second, we argue that there is unlikely to be a single explanation, whether cultural, economic or institutional, for regional differences in Canada. Regional differences are likely to stem from different causes in different regions and at different levels of analysis; indeed, the explanations and consequential levels of analyses may vary from issue to issue. And third, advances in data collection and computational resources have ushered in statistical tools which facilitate analyses based on theoretically driven multilevel conceptualizations of “region.” People are attached to and influenced by the regions in which they reside, and each person belongs to many regions simultaneously. It is possible to consider the characteristics of each of these regions in explanations of public opinion and individual behaviour.

The first argument is theoretical. But the second and third arguments have clear empirical implications. We draw on public opinion data from Ipsos Reid’s 2008 Canadian federal election survey and contextual data from Statistics Canada (2006) to test the prospects of these arguments in the context of an examination of Canadians’ opinions about government intervention in the economy. Although a single analysis of a single issue cannot on its own confirm the arguments that we outline, the results do suggest, in our view, the need to develop a clear and generalizable conceptualization of “region” and to refine, perhaps, the way we seek to understand and explain “regional differences” in Canada.

### **“Region,” “Regionalism,” and “Regional Differences”**

There is widespread agreement among observers of politics in Canada that the country is divided in politically consequential ways along regional lines.<sup>1</sup> There are regional differences in voting behaviour (Gibbins, 1980; Gidengil et al., 1999), political culture (Simeon and Elkins, 1974; Wiseman, 2007), ideology (Ornstein and Stevenson, 1999), economic performance (Brym, 1986: 8; Cutler, 2002: 350; Schwartz, 1974: 11), policy preferences (Anderson, 2010), attitudes (Henderson, 2010) and public opinion (Cutler, 2007; Wilson, 1974). There is little agreement, however, about what causes these regional divisions or, indeed, about where the lines of regional division should be drawn.

The most common definition of region treats the formal boundaries of provinces as the fault lines of regional political tectonics (see Cameron and Krikorian, 2002: 333; Gibbins, 1980: 8). Elkins and Simeon, for example, argue that in order to “rise much above folklore, regional

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**Abstract.** This article contests the concepts of “region” and “regionalism” in Canadian political science. There is widespread agreement among observers of politics in Canada that the country is divided in politically consequential ways along regional lines. There is little agreement, however, about what causes these regional divisions or, indeed, about where the lines of regional division should be drawn. As a result, rival explanations for regional differences in Canada are commonly tested against different evidence arising from different definitions of region. This article argues that “region” should be conceptualized in generalizable terms as the physical space that surrounds an individual, and that “regionalism” should be conceptualized as an affective attachment to the people, places and institutions within a geographic area. Regionalism, from this perspective, is a concept that plays an important role in driving regional differences in opinion differences rather than simply describing these differences. The article applies this argument to a study of regional differences in Canadian opinions about government involvement in the economy. The empirical analysis points to the need for the development of concepts that can be generalized across explanations and levels of analysis. Even on the single issue analyzed here, regional differences appeared to have different causes in different regions, and these different causes seemed to operate at different levels of analysis.

**Résumé.** Cet article questionne le bien-fondé des concepts de “région” et de “régionalisme” tels qu’utilisés dans la littérature en science politique au Canada. La plupart des politologues s’entendent pour souligner l’importance des clivages régionaux dans la politique canadienne. Par contre, on s’entend moins sur l’identification des sources de ces divisions régionales, ainsi que sur la délimitation de ces différentes régions. Par conséquent, les études scientifiques des facteurs possibles qui sous-tendent les clivages régionaux sont souvent difficile à comparé puisqu’elles utilisent différentes définitions du concept de “région”. Cet article défend l’idée que le concept de “région” devrait être limité à décrire l’espace physique où se situe un individu. Par ailleurs le concept de “régionalisme” devrait inclure l’idée d’un attachement affectif aux personnes, endroits et institutions d’un emplacement géographique donné. Le régionalisme, dans cette perspective, doit être compris comme une cause des clivages régionaux, et non comme une simple description de ces différences. Cet article propose l’utilisation de cette distinction conceptuelle à une étude des différences régionales quant à l’opinion publique sur le rôle que devrait avoir le gouvernement dans l’économie. L’analyse empirique démontre l’importance de développer des concepts qui peuvent être généralisés au point de s’appliquer à différentes explications et niveaux d’analyse. Si on se fie au seul enjeu étudié dans cet article, les clivages régionaux semblent avoir différentes causes dans chacune des régions, et ces causes semblent opérer à différents niveaux d’analyse.

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differences must become institutionalized, to have an institutional focus. In Canada, the provincial governments provide such a centre” (1980: xi). Other political scientists adhere to this strategy, but with less confidence. Wilson (1974: 439–40) settles on provincial boundaries as proxies for the lines of regional division, but does so with a great deal of scepticism. Ornstein and colleagues (1980: 9) treat each province as a region, except in Quebec where they split the province into French and non-French components. And while Schwartz thinks mainly about provinces when writing about regions (1974: 5), she frequently follows the “usage long accepted by geographers and economists” by collapsing the ten provinces into five regions, in this case, Atlantic, Quebec, Ontario, the Prairies, and BC (6).

Many reject for theoretical (Brodie, 1990) or practical reasons (Gidengil et al., 1999: fn.4) the use of province as a proxy for region

(see Henderson, 2010: 440–41). Indeed, the level of analysis can be shifted with equal facility up or down from the provincial level. According to Brodie, “the problem of equating provinces with regions is that it necessarily conceals the real and widespread manifestations of transprovincial spatial politics” (1990: 16). Yet, even among those who subscribe to a transprovincial approach, there is little consensus about what these transprovincial units of analysis look like. In the so-called “five-region Canada” (Schwartz, 1974: 5; Elkins and Simeon, 1980: xi), there are two transprovincial regions, Atlantic Canada and the Prairies, and three provincial regions: Quebec, Ontario and BC. Yet, some scholars treat BC and the Prairies together as “the West” (Godbout and Belanger, 2002: 576), while others do not (Gibbins, 1980: 8). And some treat Newfoundland (Gidengil et al., 1999: 247) and the Maritimes together as “Atlantic Canada” (Bell, 1992: 146), while others do not (Hodgetts, 1966: 10).

There are also regional differences that cut within provinces. Here, too, however, there is little consensus about where to draw the lines of division. Blake (1972: 60) uses federal electoral districts, a natural choice, perhaps, for a study of vote choice. Cutler (2007: 582) uses census tracts, postal forward sorting areas and census subdivisions. And while Henderson (2004: 603) treats federal electoral districts as a baseline unit of analysis, she lumps districts together into “regions” based on their demographic composition, an approach that ostensibly raises the prospect that regional effects may not be territorially contiguous. Nonetheless, the evidence in support of meaningful transprovincial and subprovincial regions suggests that regional differences can operate independently of formal political boundaries. Even so, a key problem, the level of analysis problem, is certainly not resolved by abandoning the use of province as a proxy for region.

Disagreements about regions reflect disagreements about the nature of “regionalism.” For some, regionalism is a description. It describes regional differences on phenomena of interest, but it does not explain these differences (Elkins and Simeon, 1980: xi; Gibbins, 1980: 7; Wilson, 1974: 444). From this perspective, a precise definition of “region” is unimportant. Simeon (1977: 293), for example, argues, “We must first recognize that in no sense is [regionalism] an explanatory variable: by itself it doesn’t explain anything; nothing happens because of regionalism. If we find differences of any sort among regions, it remains for us to find out why they exist; regionalism is not an answer.” On this basis, Simeon (1977: 293) reasons that “regions are simply containers, whose contents may or may not differ. And how we draw the boundaries around them depends entirely on what our purposes are; it is an a priori question, determined by theoretical needs or political purposes. We can have regions within provinces or regions made up of groups of provinces or regions cutting across provincial lines.” Brym, similarly, begins his study

of regionalism with the qualification that he did not “want to spend much time defining ‘region,’ apart from noting the common and sensible view that the unit of analysis to which the term refers should depend on the purpose to which it is put. Sometimes we think of regions as groups of provinces, sometimes as provinces themselves, sometimes as parts of provinces” (1986: 2–3). If regionalism is simply a description of inter-regional differences on some variable of interest, then the boundaries of a “region” may change from dependent variable to dependent variable.

But is regionalism merely a description, or is it, in fact, an explanation? The answer to this question, for some, depends on whether regional variations are attributed to “composition effects” or whether they are attributed to “contextual effects” (Gidengil et al., 1999: 249). A composition effect emerges when regions differ from one another on some dependent variable of interest because there happens to be within those regions different proportions of particular groups. If immigrants tend to express higher support for immigration, for example, and if one region has a higher proportion of immigrants than another region, then the average level of support for immigration may vary across these regions by virtue of a composition effect; in this case, the different “proportionalities” of immigrants (Elkins and Simeon, 1979: 130). In this case, the regional difference is attributable to different aggregations of individual-level characteristics. Indeed, the simplest definition of a composition effect is that it is an interregional difference that disappears when all relevant individual-level variables are taken into account. When it comes to composition effects, the regions may differ on average, but two individuals with the same individual-level characteristics would hold the same opinion, regardless of their region in which they lived.

A context effect, by contrast, emerges when a characteristic of a region shapes the opinion of the individuals within that region. According to Huckfeldt and Sprague, a context effect occurs when “individual behaviour tends to move in the direction of a surrounding population’s social makeup, even when individual characteristics are taken into account” (1987: 652). At the aggregate level, there are a number of reasons why the characteristics of regions are likely to differ. Political economy approaches, for example, stress the ways in which geographic characteristics like natural resources, access to trade routes, and proximity to key markets generate distinctive patterns of economic development and performance in different areas (for example, Brodie 1990; Innis, 1930). Political culture approaches stress that different immigrant groups, with altogether different cultural backgrounds, arrived at different times and settled in different regions (for example, Wiseman, 2007). At the individual level, there are myriad ways in which these kinds of contextual characteristics are theorized to shape the opinions of the individuals within them. First, people use their local environments as sources

of information about the world (Cutler, 2007: 578). Politically disinterested people in particular are thought to use what they observe in the local environment to make inferences about broader national contexts of which they know little. Second, contexts shape social networks (Huckfeldt and Sprague, 1987). People's social ties are shaped powerfully by the geographic context in which they reside. People tend to talk to people who are physically proximate. Finally, contexts exert influences via social-psychological mechanisms (Matthews, 1983: 21–25; Schwartz, 1974: 309). As Cutler points out, "people are attached to the places they inhabit; this identification defines a politically relevant group; and, all else being equal, they care more about fellow locals than those who live further away" (2007: 579). Through each of these mechanisms, the characteristics of space itself, or, more precisely, "context," may exert an impact on the opinions of the individuals who occupy that space.

We define a region broadly as any spatial unit that surrounds an individual. Thus we agree with the widely held notion that there are many different ways in which regions can be delineated (Schwartz, 1974: 5; Simeon and Elkins, 1974: 400–01). Yet, in our view, the multiplicity of potentially consequential regional categories is not license to choose any one of these over the others; rather, it is an invitation to examine multiple regional categories simultaneously. People belong at the same time to multiple communities; individual Canadians are nested within households, neighbourhoods, constituencies, cities, subprovincial regions and provinces, among others. It makes little sense, we contend, to choose a single unit of analysis when existing statistical tools allow us to estimate models that include variables from multiple levels of analysis. Thus, regional boundaries should be conceptualized as concentric units that begin from smaller, more proximate units of analysis and move outwards to larger, less proximate units of analysis. Although there may be theoretical reasons for beginning with smaller units of analysis and moving outwards to larger units—for example, the intensity of psychological attachment to a group may lessen as the size of the group expands (Cutler, 2007: 579)—the logic of this approach is buttressed, in our view, by an important empirical consideration. Beginning from smaller regional categories is preferable because while it is possible to identify contextual effects of larger regional units from an analysis of smaller regional units, it is not possible to identify contextual effects of smaller regional units from an analysis of larger regional units. For example, we can discern from an analysis of, say, federal constituencies, whether or not these constituencies cluster together in meaningful ways in terms of provincial-level contextual effects. But we cannot determine from an analysis of provinces whether there are meaningful contextual effects that operate at the subprovincial level.

In terms of regionalism, we propose a somewhat different approach than the convention of defining regionalism as any difference that appears across space (Simeon and Elkins, 1974: 399). Rather, we define regionalism as a psychological attachment to the people, institutions, and characteristics of a region that arises by virtue of physical proximity (Cutler 1997: 576; Matthews, 1983: 24–25; Schwartz, 1974: 309). Citizens, from this vantage point, are not just “egocentric” or “sociotropic,” they may also be “local-tropic” (Cutler, 2007: 595). Combined with the multiplicity of regional categories to which each individual belongs, the social psychological definition of regionalism is an invitation to replace the proper names of regions with values of the contextual variables of interest. A multi-level analysis without proper names not only fits better with our conceptualization of region and regionalism, but it also moves toward the development of findings that can be generalized across space and time (Przeworski and Teune, 1970).

## **Data and Method**

We aim to test the utility of these conceptual arguments by applying them to an analysis of regional differences on a single issue: support for government intervention in the economy. Opinions about government economic intervention are a cornerstone of left/right political disagreement. The questions we consider are whether and why Canadians in different regions have different answers to the question about whether more things should be left to government rather than to business. This is not a comprehensive test of the full argument that we propose. Indeed, there are many more issues on which Canadians are likely to be regionally divided and we expect that the patterns of regional differences are likely to vary across issues. Even so, an analysis of opinions about government economic intervention allows us to test empirically our expectations that the explanations for regional differences in opinions may vary across regions, and that there are meaningful context effects that may operate at multiple levels of analysis simultaneously, in our case, the individual, local, and provincial levels of analysis. Indeed, an underlying assumption in this paper is that economic insecurity begets greater support for a government role in the economy and reduces support for the prospect of leaving business and industry to their own devices. We argue, however, that economic insecurity is not only a personal sentiment; it may apply as well to people that an individual cares about (Blumer, 1958; Quillian, 1995). From the standpoint of individual-level and contextual-level effects, we expect to find, first, that personal economic insecurity is associated with heightened support for government economic intervention. And we expect to find, second, that people’s support for government economic

intervention is affected by the economic situation in the regions that surround them. To the extent that people are local-tropic, then, all things being equal, those in poorer regions will support a greater role for the government than will those in wealthier regions.

The public opinion data are derived from Ipsos Reid's 2008 election survey, an opt-in web survey of 36,141 voters from among a standing web panel of over 230,000 members. The online and the opt-in features of the survey are two of the newer additions to contemporary polling. Both features present challenges and attract valid criticisms. One concern focuses on the degree of representativeness of an opt-in internet sample (see, for example, Borges and Clarke, 2008; Chang and Krosnick, 2009; Malhotra and Krosnick, 2007; Sanders et al., 2007). Fears about possible distortions are justifiable, but studies to identify the extent of such biases have not produced a consistent set of results. For instance, Chang and Krosnick's comparisons (2009) of different methods show greater representativeness can be achieved with probability samples, although this approach suffers from different sorts of issues, such as a social desirability bias, when compared against online opt-in samples. On the other hand, others show some misplaced fears about opt-in methods, which can reasonably reflect sampling frames (for example, Atkeson et al., 2011). Perhaps most encouraging for our purposes, opt-in internet samples are deemed useful to study groups and relations among variables—which is our purpose here—rather than to project estimates of population frequency parameters (compare Chang and Krosnick, 2009; Stephenson and Crête, 2011).<sup>2</sup>

Despite the drawbacks of deviating from a random probability sample, there are three advantages of the Ipsos Reid survey in our case. First, the large number of cases allows us to examine subpopulations with a high degree of precision and reliability. Indeed, we can examine subpopulations while simultaneously including multiple control variables without running into the “many-variable, small N” problem. Second, the survey records the federal electoral district and the province in which each respondent resides. Not only are there enough observations in the survey to allow us to make reliable inferences about public opinion at the constituency level, we can also align the individual-level observations from the Ipsos Reid panel with relevant data from Statistics Canada about constituency- and provincial-level contexts. Finally, the wide range of questions about the social-demographic characteristics and the economic circumstances of respondents allow us to isolate more effectively the independent effects of region. Indeed, one of the challenges in the study of contextual effects is to disentangle genuine context effects from potentially consequential individual-level effects that have been omitted from the analysis. This challenge is compounded in our case by the challenge of disentangling “egocentric” concerns with the economic per-



formance of a region from the genuinely “sociotropic” concerns about the regional economy. Are people concerned about regional unemployment because of the implications of the regional economy for their own economic prospects? Or are people concerned with the regional economy because they care about the well-being of the people who live around them? These questions get to the centre of the debates about whether people are egocentric or sociotropic and about whether regional effects stem from people using their local environments as information shortcuts (a contextual effect we would not call “regionalism”) rather than from a psychological attachment to the people who live around them (an effect we would call “regionalism”).

In order to disentangle these possibilities, the identification of genuine contextual differences requires a model that controls for a wider range of egocentric considerations, including personal unemployment, but also other egocentric considerations that could conceivably arise from regional economic contexts, such as the less tangible concerns about losing one’s job. An apparent context effect would mask these egocentric considerations in an underspecified regression model. Thus, controlling for the effects of these variables strengthens inferences about the independent impact of region on people’s opinions about wealth redistribution. For these reasons, we control for the full battery of individual-level socio-demographic variables available in these data, including gender, age, language, immigration status, visible minority, education, religiosity, size of town and church attendance. And we also include three direct measures of personal economic insecurity: income, personal unemployment, and degree of concern about losing one’s job. Together, these variables control for a variety of individual-level characteristics which are likely to affect opinions about government intervention in the economy. Finally, the models include constituency-level and provincial-level unemployment rates in order to test directly the core hypothesis that people in economically depressed regions will express more support for government intervention than people in economically prosperous regions.

The analysis takes place in two stages. In the first part, the provincial-level contextual variables are excluded in order to include in the model dichotomous variables that represent each province. The purpose of this part of the analysis is twofold. First, we want to gauge the extent of the interprovincial differences on the dependent variable of interest. And second, we want to see how the introduction of different control variables affects the observed interprovincial differences in levels of support for government economic intervention. Thus, we introduce the control variables in stages in order to discern how individual controls affect the magnitude of the interprovincial differences. This approach therefore mirrors the traditional quantitative approaches to the study of regionalism in Canada (Gidengil et al., 1999). The second part of the analysis, however,

omits the provincial dummy variables from the analysis in order to gauge whether the provincial unemployment rate affects opinions about government intervention in the economy. As there is no variation within provinces in the provincial unemployment rate, the provincial dummy variables and provincial unemployment rates cannot be included in the same model. It is at this stage of the analysis that we turn to mixed effects regression.

## **Analysis and Results**

The traditional approach to the study of regional culture in Canada posits that genuine “regionalism” exists only to the extent that individual-level control variables cannot account for these differences. The first part of the analysis is built on this approach, with two exceptions. The first exception is that individual-level variables are introduced in stages. The purpose of this exception is to identify more precisely how specific individual-level controls affect the magnitude of interprovincial differences. The second exception is that the last stage of the model introduces a context variable: the unemployment rate in each respondent’s constituency. The purpose of this control is to identify whether this contextual effect can help explain the interregional differences in levels of support for government involvement in the economy. Overall, the order of the steps is pragmatic. We experimented with multiple different orderings of these steps, and the interpretation of the results turns out to be the same regardless of the order in which the control variables are entered into the model. The results of the analysis are displayed in Table 1.

There are five key findings from Table 1. First, the results in model 1 reveal notable interprovincial differences in the level of support for government economic intervention. Ontario is the reference category, and leftward effects are reflected by negative coefficients. As we might have expected, Newfoundlanders and Quebecers are especially left-leaning in their economic outlooks. Respondents in Manitoba, Saskatchewan, Alberta, and, to a lesser extent, BC, are somewhat to the right. Even so, notice the absence of a distinctive regional pattern in Atlantic Canada. Respondents in Nova Scotia and New Brunswick are no more left-leaning than respondents in Ontario. Nonetheless, the regional pattern in this analysis fits rather closely with the stereotypical ideological map of Canadian politics. Respondents in the provinces east of Ontario are to the left of the citizens in the provinces west of Ontario. But do these differences persist when individual-level differences between the people in these regions are held constant?

The second key finding in Table 1 is that the leftward effect of Quebec is undone entirely by the introduction of an individual-level control for language: English or French. This result suggests that Quebecers are

not more left-leaning than non-Quebecers, but French Canadians are more left-leaning than English Canadians, and there happen to be more French Canadians in Quebec than in other provinces. As a result, Quebec's distinctiveness in bloc 1 of the model appears to be attributable to a composition effect: the higher proportion of French Canadians in the province. Indeed, in background analyses we added to the model an interaction term that multiplied language by Quebec. The results of that analysis suggest no substantive interaction effect between these variables. In other words, French Canadians inside Quebec are no more left-leaning than French Canadians in other provinces, and English Canadians inside of Quebec are no more right-leaning than English Canadians in the rest of Canada. Quebec's distinctiveness in bloc 1 turns out to be a language effect, not a province effect.

The third key finding from Table 1 is that the introduction of socio-demographic controls has little effect on the magnitude and direction of interprovincial differences, except that these controls reverse the coefficient for Quebec and they alter somewhat the extent to which Manitoba fits with the other Western provinces. The inclusion of socio-demographic variables generates a number of expected findings. Women, for example, are more left-leaning than men. Immigrants and visible minorities are more left-leaning than Canadian-born and non-visible minorities. And, controlling for income, Canadians with university degrees are more left-leaning than high school graduates. Even so, none of these effects mitigates the magnitude of regional differences. Notice from Table 1 that the interprovincial differences from bloc 2 more or less remain when the socio-demographic controls are introduced in bloc 3. There is, however, one exception: size of town. Further analysis reveals that size of town appears to single-handedly account for changing the effect for Quebec to a positive (rightward) coefficient and for reducing the magnitude of the positive (rightward) coefficient for Manitoba. It may be that English Canadians in Montreal are more right-leaning than English Canadians in Toronto, and that the citizens in medium-sized cities in Manitoba (that is, Winnipeg) are less conservative in their economic outlooks than the citizens in medium-sized cities in Alberta (that is, Edmonton and especially Calgary). Although these inferences are too specific for these data, it is certainly the case that Manitoba looks less Western, and Quebec looks even less provincial, when urban-rural region of residence is added to the model.

The fourth significant finding in Table 1 is that the introduction of controls for personal economic insecurity has virtually no effect whatsoever on the direction or magnitude of interprovincial differences in economic opinions. To be sure, economic security affects opinions about government intervention. Citizens with higher incomes are more supportive of leaving business to their own devices, and they are less supportive

TABLE 1  
 Interprovincial Variation in Free-Market Support, with and without Controls for Composition and Contextual Effects

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Intercept	-.580	(.020) <sup>c</sup>	-.578	(.020) <sup>c</sup>	-1.229	(.093) <sup>c</sup>	-1.104	(.103) <sup>c</sup>	-.810	(.112) <sup>c</sup>
<i>Province</i>										
NL	-.370	(.117) <sup>b</sup>	-.372	(.117) <sup>b</sup>	-.481	(.120) <sup>c</sup>	-.485	(.121) <sup>c</sup>	-.027	(.138)
PE	-.142	(.174)	-.145	(.174)	-.265	(.178)	-.264	(.178)	-.093	(.180)
NS	.170	(.062) <sup>b</sup>	.168	(.062) <sup>b</sup>	.084	(.064)	.097	(.065)	.204	(.067) <sup>b</sup>
NB	-.046	(.080)	-.021	(.080)	-.137	(.084)	-.134	(.084)	-.019	(.086)
QC	-.133	(.033) <sup>c</sup>	.093	(.061)	.182	(.064) <sup>b</sup>	.207	(.064) <sup>c</sup>	.224	(.065) <sup>c</sup>
MB	.204	(.059) <sup>c</sup>	.202	(.059) <sup>c</sup>	.068	(.064)	.066	(.065)	.017	(.065)
SK	.387	(.069) <sup>c</sup>	.385	(.069) <sup>c</sup>	.279	(.073) <sup>c</sup>	.240	(.073) <sup>c</sup>	.197	(.074) <sup>b</sup>
AB	.465	(.044) <sup>c</sup>	.463	(.044) <sup>c</sup>	.341	(.049) <sup>c</sup>	.296	(.049) <sup>c</sup>	.210	(.051) <sup>c</sup>
BC	.117	(.038) <sup>b</sup>	.116	(.038) <sup>b</sup>	.083	(.040) <sup>a</sup>	.074	(.040)	.053	(.040)
North	.735	(.557)	.732	(.557)	.768	(.565)	.707	(.570)	.904	(.573)
<i>Language</i>										
French			-.274	(.063) <sup>c</sup>	-.259	(.066) <sup>c</sup>	-.277	(.066) <sup>c</sup>	-.289	(.066) <sup>c</sup>
<i>Demographic Variables</i>										
Female					-.252	(.027) <sup>c</sup>	-.239	(.027) <sup>c</sup>	-.243	(.028) <sup>c</sup>
Age					.015	(.001) <sup>c</sup>	.014	(.001) <sup>c</sup>	.014	(.001) <sup>c</sup>
Immigrant					.136	(.042) <sup>c</sup>	.125	(.042) <sup>b</sup>	.127	(.042) <sup>b</sup>
Visible Minority					-.374	(.037) <sup>c</sup>	-.313	(.037) <sup>c</sup>	-.303	(.037) <sup>c</sup>

<i>Marital Status (ref. = single)</i>						
Married	.282	(.039) <sup>c</sup>	.152	(.041) <sup>c</sup>	.142	(.041) <sup>c</sup>
Common Law	.127	(.049) <sup>b</sup>	.037	(.050)	.032	(.050)
Widowed	.189	(.080) <sup>a</sup>	.158	(.080) <sup>a</sup>	.143	(.080)
Divorced	.132	(.055) <sup>a</sup>	.144	(.056) <sup>b</sup>	.137	(.056) <sup>b</sup>
Separated	.141	(.077)	.156	(.077) <sup>a</sup>	.149	(.077)
<i>Occupation (ref. = services)</i>						
None	-.226	(.049) <sup>c</sup>	-.203	(.051) <sup>c</sup>	-.205	(.051) <sup>c</sup>
Blue Collar	-.037	(.072)	-.008	(.072)	-.008	(.072)
Technical	-.128	(.075)	-.143	(.075)	-.145	(.075)
Professional	-.092	(.047)	-.148	(.047) <sup>b</sup>	-.144	(.048) <sup>b</sup>
Managerial	.077	(.055)	.016	(.056)	.019	(.056)
Self-employed	-.009	(.078)	-.030	(.079)	-.028	(.079)
Other	-.184	(.041) <sup>c</sup>	-.168	(.041) <sup>c</sup>	-.165	(.041) <sup>c</sup>
<i>Education (ref. = high school only)</i>						
Primary	-.058	(.268)	.001	(.269)	.018	(.270)
Some High School	-.056	(.065)	-.026	(.065)	-.022	(.065)
Some College	.092	(.044) <sup>a</sup>	.084	(.044)	.085	(.044)
Complete College	.044	(.041)	.017	(.041)	.017	(.041)
Some University	.106	(.050) <sup>a</sup>	.054	(.050)	.056	(.050)
Undergrad Degree	-.118	(.043) <sup>b</sup>	-.196	(.043) <sup>c</sup>	-.195	(.043) <sup>c</sup>
Grad Degree	-.393	(.056) <sup>c</sup>	-.498	(.057) <sup>c</sup>	-.493	(.057) <sup>c</sup>
<i>Town Size (ref. = 100k-499.9k)</i>						
Under 1500 people	.222	(.071) <sup>b</sup>	.256	(.071) <sup>c</sup>	.329	(.072) <sup>c</sup>
' between 1.5k-9.9k	.138	(.046) <sup>b</sup>	.151	(.047) <sup>c</sup>	.183	(.047) <sup>c</sup>
' between 10k-< 100k	-.063	(.041)	.065	(.041)	.084	(.042) <sup>a</sup>
' between 500k-<1000k	.154	(.048) <sup>c</sup>	.131	(.048) <sup>c</sup>	.129	(.049) <sup>b</sup>
' 1000k +	-.181	(.042) <sup>b</sup>	-.138	(.042) <sup>c</sup>	-.112	(.042) <sup>b</sup>

*continued*

TABLE I  
Continued

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
<i>Church Attendance (ref. = never)</i>										
Once a year					-.150	(.041) <sup>c</sup>	-.145	(.041) <sup>c</sup>	-.146	(.041) <sup>c</sup>
A few times a year					-.088	(.037) <sup>a</sup>	-.083	(.037) <sup>a</sup>	-.080	(.037) <sup>a</sup>
Once a month					-.130	(.080) <sup>b</sup>	-.113	(.081)	-.107	(.081)
A few times a month					-.021	(.056)	-.013	(.056)	-.006	(.056)
Once a week					.013	(.044)	.025	(.044)	.028	(.044)
More than once a week					.262	(.066) <sup>c</sup>	.294	(.066) <sup>c</sup>	.296	(.066) <sup>c</sup>
<i>Personal Economic Situation</i>										
Income							.018	(.002) <sup>c</sup>	.017	(.002) <sup>c</sup>
Unemployment							-.023	(.073)	-.020	(.074)
Job worry							-.132	(.014) <sup>c</sup>	-.131	(.014) <sup>c</sup>
<i>Constituency Economic Situation</i>										
Constituency Unemployment									-4.374	(.656) <sup>c</sup>
Pseudo R <sup>2</sup>	.01		.01		.03		.04		.04	
Observations	28992		28992		28992		28992		28992	

Notes: (1) Results are logistic regression estimates.

(2) Missing values on the independent variables are imputed via multiple imputation, using, for each variable, all of the other individual-level variables in the models.

(3) <sup>c</sup>  $p \leq .001$  <sup>b</sup>  $p \leq .01$  <sup>a</sup>  $p \leq .05$

Sources: Ipsos Reid, 2008; Statistics Canada, 2006.

of government economic intervention. Conversely, citizens who are worried about losing their job are more supportive of government involvement and less enthusiastic about the free market. Notably, personal unemployment does not have any effect on economic opinions. Nonetheless, the main finding for our purposes is that personal economic insecurity does nothing to explain interprovincial differences. Interprovincial differences in personal economic security do not account for interprovincial differences in opinions about government economic involvement.

Finally, the fifth significant finding is that the constituency unemployment rate appears to have a substantial effect on opinions about wealth redistribution. The effect of the constituency unemployment rate is represented by the last variable in bloc 5. Notably, this effect operates independently of the battery of measures we include for personal economic security in bloc 4. This suggests constituency unemployment rate exerts a direct effect on left/right opinions about the economy. Although the magnitude and significance of this effect will be tested in more detail later, notice how introducing constituency unemployment undoes Newfoundland's distinctiveness. This evidence suggests that if Newfoundlanders lived in areas with lower unemployment rates, they would not differ from Canadians in other regions in their opinions about government involvement in the economy. This is not to say Newfoundlanders are different because they are worried about their own economic situation. Rather, the evidence suggests Newfoundlanders are like other Canadians insofar as they are worried about the economic well-being of the people around them, and the people around Newfoundlanders happen to be less well off than the people around Canadians in other regions.

Taken together, then, the interprovincial differences that emerged in bloc 1 turn out to mirror the stereotypical lines of division in Canada. Even so, the analysis cautions against attributing these differences to deep-seated latent differences between provinces and regions. Indeed, only Alberta and Saskatchewan turn out to be distinctive when the full battery of controls are introduced in bloc 4. Moreover, the results also suggest that the search for a "Holy Grail" explanation for regional differences in Canada may turn out to be fruitless. In the above analysis, different factors explain the distinctiveness of different provinces. In the case of Quebec, language, rather than province, turns out to be the distinguishing characteristic. In the case of Manitoba, it is the proportion of the population in urban and rural areas or perhaps the effect of size of town in that province, that appears to set the province apart. And when it comes to Newfoundland, the economic context is especially important. Furthermore, we see no evidence of consistent regional effects; Nova Scotia and New Brunswick do not fit with Prince Edward Island and Newfoundland, and Manitoba and even British Columbia do not hang, as if by some latent residual cultural affiliation, with Alberta and Saskatchewan.

At the same time, however, we do not see evidence of hard and fast provincialism. Newfoundland is not different from other provinces when economic context is taken into account, and Quebec is not different from other provinces when language is taken into account. Indeed, the only deviations when all the controls are introduced are the nearly identical coefficients for Alberta and Saskatchewan. This suggests the possibility of a transprovincial regional unit, rather than two separate provincial units. On the whole, then, not only do the analyses indicate that different variables explain the variations of different regions, the analyses also suggest that consequential spatial unit may vary across space. It looks like a residual transprovincial effect in Alberta and Saskatchewan, a residual subprovincial effect in Quebec, and a composition effect in Manitoba and Newfoundland. No one unit of analysis, it seems, can even describe, let alone explain, the connection between public opinion and geography in Canada, at least when it comes to government economic intervention.

### **A Multi-Level Model**

This stage of the analysis examines the effects of provincial and constituency-level unemployment rates. The introduction of contextual variables complicates somewhat the statistical analysis. When making inferences about a population on the basis of a sample of any given size, a key assumption of inferential statistics is that each observation in the sample is independent of the others, at least with respect to the dependent variable of interest (that is, the errors are independent). In this scenario, each observation represents a random and independent draw from the populations whose characteristics are being inferred by the equivalent properties of the sample. To the extent that these and a few other assumptions are satisfied, it is possible to predict the probability that the unknown true value of the population parameter falls at a specific value or within a specific range of values, given the known properties of a random sample of a certain number of independent observations from that population. These principles underpin the calculation of statistical uncertainty.

In the case of regression models which include variables measured at different levels of analysis; however, it is simply not the case that there are equal numbers of independent observations for each variable. By definition, there are more independent observations for variables measured at smaller units of analysis (for example, individual-level variables like unemployment) than there are for variables measured at higher levels of analysis (for example, province-level variables like the provincial unemployment rate). Although each individual in a sample may



belong to a province and therefore have a value for the variable “provincial unemployment rate,” these observations are not independent of each other; all residents of any province would necessarily share the same value on this variable, and so if any estimate involving the provincial unemployment rate hit or missed the true value of a parameter for any one of these individuals, it would be more likely to hit or miss in the same direction for all of them. In other words, the errors are not independent. In this scenario, treating the provincial unemployment rate as an individual-level variable would result in what Snijders and Bosker (2012: 16) call the “miraculous multiplication of the number of units,” a problem which would generate for statistical inferences claims of precision which exceed many times over what the data actually permit. In our case, for example, we do not have tens of thousands of independent observations about the provincial unemployment rate; we have ten independent observations. Because it is not possible to include in a model a variable for the provincial unemployment rate along with controls for residual provincial-level effects, the interpretation of aggregate-level variables in individual-level analyses is fraught with serious difficulties.

A more conservative and appropriate form of statistical analysis in these cases involves using multi-level regression models, also known as mixed-effects models, random-effects models, or hierarchical regression models (Albright and Marinova, 2010; Rabe-Hesketh and Skrondal, 2008; Snijders and Bosker, 2012), to estimate the connection between our independent variables measured at different levels of analysis and the dependent variable of interest, support for government economic intervention. These results can be interpreted in the same way as regular logistic regression (that is, as the effect of a one-unit change in the independent variable on the natural log of the odds that the value of the dependent variable is equal to one), except that the models also include estimates for the random intercepts for province and constituency. These random intercept estimates reflect variance in the dependent variable at each level of analysis which is unaccounted for by the independent variables in the model (Rabe-Hesketh and Skrondal 2008: 247). Thus, for example, provincial-level variation in support for government economic intervention that is unaccounted for by the independent variables in the model will be reflected in the random intercept for province. Likewise, residual constituency-level variation will be reflected in the random intercept for constituency. It is therefore possible to examine across different models how the introduction of specific covariates affects the amount of unexplained provincial and constituency-level variation.

Table 2 exploits this possibility by displaying the results of three models: an intercept-only model which gauges through the random-

TABLE 2

## A Multi-Level Mixed Effects Logistic Regression Model of Free-Market Support in Canada

	Model 1		Model 2		Model 3	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Intercept	-.512	(.078) <sup>c</sup>	-1.126	(.123) <sup>c</sup>	-.681	(.136) <sup>c</sup>
Language						
French			-.290	(.068) <sup>c</sup>	-.247	(.065) <sup>c</sup>
Demographic Variables						
Female			-.238	(.028) <sup>c</sup>	-.242	(.028) <sup>c</sup>
Age			.014	(.001) <sup>c</sup>	.014	(.001) <sup>c</sup>
Immigrant			.122	(.042) <sup>b</sup>	.126	(.042) <sup>c</sup>
Visible Minority			-.309	(.037) <sup>c</sup>	-.301	(.037) <sup>c</sup>
Marital Status (ref = single)						
Married			.143	(.042) <sup>c</sup>	.138	(.042) <sup>c</sup>
Common Law			.033	(.051)	.030	(.051)
Widowed			.134	(.081)	.126	(.081)
Divorced			.141	(.056) <sup>a</sup>	.137	(.056) <sup>a</sup>
Separated			.160	(.078) <sup>a</sup>	.154	(.078)
Occupation (ref. = service)						
None			-.200	(.051) <sup>c</sup>	-.202	(.051) <sup>c</sup>
Blue Collar			-.014	(.072)	-.014	(.072)
Technical			-.143	(.076)	-.143	(.076)
Professional			-.145	(.048) <sup>b</sup>	-.143	(.048) <sup>c</sup>
Managerial			.019	(.056)	.020	(.056)
Self-employed			-.025	(.079) <sup>c</sup>	-.025	(.079)
Other			-.166	(.042) <sup>c</sup>	-.165	(.042) <sup>c</sup>
Education (ref. = high school only)						
Primary			.039	(.271)	.044	(.271)
Some High School			-.022	(.065)	-.021	(.065)
Some College			.085	(.044)	.085	(.044)
Complete College			.017	(.042)	.017	(.042)
Some University			.062	(.051)	.064	(.051)
Undergrad Degree			-.193	(.044) <sup>c</sup>	-.193	(.044) <sup>c</sup>
Grad Degree			-.494	(.057) <sup>c</sup>	-.490	(.057) <sup>c</sup>
Town Size (ref = "100k-<500k")						
Under 1.5k			.250	(.076) <sup>c</sup>	.315	(.075) <sup>c</sup>
1.5 to 9,999			.132	(.053)	.161	(.052) <sup>b</sup>
10k-99,999			.059	(.049)	.072	(.047)
500k to < 1 million			.130	(.059)	.111	(.055) <sup>a</sup>
At least one million			-.132	(.051)	-.117	(.048) <sup>a</sup>
Church Attendance (ref = never)						
Once a year			-.155	(.041)	-.153	(.041) <sup>c</sup>
A few times a year			-.085	(.037)	-.078	(.037) <sup>a</sup>
Once a month			-.107	(.081)	-.103	(.081)
A few times a month			-.027	(.056)	-.019	(.056)
Once a week			.013	(.044)	.019	(.044)
More than once a week			.288	(.066)	.292	(.066) <sup>c</sup>
Personal Economic Situation						
Income			.018	(.002)	.017	(.002) <sup>c</sup>
Unemployment			-.019	(.074)	-.014	(.074)
Job worry			-.133	(.014)	-.134	(.014) <sup>c</sup>

(continued)

TABLE 2  
*Continued*

	Model 1		Model 2		Model 3	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Economic Context						
Provincial Unemployment Rate					-1.857	(1.552)
Constituency Unemployment Rate					-4.248	(.738) <sup>c</sup>
Random Effects						
Intercept (provincial)	.225	(.060)	.184	(.057)	.073	(.028) <sup>c</sup>
Intercept (constituency)	.227	(.019)	.165	(.019)	.139	(.020) <sup>c</sup>
AIC	37944.63		36927.35		36885.24	
LR-Test $\chi^2$ (Model n-1) in (Model n)			1093.28		46.1	
Observations	28979		28979		28979	

Notes: (1) Results are mixed effects logistic regression estimates, with random intercepts for province and constituency.

(2) Missing values on the independent variables are imputed via multiple imputation, using, for each variable, all of the other individual-level variables in the models.

(3) Excludes respondents from the "North," for whom a provincial unemployment rate is unavailable.

(4) <sup>c</sup>  $p \leq .001$  <sup>b</sup>  $p \leq .01$  <sup>a</sup>  $p \leq .05$

Sources: Ipsos Reid, 2008; Statistics Canada, 2006.

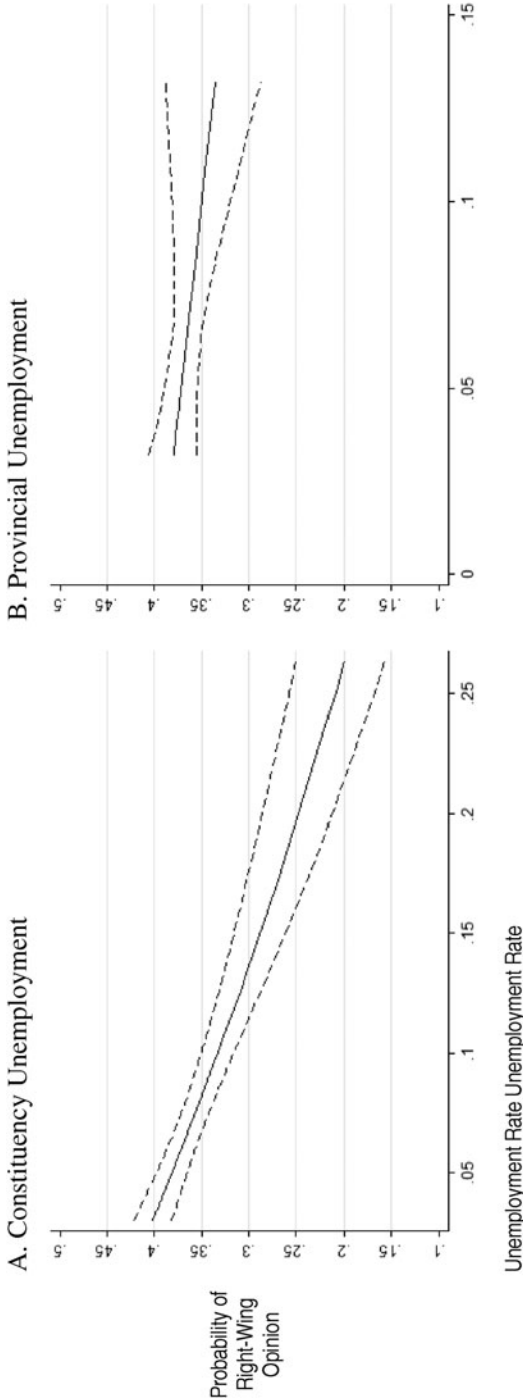
effects intercepts the magnitude of provincial and constituency-level differences without taking account of any differences in the individual-level composition or contextual characteristics of these areas; a second model which includes the entire battery of individual-level variables from the analysis above; and a third model which includes additional controls for the key contextual variables: provincial-level and constituency-level unemployment. In addition to examining the direct effects of the variables in the models, it also possible to compare the models via two summary statistics of model fit: the likelihood ratio test which does not "punish" models for including additional variables, and Akaike's information criterion which does. Larger values indicate improved model fit for likelihood ratio tests, and smaller values indicate improved model fit for Akaike's information criterion. In this case, both results reveal that the introduction of individual-level covariates in model 2 improves substantially the fit of the model. This improvement is reflected in the differences in the goodness of fit statistics between model 1 and model 2. The results also reveal, however, that the introduction of two contextual variables improves model fit even more; though, certainly, the added value of the two contextual variables with a relatively small number of observations pales in comparison to the added values of more than a dozen individual-level variables with many thousands of observations apiece. Even so, the improvement is highly significant statistically. To be sure, the statistically significant values of the random effects intercepts indicate that there are provincial and constituency-level differences which

are not explained by the variables in these models. It is worth emphasizing, however, that the fit of the model as a whole is not a primary concern in this paper. Indeed, these models do not serve in any comprehensive way as a full explanation for variation in opinions about government economic intervention. We are interested instead in the independent effects of the provincial and constituency unemployment rates, and in any provincial- and constituency-level variation left over after the introduction of all controls.

The independent effects of the constituency and provincial unemployment rates are illustrated in substantive terms in Figures 1.A. and 1.B. The unemployment rates for the constituency (1.A) and provinces (1.B) are plotted along the x-axis, and the probability of supporting a right-wing economic position are plotted along the y-axis. The lines in the graph represent the relationship between the contextual unemployment rates and right-wing economic positions, with 95 per cent confidence bounds, when all other individual-level variables are held constant at their mean levels. The results in Figures 1.A and 1.B suggest that both constituency and provincial economic context exert direct effects on economic opinions. Certainly, constituency unemployment rates appear to matter more than provincial unemployment rates. In the first case, there is a wider distribution of constituency unemployment rates (min = .03, max = .264, sd = .026 for constituencies vs. min = .032, max = .132, sd = .017 for provinces). In the second case, the slope of the effect for constituency unemployment rate is more than twice as steep. Moreover, the magnitude of the effect at the constituency level is highly significant statistically ( $p < .001$ ), whereas the magnitude of the effect at the provincial level does not reach conventional levels of statistical significance ( $p \approx .25$ ). Even so, it is worth noting that there are only 10 provinces in the analysis, and thus we should not expect a high level of statistical significance with such a small number of observations.

These results provide evidence, in our view, of the need to consider multiple levels of analysis simultaneously when thinking about the relationship of geography and political opinions in Canada. It is not one level of analysis that matters, it is multiple levels. Some levels of analysis may be more significant for some issues and less significant for others. And some issues may be shaped by variables that arise at multiple levels of analysis. None of these facts can be taken into account unless multiple levels of analysis are considered simultaneously. People who are economically insecure, or who live around people who are economically less well off, are less likely to support leaving the economy to businesses rather than to government. Individual and contextual-level variables matter, and each individual belongs simultaneously to more than one context.

FIGURE 1.A. AND 1.B.  
The Effects of Constituency and Provincial Unemployment Rates on the Probability of Holding a Right-Wing Opinion about the Economy



Notes: (1) Regression results in table 2.  
(2) All other variables constant at their mean level.  
(3) Confidence intervals at 95% confidence.

Data Source: Ipsos Reid 2008 and Statistics Canada

## Conclusion

This paper has examined but one issue. But even such a narrow focus highlights the need to examine regional differences in Canada from a multiplicity of angles. No one variable, let alone explanation, turned out to account for the distinctive economic opinions of Canadians in different regions. The results of the analyses uncovered evidence of consequential units of analysis that cut within provincial boundaries (for example, constituencies), and the analyses uncovered evidence of units of analysis that transcend provincial boundaries (that is, Alberta and Saskatchewan). The results also uncovered that what initially appeared to be a “Quebec-effect” turned out to be a “language effect,” hardly a province-wide variable. Manitoba resembled initially the other prairie provinces, Alberta and Saskatchewan, but those similarities disappeared when the level of urban and rural populations was held constant. And Newfoundlanders were consistently more likely to support government intervention in the economy, but that effect disappeared when the rate of constituency unemployment was taken into consideration. In the final analysis, the lines of regional division on but one single issue were impossible to characterize with the same variables, the same level of analysis, or, indeed, the same explanation. We hope that the conceptual and methodological arguments in this paper can contribute to the development of theoretical explanations which are able to navigate with conceptual precision the complexity of regional differences in Canada. In our view, reconceptualising region and regionalism to facilitate multidimensional analyses and generalizable explanations is a step in that direction.

## Notes

- 1 See Bell, 1992: 146; Bilodeau et al. 2010; Blake, 1972; Brodie, 1990; Careless, 1969; Elkins and Simeon, 1980; Henderson, 2004; Laselva, 1996; Matthews, 1983; Ornstein et al., 1980; Schwartz, 1974; Simeon and Elkins, 1974; Smiley, 1971; Wilson, 197.
- 2 In one analysis, for example, we follow a methodology similar to that of Malhotra and Krosnick (2007) by comparing the distributions of respondents on the vote choice variables in the Ipsos and Canadian Election Study datasets. The Ipsos 2008 survey was pooled together with the 2008 Canadian Election Study post-election wave in order to generate vote-choice models based on variables common to both data sets, which in this case are demographic items: region, age, religion, education, income and gender. These models include an interactive term between these independent variables and the survey mode, which holds a value of 1 for the online format, 0 for the CES format. A “mode” effect will be identified by statistically significant interactive terms. Two separate multinomial logit models were generated, one for Quebec, the other for the rest of Canada. In both cases, the dependent variable reflected the party a respondent had voted for, with Conservative party set as the base category. Of the demographic items included, few produced significant interactive effects and, of these, none led us to question the results generated here. In addition, we compared the demo-

graphic estimates in Ipsos Ried (and CES) data against the actual population parameters according 2006 Canadian Census.

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