PROXIMITY, POLITICS AND POLICY ATTITUDES IN THE NORTH AMERICAN CONTEXT

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Abstract

The study of mass public opinion and political behaviour has developed a substantial corpus of theoretical claims and empirical results linking political, attitudinal and demographic variables to different policy attitudes. Still, the research literature has, to date, paid scant attention to how *space* – that is, proximity and distance to salient geographic features – influences policy attitudes. Research in political behaviour has long proceeded as though policy attitudes among mass publics "come from nowhere." The unifying argument of the four articles comprising this thesis is that mass public opinion does indeed come from somewhere: spatial dynamics matter for policy attitudes in a variety of domains. The articles develop the argument that spatial proximity to geographic features act as an indirect measure of intergroup contact, localized knowledge, issue awareness, and issue salience. The articles deal with three substantive topics: the Canada–United States relationship, attitudes toward energy transportation infrastructure, and attitudes toward immigration policy. Specifically, the thesis draws on survey data to investigate: (1) the mutual perceptions of the Canadian and American publics, (2) Canadian attitudes toward North American integration, (3) attitudes toward the Keystone XL pipeline in the United States, and (4) American attitudes toward illegal immigration. The major finding in each article is an interactive relationship between proximity and political attitudes: depending on the political context, proximity serves to either amplify or mute the effects of political party identification or ideology on policy attitudes. An innovative aspect of this research is the integration of spatial data through geocoding (appending latitude–longitude coordinates to) respondent-level data and calculating distances to relevant geographic features (e.g., the Canada–United States border, oil pipelines and the United States–Mexico border).

For my family,

Carol, Bryan, and Sadie

And in memory of my father,

Bryan John Gravelle, CFE, CGA

Acknowledgements

When I started PhD studies in 2002, I had no intentions of writing a thesis like the one that follows. Having then started at the University of Toronto, I didn't intend to complete it at the University of Essex, either. And I obviously didn't think that I would reach this point nearly 14 years after that first start in a PhD programme. The end result of my distinctly nonlinear, discontinuous academic trajectory means that I've acquired a number of debts of gratitude. And since these are *my* thesis acknowledgements and I will only get to write them once, I'll take three pages to express them if I want to.

I first wish to thank my thesis supervisor, Thomas Scotto. Granted, it's fairly conventional (even rote) to thank one's supervisor. The fact is that owe Tom a great debt of gratitude. What was, in the first instance, a chance encounter at the International Studies Association conference in Montreal in 2011 became a solid, productive working relationship. First, Tom moved university administrative mountains to get me admitted to the PhD programme in the Department of Government at the University of Essex as a part-time, distance PhD student studying from Canada when the Department of Government had no standard process for distance PhD studies. He then moved me through the research and writing of the thesis in record time, creating more administrative mountains to be moved on account of that quick pace, which he promptly dispatched. Lastly, when faced with late-stage hurdles, he was the tireless advocate that every PhD student wishes to have. In short, I owe Tom my thanks for creating the pathway for me to complete my PhD while being able to keep my work commitments and remain with my family in Canada. I doubt that I would be at this point without his considerable efforts. I'm proud to call him my advisor, co-author, colleague and friend.

I also wish to thank my thesis board members, Rob Johns and Tobias Böhmelt for the regular thumbs-up during board meetings by Skype and letting me move through the programme at Essex rapidly. *Ich bin sehr dankbar dafür*.

When challenges in completing the PhD presented themselves near the end of this process, I received reassurance, and advice from a number of people at Essex and beyond. I also received a number of key endorsements, some of them from people who only know my written work, and whom I have yet to have the pleasure of meeting in person. I owe my thanks to Nick Allum, John Bartle, Tobias Böhmelt, Kristian Gleditsch, Rob Johns, Jason Reifler, David Sanders, and Hugh Ward.

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From my time at the University of Toronto, now more than a decade ago, I'm grateful to have crossed paths with Mark Raymond. I regard Mark as a good colleague and friend, and I have long thought he would make a great quantitative political scientist if he would just leave constructivist international relations theory well enough alone and write some code. Unlikely as that might be, it's still political behaviour's loss and IR's gain – and I'm happy for his professional and personal successes.

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The central ideas presented in this thesis began as mere conjectures and were subsequently developed in working papers, conference papers, and internal presentations during my tenure at Gallup. I'm grateful for being afforded the time and resources – namely data – to do so. Numerous people either had a direct hand in making the survey research projects happen that yielded the data that I analyzed to try out some of my first ideas, offered suggestions or constructive comments, or were otherwise just good colleagues on other, unrelated (meaning revenue-generating) Gallup projects. In many ways, this is a result of their collective support. In particular, I wish to thank my former colleagues from the Gallup Panel, the Gallup World Poll, the Gallup Poll (who provided me with access to the US data analyzed in chapter 2), the Gallup Canada office, and the broader Gallup "tribe."

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Much of the material in the introductory chapter, as well as chapters 4 and 5, were written after I had joined the Global Analytics team at Four Seasons Hotels and Resorts. My thanks go to my Global Analytics colleagues for a collegial working

environment in which I could balance my professional obligations with my outside "hobby" – the final product of which is this thesis.

Thanks also go to the statisticians, programmers and technical support staff of the SAS Institute. Since my tenure at Gallup, their software has remained my tool of choice. All data cleaning, data preparation, processing of geospatial data, missing data imputation, statistical analysis, and creation of graphical and map output for this thesis was performed using SAS software.

Lastly, and in many ways most importantly, I wish to thank my family. My wife Carol experienced every step of this journey from academia to the private sector and (half-way) back with me. Indeed, I've either been a PhD student, thinking about restarting a PhD, or taking a second try at a PhD (this time for real) for our entire married life. Whether it was late evenings at the kitchen table or in our home office (too many to count), Sunday afternoons at the public library, or conferences across North America, she helped me carve out the time and space to see this project through to completion. Words truly do fail to express my gratitude, admiration and love. My son, Bryan, and my daughter Sadie, also helped by forcing me to use my time effectively, and by also giving me the perspective that being a dad is more important and more rewarding than any degree I could earn or article I could get published. Finally, I'm grateful to my late father, Bryan John Gravelle. My dad taught me my first statistics lesson (the central limit theorem) before I was ever engaged by the subject at university, and was always supportive of my goal to earn a PhD. He also gave me lessons to live by – never stop learning, and finish what you start, no matter how long it takes you, and no matter what challenges are placed in your path. I dedicate this thesis to Carol, Bryan, Sadie, and to the memory of my dad.

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1. Introduction: Proximity, Politics, and the Study of Mass Public Opinion

> It takes much longer to change many minds than to change a few. It takes time to inform and to persuade and to arouse large scattered varied multitudes of persons. [...T]he majority will be more aware of what they have just caught up with *near at hand* than with what is still *distant*… (Lippmann 1955, 20–21; emphasis added).

> Grover: This is near, you see? [*Runs a distance into the background*] This is far! [*Runs back to the foreground*] And this is near again, okay? ("Sesame Street, Episode 57" 1970)

1.1 Introduction

As the first epigraph above attests, notions of proximity and distance have been present in thinking about mass public opinion from its early days as a subject of study. The second, taken from a television skit performed by Grover of Sesame Street, an earnest, blue-furred monster familiar to successive generations of American (and Canadian) school children, attests to the simplicity of the notions of near and far. Yet in spite of their longevity and simplicity, my contention is that the fields of public opinion and political behaviour have not adequately explored how spatial proximity (and conversely, distance) shapes policy attitudes. This is in part due to the legacy of foundational research on mass public opinion that locates the causes of individual attitudes and behaviours in personal, individual characteristics to the exclusion of broader contextual factors (A. Campbell et al. 1960; Converse 1964). My project in the four articles comprising this thesis is to address this omission in the literature. Specifically, I demonstrate how policy attitudes are a function of not simply the individual-level political factors (e.g., political party identification and ideology) and demographic characteristics typically referenced in the political behaviour literature, but are rather the outcome of the *interaction* of political factors with spatial proximity to salient geographic features. By *spatial*

proximity (and its inverse *spatial distance*) I mean simply the continuum between nearness and remoteness of two points on the surface of the earth. Put another way, the articles of the thesis demonstrate how the effects of party identification and ideology are conditional upon spatial proximity (or conversely distance). In making this argument and presenting statistical analysis to support it, this thesis moves the field of political behaviour beyond standard elite cue theories of mass public opinion (Jacoby 1991; Zaller 1991; Zaller 1992) and simpler not-in-my-backyard ("NIMBY") theories of public attitudes current in the literature on environmental attitudes (Ansolabehere and Konisky 2009; Greenberg 2009; Kraft and Clary 1991; E. R. A. N. Smith 2002) which fail to consider the interactive relationship between proximity and politics.

The argument about the interaction between proximity and political variables is at the core of each of the four articles, which collectively span public opinion in three substantive policy areas: Canada–United States relations, energy policy (specifically, the siting of oil pipelines), and immigration policy. In chapter 2, I examine the mutual perceptions of the Canadian and American publics – that is, the positive (or negative) affective feelings of Canadians toward the US, and Americans toward Canada. Still dealing with Canadian–American affairs, chapter 3 shifts the focus from affective feelings to more specific policy attitudes relating to the ties between Canada and the US among the Canadian public. Chapter 4 explores American attitudes toward the Keystone XL pipeline, a highly politicized pipeline proposal intended to take bitumen from Canada's oil sands region in northern Alberta to refineries on the Gulf Coast in Texas. Chapter 5 deals with an equally contentious policy issue in American politics, examining attitudes toward policy options to deal with the challenge of illegal immigration. To preview the key empirical findings from the articles, proximity to (or distance from) salient, context-

specific geographic features, such as the Canada–US border, the proposed route of the Keystone XL pipeline, and the US–Mexico border, moderates the effect of party identification (or ideology) on policy attitudes.

Why study these particular cases? Posed in this way, it is important to state that the issue of *case selection* (as the term has been typically used in social science methodology) is not nearly as relevant to large-N, survey-based research in public opinion and political behaviour as it is to small-N, comparative case study research, which has a separate set of challenges related to making valid, scientific inferences from the cases studied to the population of interest (King, Keohane, and Verba 1994; George and Bennett 2005; Gerring 2006). Case selection in this methodological sense is handled by random selection: with probability sampling techniques, each case (that is, survey respondent) has a known, non-zero probability of selection, and this allows for inferences from the sample data to the larger population (Kalton 1983; Kish 1965).

Posed in different away, what makes a deeper understanding of mass attitudes on these topics an important scholarly endeavour? As King, Keohane and Verba note, "there is no rule for choosing which research project to conduct," and indeed the reasons why individual social scientists gravitate toward particular research topics are often personal and idiosyncratic, but there are nevertheless ways "of determining the likely value of a research enterprise to the scholarly community" (1994, 14–15). The value of a research project hinges on its ability to fulfill two criteria. The first criterion is that "*a research project should pose a question that is 'important' in the real world*. The topic should be consequential for political, social, or economic life…." The second criterion is that "*a research project should make a specific contribution to an identifiable scholarly literature by increasing our collective*

ability to construct verified scientific explanations of some aspect of the world" (King, Keohane, and Verba 1994, 15; emphasis in the original).

The individual articles comprising the thesis and the thesis as a whole fulfil both criteria. As noted in chapters 2 and 3, Canada–US trade constitutes the largest bilateral trading relationship in the world. Further, the geography shared by Canada and the US imply shared threats to their security and shared challenges to preserving the environment. Critically, both Canadian and American foreign policy are constrained by domestic public opinion (J. H. Aldrich et al. 2006; Soroka 2003). Analysts of Canada–US relations should therefore pay attention to public opinion (and the causes of public opinion) because policy makers do in formulating policy. Still, there is only a modest literature on public opinion toward Canadian–American affairs, one in which *space* is little acknowledged.

Chapter 4 is motivated by the recognition that while the Keystone XL pipeline is a hotly-contested proposal with a clear political dimension, as a relatively new development in energy policy, little is known about what factors shape public support for the pipeline. Further, existing literature on environmental attitudes and energy infrastructure siting is unclear as to whether a NIMBY or an "inverse NIMBY" dynamic in attitudes ought to prevail in the case of Keystone XL. Given the implications of Keystone XL to the economic viability of the Canadian oil sands industry, its contribution to global carbon emissions, and both the economic benefits and environmental risks it presents to local populations, a better understanding of mass public opinion toward Keystone XL is essential.

Chapter 5 begins by noting that reform of American immigration and naturalization policy is equally politically contentious. While there is a well-developed scholarly literature on American immigration policy attitudes, the extant

literature is far from clear about which factors – political, demographic, behavioural or spatial/contextual – are most important in leading Americans to be alternatively open or restrictionist in their attitudes. Specifically, there is a need to better delineate the effects of personal contact from spatial and demographic context (or rather, contexts). There is also a need to consider whether the effects of political factors are contingent upon spatial or demographic contexts.

Simply put, Canada–US relations, the Keystone XL pipeline and immigration policy reform in the US are important, politically consequential issues. They matter for the "real world" of Canadian and American politics and policy. There are also contributions to be made to the scholarly literature by adding to the existing body of knowledge on policy attitudes on these topics. Each of the articles is also motivated by the tradition of spatial approaches to social science (Porter and Howell 2012) and the contemporary literature on spatially integrated social science (Goodchild et al. 2000; Goodchild and Janelle 2004; Goodchild and Janelle 2010; Stimson 2014), and also the recognition that "spatial and contextual modeling constitutes something of a growth area in political research" (Eagles 1995, 499). Confirmation of the growing interest in spatial approaches to political behaviour is further evidenced by recent work by Nall (2015).

The remit of spatial context (and proximity–distance) is admittedly wide. It does not refer to a single dynamic in all instances. As Logan and colleagues (2010, 16) explain, proximity might capture contact (i.e., to a particular group); it might imply exposure to a risk or hazard; it might also reflect access to a benefit or a good of some kind. Consequently, the articles develop the argument that spatial proximity is an indirect (or proxy) measure for intergroup contact, localized knowledge or awareness of a policy issue, and issue salience. Spatial proximity thus provides environmental or contextual cues. The argument that proximity acts as a

proxy for contact between groups (e.g., Canadians and Americans in the case of chapters 2 and 3) finds support in the theories of the Chicago School of sociology (discussed in section 1.2.2 below), theories of intergroup contact and intergroup competition (discussed in the substantive articles in sections 2.4, 3.4 and 5.4) and transactionalist theories of international integration (discussed in section 2.4 and 3.4). For empirical confirmation of the point that proximity leads to contact (at least in the Canada–US case), chapter 2 draws on travel survey data to demonstrate that Canadian residents closer to the Canada–US border are more likely to visit the US; American residents closer to the border are similarly more likely to visit Canada. Further confirmation is provided by research on social networks informed by statistical physics, which provides evidence of a "gravitational law of social interaction" – specifically, an inverse relationship between social ties and spatial distance (Levy 2010; Levy and Goldenberg 2014). In other words, our social interactions are most frequently with those near us; we interact less frequently with those further away. This pattern maintains even though modern communication technologies make long-distance interactions (e.g., via email or online video conferencing applications) across vast distances virtually costless (Goldenberg and Levy 2009).

The related argument that proximity to relevant geographic features acts as a proxy for issue salience is motivated by research on environmental attitudes and energy siting controversies (on the one hand) and research on public attitudes toward immigration issues (on the other). A common thread in these literatures is that proximity to relevant, context-specific geographic features (such as oil pipelines, offshore oil drilling rigs, nuclear power generating stations, and international borders) serves to introduce considerations such as perceptions of risk (Ansolabehere and Konisky 2012; Ansolabehere and Konisky 2014; Branton et al.

2007) while also introducing perceptions of prospective economic and employment gains (E. R. A. N. Smith 2002; Michaud, Carlisle, and Smith 2008). Proximate geographic features also shape the media environment in which individuals reside, thus raising the level of awareness and salience of particular policy issues (Dunaway, Branton, and Abrajano 2010).

The theoretical motivation for the interaction between proximity and political predispositions (developed at length in the articles) is that proximity to relevant geographic features instigates one of two possible processes. On one hand, proximity may render a particular policy area more salient – for example, proximity to the Canada–US border or the US–Mexico border make more salient (respectively) Canada–US relations and immigration policy. By making an issue more prominent in individuals' minds, proximity amplifies the partisan or ideological cleavage in issue attitudes among the mass public – that is, proximity may widen the gap in average opinion between partisans or ideological adherents of different stripes. On the other hand, proximity may mute the effect of partisanship or ideology – that is, narrow the gap in positions between different partisans or ideological adherents – through higher levels of issue awareness or knowledge, or by bringing other considerations to the fore, such as localized economic benefits. In this way, other considerations induced by proximity "crowd out" the effects of party identification or ideology. (The specific theoretical expectations relating to, alternatively, attitudes toward Canadian–American affairs, the Keystone XL pipeline, and immigration policy reform are laid out in sections 1.3.2–1.3.4 below.)

The survey data used in this thesis are taken from existing sources. Specifically, I draw on data from nationally representative, probability-based surveys conducted by the Canadian Elections Study (chapters 2 and 3), the Gallup Poll (chapter 2), and the Pew Research Center (chapters 4 and 5). The individual

articles (and the thesis as a whole) thus consist entirely of secondary data analyses. What further distinguishes these data from other survey data sources are that reasonably granular, small-area geographic indicators – such as census dissemination areas, Canadian federal electoral districts, Canadian postal codes, US ZIP codes, or US Federal Information Processing Standard (FIPS) county codes – were retained in the publicly-available data sets (or in the case of the Pew Research Center, these were obtained from Pew Research Center staff by special arrangement). This allows me to augment these data by geocoding (appending latitude–longitude coordinates to) individual survey respondents and calculating their distance to relevant geographic features. To do so, I draw on various publicly-available data sources such as Google Earth maps of the Keystone XL pipeline route or digital map shapefiles for international borders. In the cases of chapters 2 and 3, I manually locate all Canada–US border crossings in order to perform the distance calculations. In the case of chapter 5, I also use FIPS county codes to append data that describe the local ethnic (Hispanic) context from the 2000 and 2010 decennial censes.

It should be noted that at the present time, the material comprising chapters 2 and 3 has been published as Gravelle (2014b) and Gravelle (2014a), respectively. Chapter 4 is collaborative work (with equal authorship) with Erick Lachapelle of the Université de Montréal, and has been published as Gravelle and Lachapelle (2015). Chapter 5 is a single-authored work, and is forthcoming as Gravelle (2016). The content of the published articles has been revised to include extensions of the theoretical discussions motivating the hypotheses, additional discussion of empirical results, alternative model specifications, and to make spelling and citations consistent throughout the thesis. Material such as additional plots originally relegated to online appendices on account of limited journal space has

also been included in the thesis. Figures, tables and regression models are also renumbered sequentially.

In light of the article-based structure of this thesis and the fact that the articles engage with a number of distinct literatures – public opinion toward Canada–US relations, foreign perceptions of the US, energy project siting, and immigration policy – the relevant literatures are reviewed in each of the individual articles. I rather use this overarching introduction as an opportunity to, first, engage with the related concepts of *space* and *proximity* as they have been developed and deployed in various social science literatures from classical social theory to the current-day research programme on spatially integrated social science. I then motivate my research hypotheses relating to the effects of political variables (party identification and ideology), spatial proximity, and the interaction of political variables with proximity (the individual articles also restate these hypotheses), and present the theoretical model underpinning all four articles in a general mathematical form, highlighting the interaction between political factors and spatial proximity that marks the originality of this work. Given the importance of interactive (or moderated) relationships in the articles, I then provide an extensive review of the statistical theory and methods for specifying, testing and probing interaction effects in linear and generalized linear models. Drawing on landmark work in political methodology, I then articulate my perspective on overall model fit. Finally, I discuss the technical aspects of geocoding survey data, the validity of appended latitude–longitude coordinates based on geographic indicators such as ZIP codes, postal codes, counties, and electoral districts, and alternative methods for calculating geodetic distances – topics that fall under the remit of geographic information science and that are discussed only briefly in the individual articles.

1.2 Spatial Social Science: Origins and Development

Within political science, the use of spatial models and the tools of geographic information science have been established in the study of international conflict for some time (O'Loughlin and Anselin 1991; Ward and Gleditsch 2008; Gleditsch and Weidmann 2012). By contrast, such methods are relatively new to the study of political behaviour (Tam Cho and Gimpel 2012). Similarly, research in political behaviour integrating a spatial aspect by including geographic distance to relevant features as an explanatory variable is a new development from the past decade (Berezin and Díez Medrano 2008; Branton et al. 2007; Dyck and Gimpel 2005; Kuhn 2011). Nevertheless, there is an extensive history of spatially-oriented theory and research in the social sciences. This line of research which might be termed *spatial social science* is a synthetic tradition on account of its fragmentation across the traditional disciplines of geography, sociology, and political science, and also the wide variation in the substantive foci of the authors contributing to it, including processes of urbanization, population growth, racial prejudice, and voting behaviour. This tradition of spatial thinking can be traced from the classical social theory of Émile Durkheim (1893; 1897; 1899) through the "Chicago School" of sociology (Park, Burgess, and McKenzie 1925), the human ecology of Amos Hawley (1950; 1986), analyses by V.O. Key (1949) of race and voting behaviour in the American South, and Waldo Tobler's (1970) "First Law" of geography. In many ways, these authors served as precursors to the more recent literature on "spatially integrated social science" (Goodchild et al. 2000; Goodchild and Janelle 2004; Goodchild and Janelle 2010; Janelle and Goodchild 2011) bringing spatial data analysis and geographic information science techniques to bear on social scientific research (Porter 2011; Porter and Howell 2012). This section thus serves as a review of landmark scholarship in spatial thinking in the social sciences with an emphasis

on the analytical concepts of *space* and *distance* in explanations of social phenomena. By drawing attention to this tradition of spatial social science and explicating space and distance as analytical concepts, this section also serves to motivate the argument for accounting for proximity and distance in individual-level models of public opinion and political behaviour.

1.2.1 Émile Durkheim

Given the prominent place accorded to Durkheim in the history of sociological thought, it is perhaps unsurprising to find a contribution to spatial thinking in his sociology. Specifically, his contribution is found in his discussion of the concept of "social morphology." According to Durkheim, all social phenomena bear the imprint of the spatial and demographic contexts in which they occur. Writing in an introductory note in the second volume of his *Année sociologique* (1899), Durkheim describes the domain of social morphology in the following way.

> Social life rests upon a substratum which is determinate both in extent and in its form. It is composed of the mass of individuals who comprise the society, the manner in which they are disposed upon the earth, and the nature and configuration of objects of all sorts which affect collective relations. Depending on whether the population is more or less sizeable, more or less dense; depending on whether it is concentrated in cities or dispersed in the countryside; depending on the way in which the cities and houses are constructed; depending on whether the space occupied by the society is more or less extensive; depending on the borders which define its limits, the avenues of communication which traverse it, and so forth, this social substratum will differ. From another point of view, the constitution of this substratum directly or indirectly affects all social phenomena, just as all psychic phenomena are placed in mediate or immediate relationship with the brain. Thus, we have a whole collection of problems which are of obvious interest to sociology and which, because they all refer to a single and identical object, must come within the jurisdiction of a single science. It is this science which we propose to call *social morphology* (Durkheim 1978a, 88).

Writing a decade later in a programmatic essay on sociology and the social sciences (1909), Durkheim would use similar language in describing the aims and scope of the study of social morphology:

> First of all, there is reason to study society in its external aspect. From this angle, it appears to be formed by a mass of population of a certain density, disposed on the face of the earth in a certain fashion, dispersed in the countryside or concentrated in cities, and so on. It occupies a more or less extensive territory, situated in a certain way relative to the seas and to the territories of neighboring peoples, more or less furrowed with waterways and paths of communications of all sorts which place the inhabitants in more or less intimate relationship. This territory, its dimension, its configuration, and the composition of the population which moves upon its surface are natural important factors of social life; they are its substratum and, just as psychic life in the individual varies with the anatomical composition of the brain which supports it, collective phenomena vary with the constitution of the social substratum. There is, therefore, room for a social science which traces its anatomy; and since this science has as its object the external and material form of society, we propose to call it social morphology
>
> […T]he makeup of this substratum directly or indirectly affects all social phenomena, in the same way as all psychic phenomena are in mediate or immediate relation to the state of the brain. So these are all problems which are patently concerned with sociology and which, as they all refer to the same object, must be part of one science. It is this science we propose to call social morphology (Durkheim 1978b, 79).

In Durkheim's writings, one finds explanations of social phenomena grounded in the facts of social morphology in both *De la division du travail social* (1893) and *Le suicide* (1897). In the former, Durkheim's attempt to understand the transitions from pre-industrial to industrial societies centres on the roles of increase in population density (especially concentrated in cities) and greater population size as causing the occupational division of labour that characterizes industrial society (cf. Lukes 1973, 167–172; Poggi 1972, 185–189). In the latter, morphological

characteristics such as birth rates (and hence household size) and population density factor into his account of suicide alongside religion.

Summarizing Durkheim's writings on social morphology, Andrews (1993, 115) writes that "social morphological characteristics – population size, territorial extent, population density […] and socio-spatial interaction […] – are all presented as independent variables, seen as explaining a wide variety of institutional outcomes of social organization, occupational differentiation and patterns of regulation of distinct areas of social activities." One therefore finds in Durkheim's sociology motivation for the argument that social phenomena are at least in part determined by spatial context. Durkheim's advice to consider the external aspect or substratum of social life – which is in part constituted by "the borders which define its limits" and a society's location vis-à-vis "the territories of neighboring peoples" – is thus deserving of serious consideration.

1.2.2 The Chicago School

Another focal point in the history of spatial thought in the social sciences is found in the work of the Chicago School of sociology – so called because of the association of its major figures – Robert Park, Ernest Burgess and Roderick McKenzie – with the Department of Sociology at the University of Chicago in the early twentieth century. The overarching project of the Chicago School was to document in detail the social implications of rapid urbanization and population growth in American cities using both quantitative and qualitative evidence, and taking Chicago as the archetypal (and close-at-hand) case (Porter and Howell 2012; Snell 2010). While the body of work produced by the Chicago School has been labelled as "descriptive to an extreme, at times leaving the underlying intellectual commitments of the scholars uncertain for the reader" (Merriman 2014), its major

contribution to urban sociology, *The City* (Park, Burgess, and McKenzie 1925), nevertheless yields a number of theoretical insights, chief among them that "no social fact makes any sense abstracted from its context in social (and often geographic) space and social time. Social facts are *located*" (Abbott 1997, 1152).

In the introductory chapter of *The City*, Park notes that the grid-like organization of the modern city suggests a certain artificial or synthetic character, contrasting as it does the winding, serpentine paths of natural features such as rivers, coastlines and valleys. Nothing, in the perspective of the Chicago School, could be further from the truth. In a discussion demonstrating a clear debt to Durkheim's concept of social morphology (Schnore 1958), Park writes that "the city is rooted in the habits and customs of the people who inhabit it. The consequence is that the city possesses a moral as well as a physical organization and these two mutually interact in characteristic ways to mold and modify one another" (Park, Burgess, and McKenzie 1925, 4). This view of the mutual effects of city space on social phenomena – including crime, economic activity, social class – and vice versa are further explicated by McKenzie as being grounded in a human ecology approach. While ecology has been defined as the study of plants and animals in nature and their interdependence, human ecology can be defined "as a study of the spatial and temporal relations of human beings as affected by the selective, distributive, and accommodative forces of the environment." What is more, human ecology "is fundamentally interested in the effect of *position*, in both time and space, upon human institutions and human behavior" (Park, Burgess, and McKenzie 1925, 63–64).

The enduring contribution of the Chicago School is the theory of the concentric zonal structure of the organization of the modern city. Urban growth follows a pattern of radial expansion from the central business district: "The typical

processes of the expansion of the city can best be illustrated, perhaps, by a series of concentric circles, which may be numbered to designate both the successive zones of urban extension and the types of areas differentiated in the process of expansion" (Park, Burgess, and McKenzie 1925, 50). These zones are: the central business district (I, using Chicago as the archetypal case, this area is "the Loop"), the zone in transition (II), the workingmen's zone (III), the (higher-status) residential zone (IV), and the commuter's zone (V) (Park, Burgess, and McKenzie 1925, 50–51). The Chicago School's inductively-derived model of the spatial organization of the city thus accounts for land use in terms of its proximity to the centre of economic activity. Proximity is also consequential in the formation of neighbourhood communities. One can also see an early (and underdeveloped) articulation of the intergroup contact hypothesis (Allport 1954; Pettigrew 1998) in Park's statement that "[p]roximity and neighborly contact are the basis for the simplest and most elementary form of association with which we have to do in the organization of city life. Local interests and associations breed local sentiment..." (Park, Burgess, and McKenzie 1925, 7).

1.2.3 Amos Hawley

The spatially- and ecologically-oriented approach of the Chicago School was extended by Amos Hawley (a student of Roderick McKenzie) who similarly adopted the term "human ecology" to describe his approach to the study of society, and social phenomena such as population growth and migration. Hawley's starting point is that human beings exist in an environment, and are dependent upon their environment for their existence. Further, human beings are interdependent: they necessarily exist as a member of a population. Human behaviour, then, must be understood in the context of the physical and social environment in which it occurs

(A. H. Hawley 1950, 68–74; A. H. Hawley 1986, 4–7). The definition of "environment" is both flexible and open-ended. "It includes all that is external to and potentially or actually influential upon an object of investigation" (A. H. Hawley 1986, 10–11). Still, one can distinguish between biophysical aspects of the environment (land forms, plant and animal life), and "ecumenic" aspects (comprising both social and economic aspects of the environment, including intergroup relations, exchange relations, migration and information flows). At the same time, ecumenic aspects of the environment tend to exhibit greater variation than the biophysical aspects, which tend to be more constant (A. H. Hawley 1986, 14–17). This suggests greater potential explanatory power for ecumenic aspects.

Again recalling Durkheim's concept of social morphology and referencing the work of the Chicago School that showed how physical features of the city influenced crime, area demographic compositions, and birth rates, Hawley writes that "there is a tendency for human behavior to reflect in one way or another the physical characteristics of the area in which it occurs. [...] Man lives close to the ground and must of necessity relate his activities to his physical milieu" (A. H. Hawley 1950, 90). The human ecology theoretical framework thus assigns causal force to the environment: "In general, the position adopted on this issue is that environment is an independent variable, or rather a set of independent variables" (A. H. Hawley 1986, 12).

A key independent variable in Hawley's human ecology framework used to explain the spatial organization of social phenomena – how populations grow, disperse across territory, concentrate particular activities in particular locations, and how different populations relate to one another – is what he terms the "friction of space." Hawley writes that: "Human relationships, occurring as they do in a physical universe, involve the overcoming of a number of resistances which are

generalized in the phrase friction of space. Space itself is something to be passed over and thus it calls for an expenditure of time and energy. [...] In other words, the friction of space is small or great as distance is short or long..." (A. H. Hawley 1950, 237). Hawley points to the spatial distribution of different business types as an example of the friction of space: specialized types of services (e.g., legal services) tend to concentrate in central areas ("downtown"); less specialized goods and services (e.g., grocery stores, gas/petrol stations, schools), tend to be more dispersed, and generally follow the spatial distribution of the population (A. H. Hawley 1950, 276–278).

Hawley's human ecology framework thus points to proximity and distance (by way of the "friction of space") as an important element of the spatial context for human relations. As a general theoretical precept, then, Hawley points us to consider (and test) the effects of the friction of space on the relations between individuals and groups.

1.2.4 V.O. Key

While many of the early contributions to spatial thinking in the social sciences originate in sociology, this is not exclusively the case. For example, nearly contemporaneously with Hawley's work on human ecology, political scientist V.O. Key (1949) advanced explanations of various aspects of American political behaviour grounded in spatial context and proximity to salient locations. Raised and educated in Texas, the focus of Key's seminal work *Southern Politics in State and Nation* (1949) was on explaining the regional political dynamics of the American South. An essential part of his analytical strategy was to use spatial displays – for example juxtaposing maps of county-level election results with maps of the proportions of the black population. This analytical approach led Key to argue that

at its core, "the politics of the South revolves around the position of the Negro" – even though immediate issues present themselves as pertaining to textiles, trade, or inequality (1949, 5). This is to say that southern politics in the late-nineteenth to mid-twentieth centuries was driven largely by whites in the so-called agricultural "black belt" – those parts of the southern states that are "black both in soil and in a majority of their people" (Key 1949, 43). White residents of these areas were often able to wield a disproportionate political influence in state politics because of their heightened levels of political participation and consistently high levels of support for racially conservative policies. State-level political outcomes were thus a function of the prevalence of such black belt areas within a state. For Key, this is seen most clearly by contrasting the political dynamics of Mississippi, with a high proportion of whites in black belt counties, and Florida, with a very small proportion of similarly-situated whites. Racial politics were significantly more conservative in the former than in the latter (Key 1949, 5–6). Further, voting in Democratic primaries in Alabama tended to be highest in counties with the highest concentration of blacks (Key 1949, 513–517). Similarly, in North Carolina and Alabama, support for amendments to state constitutions restricting voting rights (that is, policies designed to restrict black voting rights) was highest in black belt counties (Key 1949, 544–547). Key thus observed an aggregate-level correlation between local (county-level) proportions of the black population and support among whites for racially conservative policies.

Key also notes a pervasive localism in political behaviour in many southern states, which he dubs the "friends-and-neighbors" effect. Here, Key operationalizes the concept of distance by mapping the home towns of candidates for political office, overlaid with areas of high candidate support at the county level, in order to demonstrate the effect of the "friends-and-neighbors" effect on voting behaviour. In

Alabama, for example, candidates for state office frequently received majority support in their home counties, as well as strong support in adjacent counties (Key 1949, 36–38). A similar localism is also a feature of Florida politics, which, according to Key, is a consequence of the large distances between urban population centres, which make the formation of state-wide political organizations difficult, while facilitating the formation of local political bases for candidates (Key 1949, 82–92). In South Carolina, localism is again seen to prevail, with candidate support concentrated in their home counties and those adjacent (Key 1949, 132–134). These local dynamics are all the more notable because of its absence in other states, such as Virginia. The strength of state-level party machinery, weak in many states but strong in Virginia, accounts for the difference (Key 1949, 37).

Key's analyses of the politics and political behaviour of the American South thus accord an important explanatory role to spatial and contextual factors. Racial context (specifically the concentration of blacks in the local area) is linked to support among whites for candidates endorsing and policies designed to maintain a privileged position for whites. Also, proximity to a candidate's home town is linked to increased support for that candidate. Still, it is important to note that Key's analyses were comprised of aggregate data analyses owing to difficulties in analyzing spatially-referenced data at the time; they are thus properly understood as ecological and not individual-level relationships. Nevertheless, Key's work has been highly influential in charting a path toward analyses of spatial context and individual-level racial attitudes (Baybeck 2008; Blalock 1957; Kinder and Mendelberg 1995; Glaser 1994).

1.2.5 Waldo Tobler

While many of the contributions to spatial thinking in social science have come from sociology, and to a lesser extent political science, it is not surprising that geography has also made a contribution. Geography's contribution has been less central, however, on account of that discipline's historical focus on physical geography (Porter and Howell 2012). Nevertheless, it is important to draw attention to the work of Waldo Tobler and his so-called "first law" of geography. Tobler's first law is an idea that runs through geographic thought and research, even if it is not always acknowledged (Sui 2004).

Discussing population growth, Tobler notes that growth in a given place is a function of many more factors than simply the previous (baseline) level of population in that place (and a rate of growth), implying a simple bivariate relationship – population at time 2 is a function of population at time 1. A more realistic and theoretically satisfactory model, according to Tobler, would model population growth as a function of the previous level of population and also the populations of all other places – in keeping with the notion that "everything is related to everything else. [...] More concretely, population growth in Ann Arbor from 1930 to 1940 depends not only on the 1930 population of Ann Arbor, but also on the 1930 population of Vancouver, Singapore, Cape Town, Berlin, and so on" (Tobler 1970, 236). This is problematic from a statistical modelling perspective, as it implies an unrealistic number of independent variables – several thousand by Tobler's estimation. Greater realism in modelling and model parsimony are balanced by noting that growth in population in a given place is affected much more by population levels in near places than in distant places. It is in this context that one finds Tobler's famous invocation of "the first law of geography: everything

is related to everything else, but near things are more related than distant things" (Tobler 1970, 236).

Though seemingly little more than common sense, Tobler's first law served as an initial expression of what would later be formalized as spatial autocorrelation, and also underpins methods for spatial interpolation (Goodchild 2004; Miller 2004). It also focuses attention on nearness – specifically that what is consequential to the explanation of social and geographic phenomena is typically near; what is distant is typically of less explanatory importance (Miller 2004). This is to say that local factors and circumstances offer greater explanatory power than more distant factors (Sui 2004). In this way, Tobler's first law points toward taking seriously dynamics of proximity and distance just as Hawley's "friction of space" and Key's "friend-and-neighbors" effects do.

1.2.6 Spatially Integrated Social Science

Despite the long lineage of spatial thought from Durkheim to Tobler, the authors constituting this tradition of thought did not have the advantage of present-day computing and the analytical capabilities afforded by geographic information system (GIS) tools. Both the increasing availability of spatially located data and the increasing power and ease of use of GIS tools since the 1980s and 1990s have seen the use of GIS expand well beyond its traditional bases in physical geography, regional science, and civil engineering into the remit of the social sciences (Goodchild 2004; Janelle and Goodchild 2011; Logan, Zhang, and Xu 2010). The spread of spatial concepts and methods across disciplines has meant that one can now speak of a "spatial turn" in the social sciences (Goodchild, Janelle, and Grossner 2014), and further that spatial analysis is one of the distinctive aspects of social science in the past decade (Logan 2012). Demonstrating the promise of such

spatial analytical tools (when joined with appropriate spatial concepts) for social research has been the goal of the literature on spatially integrated social science. The term "spatially integrated social science" (often abbreviated "SISS") is most closely associated with a group of geographers with links to the Center for Spatially Integrated Social Science (now the Center for Spatial Studies) at the University of California, Santa Barbara, but the term has come to be applied more widely to describe any kind of social scientific research that explicitly accounts for space in both theory and modelling (Goodchild and Janelle 2004). More specifically, a spatially integrated approach to social science "explicitly recognizes the key role that *geographical (or spatial) concepts* – such as distance, distribution, location, proximity, connectivity, place, neighbourhood and region – play in human society and the behaviour of individuals, groups and organizations" (Stimson 2014, 13).

A central element of the SISS perspective is that space serves an integrative function with respect to theory and methods. In terms of theory, the SISS literature follows in the long tradition of spatial social science in acknowledging that all human activity and behaviour occurs in a spatial context. "Everything happens somewhere, which means that all action is embedded in place and may be affected by its placement" (Logan 2012, 508). Thus, SISS endeavours to integrate spatial analysis and substantive theories and problems in the social sciences. It also advances "the proposition that many social processes and problems are better understood through the mapping of phenomena and the analysis of spatiotemporal patterns" (Janelle and Goodchild 2011, 28). While economic, political, and social processes have historically been studied in separate disciplines, "these separate processes interact in a spatiotemporal context" (Goodchild et al. 2000, 142). Space can therefore "provide an integrating mechanism for the social sciences." More concretely, space serves as an integrating mechanism in that different data sources

can be integrated – that is, linked together in rectangular datasets – based on geographic location (Goodchild and Janelle 2004, 13).

Another contribution of the SISS literature is a sharper distinction between *place* and *space* – two concepts that had not always been clearly distinguished in previous geographic work (Agnew 2011; Sack 1993). Place refers to a unique location in the universe; place is "here" (and by extension, not anywhere else) (Gieryn 2000). Though political sociology has examined processes of place-making, in which particular locales are invested with specific meanings, and how individuals have come to hold affective attachments to particular places (e.g., Agnew 1987), place as an analytical construct does not factor prominently in the SISS approach. While place refers to what is unique and fixed, space is a relational, relative concept: "Concepts that are critical to spatial thinking – distance, proximity, exposure, and access – are all rooted in relative locations" (Logan 2012, 508–509). In this way, space is more abstract, or more specifically, abstracted away from particular locales. This understanding of space relates back to the geometric conception of space that underlies geographic information science which defines space as a mathematical relation between a set of objects (Gatrell 1991, 119–120).

The notion of space as relational ties directly to the concept of distance. For the proponents of SISS, distance (or its obverse, proximity) is a central concept. "It is defined as relative position. This is distinct from both location (as in point location), and neighbourhood or region (understood as spatial context), and spatial dependence (the idea that near places are more similar than places further apart)" (Janelle and Goodchild 2011). Further, distance can be approached "as an indicator of access to other people or resources or exposure to harm, as a feature of social networks, and as a basis for identifying and interpreting clusters of related things" (Logan 2012, 511).

A final key contribution of the SISS literature is the development and extension of methods for dealing with spatial dependence (or spatial autocorrelation). Analogous to the concept of serial autocorrelation from time series analysis (the idea that observations close to one another in time tend to be more similar than those further apart in time), methods for spatial autocorrelation relax the assumption that observations are randomly distributed (across space). Such methods make adjustments for the clustering of observations and outcomes in space – that is, the tendency (as per Tobler's first law) for proximate observations to be more similar to one another – often by incorporating "spatial lags" in the modelling (see, e.g., Ward and Gleditsch 2008).

1.2.7 Key Themes in Spatial Social Science

To summarize, spatial thinking in the social sciences has a long lineage. This line of thought, however, has elements of both continuity and discontinuity. For example, one can point to continuity in the concepts and language used by sociologists from Durkheim, through the Chicago School, and Hawley. Similarly, within geography, one can locate the influence of Tobler's first law on the major proponents of the SISS literature. Given his background in political science and his focus on voting behaviour, Key stands apart from both the sociologists and geographers. Taken in sum, what the broad, multi-disciplinary tradition of spatial social science lacks in theoretical continuity and substantive focus is balanced against the intellectual resources it offers. While not providing a template, it is nevertheless richly suggestive as to the kinds of spatially-oriented research questions one might pursue. To be certain, previous spatial thought does not directly prescribe particular fully-developed hypotheses pertaining to the spatial

dynamics of public opinion or political behaviour, but extensions of this tradition keeping with its key themes do suggest themselves.

The first theme apparent in the tradition of spatial thought is a focus on contextual explanations of human behaviour, and the notion that that the environment exerts causal effects on social phenomena. The importance of context is seen in Durkheim's discussion of social morphology, pointing to factors such as population density, geographic area, and proximity to other populations as providing contextual explanations for human behaviour. Its importance is similarly seen in Hawley's human ecology approach to studying societies (by way of the Chicago School) with its emphasis on understanding social processes such as population growth and migration as the outcomes of the physical and social environment. As for understanding specifically political behaviour, Key's work assigns a central role to racial context, linking the proportion of the county-level black population to support for racially conservative policies among southern whites. This focus on the explanatory power of contextual variables is most explicit in the SISS literature. A common thread drawing these authors together, then, is a methodological orientation toward explaining human behaviour with reference to spatial or demographic contextual factors.

Another theme running through the work of these authors is the notion of proximity and distance as a key spatial dynamic. Proximity–distance is referenced in Durkheim's discussion of how societies bear the imprint of their location "relative to the seas and to the territories of neighboring peoples" (Durkheim 1978b, 79). Distance also appears at core of the Chicago School's concentric zonal model of the spatial organization of the modern city (Park, Burgess, and McKenzie 1925). Proximity is similarly the dynamic at work in Key's friends-and-neighbours model of candidate support in the American South, grounding its explanation of vote

choice in proximity to candidates' home towns (1949, 36–38, 82–92, 132–134). A focus on distance (as relative position and as a spatial relation, distinct from local context) is also apparent in the delineation of space and place in the SISS literature. All of these strands of thought when brought to bear on public opinion and policy attitudes point toward the following research expectation: *proximity to (or conversely distance from) salient geographic features will influence policy attitudes*.

Even in the absence of explicit acknowledgements, it is easy to read current research finding "proximity effects" as extensions of the tradition of spatial social science. Examples include research examining voting behaviour and proximity to voting locations (Dyck and Gimpel 2005), public opinion toward the European Union and proximity to Brussels (its symbolic centre) and other EU member states (Berezin and Díez Medrano 2008; Díez Medrano 2003; Kuhn 2011), and American attitudes toward immigration policy and proximity to the US-Mexico border (Branton et al. 2007). This focus on proximity–distance as a spatial relation draws attention to its character as a spatial dynamic distinct from those implied by local context (as containment – that is, being contained within a particular context) as well as the effects of spatial clustering (as adjacency – or the effects due to observations being adjacent to one another) (Porter and Howell 2012).

1.3 The Politics–Proximity Interaction

Building on the insight from spatial approaches to social science that proximity – conceived as a spatial relation – is consequential for human behaviour, the argument that unifies the four articles comprising this thesis is that the effects of political factors (party identification and ideology) on policy attitudes are contingent upon proximity (or conversely distance) to salient geographic features. Put differently, the relationship between political variables and proximity (or

distance) is *interactive*. The expectation for finding such interactive relationships at work in mass public opinion is motivated by findings from recent empirical research on policy attitudes in different domains. This research, along with the longer tradition of spatial approaches to social science, serves as the basis for specific hypotheses relating to public opinion toward the Canada–US relationship, support for the Keystone XL pipeline, and immigration and naturalization policy reform.

The reason behind the primary focus on the interaction of political factors and spatial proximity is a pragmatic one: a clear focus helps in the pursuit of theoretical advancement and the collection empirical results in support of specific causal claims. As Gerring (2005, 174) has argued, social scientists "need to bring knowledge together in reasonably compact form in order for that knowledge to serve a useful purpose. Reduction is useful" (cf. King, Keohane, and Verba 1994, 29–31). Still, the analyses in the substantive chapters acknowledge alternative (though not necessarily rival) explanations of public opinion in the domains under study, including (but not limited to) the effects of demographic factors such as sex, age and educational attainment, geographic region (as distinct from proximity), and other attitudinal variables, such as perceptions of the national economy, attitudes toward trade, and environmental attitudes. These variables are included in the models as appropriate, and according to the availability of data. The challenge here, of course, is "to capture some of the complexity of the political world without altogether forsaking the parsimony on which good social science depends" (P. A. Hall 1997, 189). Thus, *part* – but still an interesting part – of an explanation of public opinion toward Canada–US relations, the Keystone XL pipeline, and illegal immigration is found in the interaction of politics and spatial proximity to salient geographic features.

1.3.1 Proximity Effects in Recent Research

A review of recent literature on policy attitudes among mass publics finds that distance to salient (and necessarily context-specific) geographic features exerts significant effects on policy attitudes in a variety of domains – including attitudes toward European integration, immigration policy, social policy, and energy policy. These not only serve as an extension of the tradition of spatial social science, but also as a basis for further research in different domains of public opinion and political behaviour.

Examining attitudes toward European integration, Berezin and Díez Medrano advance an argument congruent with the tradition of spatial social science in stating that distance matters to individual attitudes toward the European Union (EU) "because it takes time to get there, but also because our visualization, our perception, of the space in between" exert effects on "our emotions, our beliefs, our attitudes, and, eventually, our behaviour" (2008, 22–23). Specifically, they find that EU nationals residing closer to Brussels (which serves as the seat of EU governance and the symbolic "centre" of the EU) increases the likelihood of expressing regret at the (hypothetical) dissolution of the EU (2008, 18–22). Consistent with these findings, Díez Medrano (2003, 243–246) finds that those residing closer to Brussels are more likely to favour EU membership. Those residing in a border region (and thus more proximate to another EU member state) are similarly more likely to favour EU membership. More nuanced findings are presented by Kuhn, who finds that that residing in a border district has a positive effect on public attitudes toward European integration in Germany, but no effect in France. The proximity effect observed in Germany is further mediated by having transnational ties such as having engaged in cross-border shopping and socializing with nationals of other EU countries (2011, 103–109). Kuhn's findings are noteworthy for two reasons. Firstly,

they point to some of the likely mechanisms through which proximity exerts its effects on individual attitudes, namely interpersonal contact and economic exchange. Secondly, the presence of a proximity effect in Germany and its absence in France leaves it as an open question (one for empirical investigation) as to whether proximity effects exist in other national contexts or in other policy areas.

Recent research on American policy attitudes toward immigration issues has also found proximity effects. Dunaway and colleagues (2010) find that residing in a US–Mexico border state increases the likelihood of identifying illegal immigration as the "most important problem" facing the US. Also, Branton and colleagues (2007) find that proximity to the US–Mexico border affects voting behaviour on "nativist" state ballot initiatives in California to deny social services and education to undocumented immigrants, but only among those on the political left: support for Propositions 187 and 227 among California Democrats increases as the US–Mexico border becomes more proximate while remaining consistently high among Republicans. Here, it is worth noting that the relationship between party identification and border proximity is interactive: the effect of partisanship depends on proximity to the US–Mexico border. Further, Hawley (2011) finds that Republican Party identification is a stronger predictor of restrictionist immigration attitudes when the county-level foreign-born population is large than when it is small. Again, the effect of party identification on immigration policy attitudes is moderated by demographic context.

Turning to research on energy sites and environmental attitudes, as one might expect, proximity to energy infrastructure such as oil or gas wells, offshore platforms, pipelines, or nuclear power plants increases the likelihood of having contact with their negative aspects (such as sights or sounds), or the likelihood of facing health or environmental risks (D. P. Aldrich 2013). The intuition, then, is that

proximity to such energy infrastructure (or proposed energy infrastructure) will decrease support – following the logic of "NIMBY" (not-in-my-backyard). Research in this area, however, is mixed. Some work finds such NIMBY effects, for example, where proximity to nuclear power generating stations reduces support for nuclear power (Kraft and Clary 1991), or where proximity raises the level of concern for environmental contamination (Weiner, MacKinnon, and Greenberg 2013). Research more typically, though, finds an "inverse NIMBY" dynamic at work, where proximity to energy sites increases support (Greenberg 2009; E. R. A. N. Smith 2002; Michaud, Carlisle, and Smith 2008; D. P. Aldrich 2013; Warren et al. 2005). Yet other work suggests that proximity to energy infrastructure moderates the effect of political ideology – a dynamic similar to that seen in the case of American immigration attitudes. Franchino (2014) finds that proximity to nuclear power plants increases the ideological cleavage between left and right in many EU member states. With increasing proximity to a nuclear plant, those on the right tend to have more favourable attitudes toward nuclear energy; those on the left become less favourable. Thus, "proximity operates as a wedge separating left- from right-wing respondents. It appears indeed to bring into sharper focus the affective evaluation of nuclear power" (Franchino 2014, 221).

Two key insights emerge from these recent contributions to the policy attitudes literature. First, there needs to be congruence between the proximity measure employed – i.e., distance to what – and the underlying attitudinal dimension being modelled – i.e., attitude toward what. These contributions to the literature each begin by advancing a *prima facie* case for examining, for example, attitudes toward European integration and proximity to other EU member states, immigration policy attitudes and proximity to the US–Mexico border, or proximity to energy infrastructure and attitudes toward that energy source, arguing that

proximity to these geographic features measures by proxy contact, interaction, awareness, or issue salience. (We would not, for example, expect that proximity to the nearest hospital would have any bearing on attitudes toward military spending, but it may be relevant to perceptions of one's health care system, or attitudes toward health care spending.) In short, extensions of the spatial social science literature drawing on measures of spatial proximity need to establish the theoretical link between the specific proximity measures used – distance to what – and the specific policy attitudes under investigation – attitudes toward what. The nature of these theoretical links will obviously be contingent upon the policy attitude under study, and in keeping with the tradition of human ecology (A. H. Hawley 1950; A. H. Hawley 1986), there is no reason to expect that spatial proximity to a particular geographic feature (as an aspect of the environment) captures any one process in all cases.

The second is that the effect of proximity on attitudes may be heterogeneous – specifically, proximity may exert different effects among different political groups, such as individuals with different partisan identifications, or individuals on the left versus the right. Indeed, some of the more interesting and nuanced findings relating proximity (or distance) to policy attitudes are those of Branton and colleagues (2007) showing that the effect of party identification on immigration policy attitudes is contingent on distance to the US–Mexico border, and also those of Franchino (2014) showing that the effect of left–right ideology on attitudes toward nuclear energy is contingent upon distance to the nearest nuclear plant. It is therefore worthwhile to theorize and test similar interactive hypotheses in other contexts.

1.3.2 The Mutual Perceptions of Canadians and Americans, and Attitudes toward Canada–US Relations

To preview the hypotheses relating to party identification and proximity to the Canada–US border fully developed in chapters 2 and 3, there are well-founded reasons for expecting proximity to the Canada–US border to moderate the effect of party identification on Canadians' attitudes toward the US, Americans' attitudes toward Canada, and both publics' attitudes toward Canada–US relations. In the Canadian context, recent federal elections have demonstrated that parties of the centre and left have shown less affinity for American values and culture, have often staked out policy positions less inclined toward greater Canada–US co-operation, and have occasionally invoked anti-American sentiment for political gain. Parties of the right have been more pro-American and more "continentalist" in their stances, seeking to strengthen Canada–US ties (Granatstein 1996; Inwood 2005; Nossal 2008). What follows from this is that the Canadian mass public ought to interpret such "elite cues" through the lenses of their pre-existing partisan and ideological attachments (Zaller 1992). I expect the Canadian public to structure its attitudes toward the US accordingly; Canadians who identify with the Conservative Party ought to hold the most positive feelings toward the US and desire closer Canada–US ties. NDP and Bloc Québécois identifiers should have the least positive feelings toward the US and desire more distant Canada–US ties. Liberal Party identifiers should hold an intermediate position between Conservative Party identifiers (on the one hand) and NDP and Bloc Québécois identifiers (on the other hand).

There is reason to expect the same dynamic in the American context. American political discourse contains both positive and negative images of Canada which tend to follow partisan and ideological cleavages. The positive view of Canada held by American liberals dates from the 1970s, when Canada came to be

seen as "a sort of nirvana north" – an example of the type of social democratic society some aspired the US to become (Brooks 2008, 38). More recently, a competing negative image has been put forward by Republican elites in Congress and the conservative-leaning news media. It stems from an aversion to developments in Canadian society such as same-sex marriage, as well as perceptions that Canada is a security free-rider and a security risk in terms of its border with the US (Brooks 2008). It is reasonable to expect that such elite attitudes about Canada will carry over to mass public opinion. Consequently, I expect than Democrats will be more favourable toward Canada than Republicans.

With respect to proximity to the Canada–US border, given existing theory and empirical research, a first-order expectation is that closer proximity to the Canada–US border implies more positive perceptions among Canadians and Americans; increasing distance from the border implies less positive perceptions. Similarly, closer proximity to the Canada–US border should increase support among the Canadian public for closer ties with the United States; increasing distance from the border should increase support for more distant ties. These expectations are grounded in the cultural similarities of Canadians and Americans residing in border regions, long histories of cross-border migration, and enduring social and economic ties between border communities in Canada and the United States (Laxer 2003; Stuart 2007). Border regions may also have greater exposure to print, radio, and television news media from the United States (Payne and Caron 1982). News media tend to give greater coverage to events occurring locally or nearby, and less coverage to events occurring further away (Branton and Dunaway 2009a; S. R. Martin 1988).[1] It is therefore credible to suggest that proximity to the

1. Ideally, one would measure these mediating factors – local-area cross-border trade, personal travel and personal interactions, and cross-border media consumption. Unfortunately,

Canada–US border increases the salience of ties between Canada and the US, increases the likelihood of interaction (and frequency of interaction) with citizens of the neighbouring country, and thus leads to more positive perceptions of the other country and increased support for closer Canada–US ties. On the other hand, increasing distance to the border diminishes the salience of Canadian–American ties, decreases the likelihood (and frequency) of interaction with citizens of the other country, thus leading to less positive perceptions of the other country and decreased support for closer ties.

An alternative to this first-order expectation is that the relationship between partisanship and proximity may be interactive, resembling the findings of Branton and colleagues (2007) and Hawley (2011). That is, border proximity may amplify the effects of political attitudes on Canada–US ties, either positive or negative. A more nuanced interactive hypothesis holds that among Conservative and Liberal identifiers, closer proximity to the border ought to create more positive attitudes toward the other country and stronger preferences for closer Canada–US ties, as suggested above. Among those who identify with the NDP, closer proximity to the United States creates heightened perceptions of threat (that is, fears of the "Americanization of Canada") and thus less positive attitudes toward the US and stronger preferences for more distant Canada–US ties. It is less clear if (or whether) Bloc Québécois support and border proximity will interact. Attitudes toward the US in Quebec have typically entailed stronger support for economic ties but less support for security cooperation (Haglund 2006; P. Martin 2011). Therefore, I do not

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neither Canadian nor American trade statistics are compiled at a level of aggregation below the province or state. Similarly, measures of cross-border travel, interaction with individuals of other nationalities, and cross-border media consumption rarely appear in social surveys. Available Canada–US cross-border travel data are discussed in chapter 2.

advance any explicit expectations regarding border proximity and Bloc Québécois support.

Similar dynamics ought to be seen in the American case. Specifically, proximity to the border (and greater familiarity with Canada and its comparatively more progressive public policies) should amplify favourable impressions of Canada among Democrats – those who identify with the progressive end of the American political spectrum.

1.3.3 Attitudes toward the Keystone XL Pipeline in the United States

The interactive relationship between ideology and proximity in shaping attitudes toward the Keystone XL pipeline is the central focus of chapter 4. As discussed above, party identification acts as a cognitive shortcut among mass publics, allowing individuals to form policy attitudes with minimal cognitive effort. Zaller (1992) has shown that mass public opinion across a range of policy issues tends to follow elite opinion. Within the ambit of energy policy, including the issues of offshore oil drilling and nuclear power, research has found that Republicans more likely to be in favour than Democrats (E. R. A. N. Smith 2002). As is the case with partisanship, ideology – understood as a set of deeply held value orientations – also can serve as a cognitive shortcut, helping to form opinions in the absence of detailed knowledge or deliberation. Right-leaning and conservative members of the public can be expected to support pipelines because they represent individual rights, free enterprise, and the promise of jobs, or things conservatives value. Similarly, liberals' or progressives' values for collective goods (such as clean air and water) and equality might make them less likely to support pipeline projects that may concentrate benefits in the hands of large corporations while imposing the bulk of risks on local communities and the environment (E. R. A. N. Smith 2002).

When theorizing the role of proximity in energy siting controversies such as the proposed Keystone XL pipeline, a key consideration is the geographic distribution of costs and benefits. These can either be broad and diffuse or local and concentrated. As far as localized costs and benefits are concerned, Ansolabehere and Konisky have argued that the American public devotes attention to energy issues "when the issues hit home, when they become localized and personalized. […] Americans are pragmatic and think about local, immediate consequences" (2014, 15). Diffuse risks or far-away energy developments are (literally) distant considerations. Depending on the distribution of localized benefits and risks, local populations may support a proposed energy project when economic benefits outweigh environmental risks, or oppose it when the environmental risks outweigh the economic benefits.

In the case of the Keystone XL pipeline proposal, nearly all of the potential economic benefits accrue at the local level, where the pipeline is expected to create 2,500 to 4,650 construction jobs (Skinner and Sweeney 2012). Given that the risk of pipeline spills is likely to affect a small number of people who live especially close to the proposed route, such risks are unlikely alter the balance of opinion at the community level. Conversely, the opposite is true at the national level, where the Keystone XL pipeline offers few economic benefits for the US as a whole, since its primary purpose is to move Canadian bitumen closer to export markets offshore. Meanwhile, this new infrastructure will allow for the continued expansion of oil sands production, thus contributing to an increase in greenhouse gas emissions. This latter risk has made Keystone XL a salient issue in American politics at the national level, as environmental groups have framed the pipeline as an example of American inaction on climate change. On balance, the Keystone XL pipeline proposal thus presents economic benefits that are locally concentrated and

environmental risks that are largely diffuse. This leads to an expectation of an inverse NIMBY dynamic, where support for the Keystone XL energy pipeline is higher among Americans living closer to the proposed route; support is expected to be lower among those living further away.

The relationship between proximity and support for pipelines, however, is likely to be more complex than a straightforward additive effect. It is reasonable to assume that residents living closer to a proposed energy project are more likely to be attentive to the issue, and aware of the potentially significant economic benefits accruing at the local level (E. R. A. N. Smith 2002, 145), thus diminishing the need for cognitive shortcuts (such as party identification and ideology). To the extent that proximity to the pipeline increases the awareness one has of net economic gains for the local community, we might expect such considerations to crowd out the role of political factors in shaping opinions on this issue. This is especially true in the case of Keystone XL, where the discourse around its risks are primarily framed as being global and diffuse, while its benefits are concentrated at the local level. Political polarization can therefore be expected to decrease (be attenuated) with proximity to the proposed Keystone XL pipeline route, while political polarization can be expected to increase (be amplified) with distance to the proposed route.

1.3.4 Attitudes toward Illegal Immigration in the United States

The interaction between party identification and proximity to the US–Mexico as factors explaining American attitudes toward undocumented immigrants is central to the analysis in chapter 5. Attempts at immigration reform at the federal level in 2005–2006 and again in 2013–2015, as well as state-level political developments such as Propositions 187 and 227 in California and SB-1070 in Arizona produced a partisan sort among political elites. As previously discussed,

partisan polarization at the level of elites translates into greater cue-taking among the mass public and thus sharpens partisan cleavages in mass opinion on immigration issues (Zaller 1992). Not surprisingly, then, research has typically found that Republicans favour "restrictionist" immigration policies more frequently than Democrats (Hainmueller and Hopkins 2014; G. Hawley 2011; Schildkraut 2011). Further, research on different conceptions of American national identity has found that the ascriptive, ethno-cultural definition of American identity – where it is defined as being white, Protestant, of northern European descent, and English speaking – resonates most strongly with Republicans (Schildkraut 2005; Schildkraut 2011). By contrast, Democrats are more likely to endorse "incorporationism" – a conception of American identity that acknowledges the role of immigration in shaping the country, and that values pluralism and tolerance of difference (Hajnal and Rivera 2014; Schildkraut 2007). Expectations regarding the effect of party identification on attitudes toward illegal immigration and undocumented immigrants, then, are clear: Democrats are more likely to favour allowing undocumented immigrants to remain in the US; Republicans are more likely to favour requiring undocumented immigrants to leave.

As for spatial context and immigration policy attitudes, there is now a large literature on the American case linking local demographic context – measured as the proportion of foreign-born or Hispanic residents, or as the change in the proportion of Hispanic residents over time – and individual-level immigration attitudes. The results of this literature have been mixed. Some research finds that the proportion of foreign-born residents or Hispanics in the local area increases the likelihood of expressing restrictionist immigration attitudes (A. L. Campbell, Wong, and Citrin 2006; Hero and Tolbert 1996; Tolbert and Hero 1996). Other research finds the opposite – larger proportions of foreign born residents or Hispanics decrease

restrictionist attitudes toward immigration (Hood and Morris 1997; Hood and Morris 1998). Some other studies report inconsistent or null results (Citrin, Reingold, and Green 1990; Fetzer 2000; Hood and Morris 2000). Others argue that it is not the ethnic context per se that influences immigration attitudes; it is rather change in the context over time: areas experiencing rapid growth in the Hispanic population exhibit higher levels of restrictionist immigration attitudes (Hopkins 2010; Newman and Velez 2014).

An alternative approach to the literature focused on local demographic context – the effect of "containment" in Porter and Howell's (2012) theoretical schema – focuses instead on *proximity* as a spatial dynamic, specifically, proximity to the US–Mexico border. A focus on proximity to Mexico is warranted in discussing American immigration policy attitudes because Mexico provides the largest number of immigrants to the US, and also because the issue of illegal immigration has been repeatedly tied to Mexicans in public debate (A. L. Campbell, Wong, and Citrin 2006). Further, proximity to the US–Mexico border provides cues through border checkpoints, fences and warning signs and thus heightens perceptions of threat (Branton et al. 2007). Border proximity also influences the media environment in which individuals reside. Media content analysis has shown that newspapers closer to the US–Mexico border publish negative stories about immigration (both authorized and unauthorized) more frequently than those further away (Branton and Dunaway 2009a; Branton and Dunaway 2009b). Media coverage of immigration in turn raises both the salience of the issue among the public and engenders more restrictionist immigration attitudes (Dunaway, Branton, and Abrajano 2010).

At the same time, there is a solid basis for expecting proximity to Mexico to affect different segments of the American public differently. Recent work shows that Democrats and Republicans are influenced by spatial context (variously measured)

in different ways, with those on the political right more likely to react defensively to perceived local threats (Fischhoff et al. 2003). More to the point, Branton and colleagues (2007) find that support for Propositions 187 and 227 (state ballot initiatives intended to deny social services to undocumented immigrants) among California Democrats increases as the US–Mexico border becomes more proximate while again remaining consistently high among Republicans regardless of distance to Mexico. Using nationally-representative survey data, Hawley (2011) finds a different pattern: Republicans are consistent in their support of more restrictionist immigration policies regardless of spatial or demographic context, but Democrats become less (not more) restrictionist as the county-level proportion of foreign born residents increases.

Motivated by existing research on the moderating effects of spatial context on Americans' immigration policy attitudes, a working hypothesis is that with increasing proximity to the US–Mexico border, Republicans will become increasingly less likely to favour allowing undocumented immigrants to stay in the US; Democrats will become increasingly more likely to favour such a policy.

1.3.5 Formalizing the Politics–Proximity Interaction

The terms "interaction effect" or an "interactive relationship" both describe a situation in which the effect of an independent variable on the dependent variable is conditional upon the value of another variable, usually termed a moderator variable (Ai and Norton 2003; Aiken and West 1991; Hayes, Glynn, and Huge 2012; Jaccard and Turrisi 2003; Jaccard and Dodge 2004). In other words, "interactive relationships imply that the impact of X_1 on Y varies depending on the level of X_2" (Braumoeller 2004, 809). The theoretical model that underpins each interactive

hypothesis (discussed above) may be reduced to the right-hand side of the following equation:

$$\hat{Y} = \beta_0 + \beta_1 P + \beta_2 D + \beta_3 PD + \beta_4 C \ , \tag{1}$$

that is, the expected value of the dependent variable ($\hat{Y}$) is a function of a matrix of political factors (denoted by P – e.g., $P_{REPUBLICAN}$, $P_{INDEPENDENT}$; $P_{MODERATE}$, $P_{CONSERVATIVE}$), a vector of geodetic distances (denoted by D), the interaction of political factors and distance (PD), and a matrix of covariates, or control variables (denoted by C).

The precise form of the model linking $\hat{Y}$ to the independent variables and controls will obviously differ depending on how Y is measured. Where Y is assumed to be a continuous, interval-level variable (as is the case with the Canadian Election Study "thermometer" rating scale used in chapter 2), linear regression is the appropriate statistical model. Here, the conditional mean response of Y is modelled as in equation 1 above (Fox 2008, chap. 5–7). Where the assumption of continuous, interval-level data is not plausible (as is the case with many of the survey measures analysed in this thesis), other statistical models are used. Where the dependent variable is dichotomous, as is the case with the Pew Research Center data on support for the Keystone XL pipeline and support for allowing unauthorized immigrants to remain in the US modelled in chapters 4 and 5, respectively, binary logistic regression is the appropriate statistical model. This may be written as:

$$\ln\left(\frac{Y=1}{1-(Y=1)}\right) = \beta_0 + \beta_1 P + \beta_2 D + \beta_3 PD + \beta_4 C \ , \tag{2.1}$$

or equivalently:

$$\frac{Y=1}{1-(Y=1)} = e^{\beta_0 + \beta_1 P + \beta_2 D + \beta_3 PD + \beta_4 C} \ . \tag{2.2}$$

This is to say that rather than model Y directly, logistic regression models the log-odds of $Y = 1$ (Fox 2008, chap. 14).

Where the dependent variable is a set of ordered categories, as is the case with the Gallup Poll Canada favourability survey item modelled in chapter 2 and the Canadian Election Studies Canada–US ties survey item modelled in chapter 3, a generalization of binary logistic regression – ordinal logistic regression – is used. This may be written as:

$$\ln\left(\frac{Y \geq j}{Y < j}\right) = \beta_{0j} + \beta_1 P + \beta_2 D + \beta_3 PD + \beta_4 C \quad , \tag{3.1}$$

or equivalently:

$$\frac{Y \geq j}{Y < j} = e^{\beta_{0j} + \beta_1 P + \beta_2 D + \beta_3 PD + \beta_4 C} \quad , \tag{3.2}$$

where j represents the number of intercepts (or thresholds) in the model. The ordinal logit model thus models the ordered nature of the response using cumulative log-odds – that is, the log-odds of the survey response being in or above category j versus below category j (Fox 2008, chap. 14).

It is important to highlight that in equations 1, 2.1 and 3.1 above, the major differences relate only to the statistical forms of the models – that is, the link functions on the left-hand side, either the identity link or logit link. The quantities of theoretical interest on the right-hand side – namely the coefficient matrices or vectors denoted by β_1, β_2 and β_3 – do not differ. The central object of the empirical analysis of the thesis, then, is the estimation of these three quantities across country contexts and policy issues.

1.4 *The Specification, Testing and Probing of Interaction Effects*

The application of modern regression methods in social science research often entails the use of interaction effects of the type described above.[2] Yet despite their regular use, more than one author has noted that such effects are often not properly implemented or are misinterpreted in applied research (Ai and Norton 2003; Braumoeller 2004; Edwards 2009; Hayes, Glynn, and Huge 2012; Kam and Franzese 2007). Part of the challenge in interpreting interaction effects is that a set of regression coefficients often fails to communicate plainly the substantive meaning of an interaction effect. What is more, the correct methods for testing interaction in generalized linear models with limited (categorical) dependent variables (as opposed to conventional linear models) have been a topic of considerable discussion in the econometrics and political methodology literatures (Ai and Norton 2003; Berry, DeMeritt, and Esarey 2010; Berry, DeMeritt, and Esarey 2015; Greene 2010; Jaccard 2001; Rainey 2016). Given that the focus of the articles comprising this thesis is on testing a particular hypothesized interaction effect in both linear and generalized linear models (and more often than not, using generalized linear models), it is worth explicating in detail the theory and testing of such interactions, as well as the strategies quantitative social scientists have developed to communicate their substantive meaning.

1.4.1 *Interaction as a Three-Variable System*

Conceptualizing an interaction effect is often aided by thinking in terms of a system comprising three variables: the dependent variable, the "focal" independent variable and the moderator variable. The effect of the focal independent variable on the dependent variable is said to be moderated by the moderator variable (Jaccard

2. This section is a revision and extension of material from Gravelle (2012).

and Turrisi 2003; Jaccard and Dodge 2004). Applying this framework to Canadian and American policy attitudes on the aforementioned topics, one can say that the relationships between policy attitudes (the dependent variables) and political factors such as party identification and ideology (the focal independent variables) are contingent upon (or moderated by) spatial proximity (the moderator variable). Thus, political variables and proximity interact.

It is worth noting that the distinction between the focal independent variable and the moderator variable is a theoretical – not a statistical – one. The statistical specification and testing of an interaction is "symmetrical" in the sense that it does not differ on account of which variable is accorded which role (Jaccard and Dodge 2004, 237–238; Kam and Franzese 2007, 15). From the perspective of an analyst of political behaviour, though, the relationship of interest is between party identification (and ideology) and its effect on policy attitudes, and how this relationship is moderated by proximity or distance to relevant geographic features. A geographer might alternatively conceptualize the research question in terms of how spatial proximity shapes individuals' attitudes, and how this relationship is moderated by individual-level political factors, but this is not the theoretical orientation I adopt.

1.4.2 Interaction (Moderation) versus Indirect Effects (Mediation)

It is also important to distinguish interaction effects (also termed moderated effects) from mediated effects (also termed indirect effects). The classic statement on moderation versus mediation comes from Baron and Kenny, who write that a moderator variable is one "that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (1986, 1174). Conversely, a variable "may be said to function as a mediator

to the extent that it accounts for the relation between the predictor and the criterion." This is to say that when one controls for the effect of the mediator variable on the dependent variable, the effect of the (hypothesized) independent variable is zero (Baron and Kenny 1986, 1176). These are two distinct patterns of effects at both the level of theory and their statistical specification and testing. A graphical depiction of these two patterns is shown in Figure 1.1. In the case of moderation (panel a), *D* influences the path between *P* and *Y*. In the case of mediation (panel b), the theory would be something like *D* influences *Y* only through *P* (implying that proximity/distance influences political variables, which in turn influence policy attitudes). Again, the theoretical and empirical focus of this thesis relate to moderation (panel a), and not mediation (panel b) thus defined.

1.4.3 Interactive Models Do Not Provide "Average" or "Main" Effects

At this point, some statistical observations about the model presented in equation 1 above are necessary. First, when hypothesizing an interaction effect, the parameters comprising the lower-order terms of the interaction (β_1 and β_2) must still be present in the model. Otherwise, the model is not "hierarchically well-formulated" and is not of general application (Jaccard and Dodge 2004, 240). Second, even when lower-order terms are included in the model, they are not of primary interest. Given an interactive hypothesis, Kam and Franzese further suggest not testing or interpreting the coefficients for the lower-order terms β_1 and β_2 in a model excluding the product term β_3 (2007, 46, 99). What follows from this is that significant effects for β_1 and β_2 in an additive model are neither a prerequisite nor consequential for testing β_3 in an interactive model. Moreover, as numerous authors have stressed, they are not interpretable as the "main effects" of β_1 and β_2 or the "effects of β_1 and β_2 in general" or the "average effects" of β_1 and β_2; models

including interaction terms do not allow for such an interpretation. Unlike strictly additive models, there is no equivalence of *coefficient* and *effect* in interactive models (Kam and Franzese 2007, 19). Strictly speaking, the lower-order terms in an interactive model indicate (to use the proximity-politics example) the effect of P on Y when D is 0, and similarly the effect of D on Y when P is 0 (Brambor, Clark, and Golder 2006, 71–73; Braumoeller 2004, 809; Edwards 2009, 146–148; Fox 2008, 133–134; Friedrich 1982, 821; Kam and Franzese 2007, 43–44).

While $P = 0$ is plausible in many of the model specifications (it simply reflects, say, the reference category for party identification or ideology), $D = 0$, meaning zero distance to the geographic feature of interest, is less plausible. As an empirical matter, zero distance does not appear in any of the data employed in this thesis, so such a result is of little substantive interest. This point on zero values has been made repeatedly in the methodological literature on interaction effects, though often followed with the observation that the value zero can be made meaningful by additive transformations of the data (Allison 1977, 145–148; Edwards 2009, 145–146; Jaccard 2001, 11–12). One such commonly used transformation is the mean-centring of continuous independent variables. This simply involves subtracting the arithmetic mean from the original scores, resulting in new scores with a mean of zero. Jaccard and Turrisi recommend this strategy as a way to "force the coefficients to reflect parameters that are of theoretical interest" (Jaccard and Turrisi 2003, 15). Mean centring thus gives the value zero the interpretation of a variable's pre-transformation mean. In addition to these theoretical considerations, Robinson and Schumacker (2009) also recommend mean-centring the independent variables to reduce collinearity between the lower-order and higher-order regressors comprising the interaction effect, though Edwards (2009) and Kam and Franzese (2007, 94–99) note that mean-centring otherwise has no impact on the estimation. I thus employ

this strategy in all four articles so that the reported regression results indicate the effects of party identification (and ideology) when distance measures (e.g., logged distance to the Canada–US border, the Keystone XL pipeline, or the US–Mexico border) are set to their mean values. Thus parameterized, the regression results also indicate the effect of distance when political factors are set to zero (e.g., when party identification or ideology is set to its reference category).

1.4.4 Interaction Effects in Linear versus Generalized Linear Models

In the past decade, the testing of interactions in models with dichotomous and limited dependent variables (such as logit models) has received a substantial amount of attention in econometrics and political methodology. This literature has been anything but unequivocal, resulting in sometimes competing prescriptions to applied researchers. Given that logit models (both binary logit and ordinal logit) factor prominently in the articles of the thesis, it is worth explicating at some length the two contrasting theoretical perspectives on logit models – one which conceives of logit models as *non-linear probability models*, and one which sees logit models as a case of the *generalized linear model*, and thus within the same framework as linear models – since the choice between these two perspectives on the same underlying statistical model has implications for how one tests interaction effects in such models. To state my perspective at the outset, I adopt the generalized linear model approach to logit models over the non-linear probability model approach.

A widely cited perspective originating in econometrics emphasizes the differences between linear and logit models, especially as it relates to testing interaction effects. While technically complex, the key claims of Norton and colleagues is that the logic of interaction from linear models does not carry over to logit models, and the statistical significance of an interaction effect cannot be

assessed using the coefficient and standard error of a product term. The reasons for this is that, as a "nonlinear model" where the dependent variable is constrained to the interval [0, 1], the value of the interaction effect depends on the values of all of the independent variables in the model, not simply the values of the variables involved in the specified interaction (Ai and Norton 2003; Norton, Wang, and Ai 2004). This is because the values of the other independent variables contribute to the predicted probability of the outcome, which can approach 0 or 1, reducing the effect of the interaction term. This phenomenon is known as "compression" (Berry, DeMeritt, and Esarey 2010; Berry, Golder, and Milton 2012; Tsai and Gill 2013). Further, compression is not accounted for in the coefficient or standard error of the product term typically reported by statistical software. The solution, from this perspective, is to calculate cross-derivatives to estimate the interaction and its statistical significance using specialized statistical procedures (Ai and Norton 2003; Norton, Wang, and Ai 2004).

An alternative perspective, more at home within social statistics and political methodology, emphasizes the underlying continuity between linear and logit models, and argues for an extension of the logic of linear models (and interactions in the case of linear models) to logit models. This approach follows the seminal work of McCullagh and Nelder, who argue that there is continuity between linear models and other regression models, such as logit, probit, and Poisson models, because they "share a number of properties such as linearity and have a common method for computing parameter estimates. These common properties enable us to study generalized linear models as a single class rather than as an unrelated collection of special topics" (1983, 1). McCullagh and Nelder explain that generalized linear models do not differ from linear models in their "systematic component" – the linear predictor (denoted by η, or eta). They differ only in their "random

component" – the measurement of the dependent variable – and in the link between the random and systematic components. That is, they employ different link functions – the identity link (for linear models) versus the logit, probit, Poisson, and other link functions (for generalized linear models) (McCullagh and Nelder 1983, 18–24).

Following the logic of McCullagh and Nelder's argument, Jaccard's widely cited treatment of interaction effects in logit models emphasizes the log-odds interpretation of logistic regression over the non-linear probability interpretation. He argues that focusing on log-odds "permits us to stay in the familiar terrain of the general linear model with the traditional interpretation of slopes and intercepts. For interaction models, it permits us to take the same general principles for analyzing interactions in traditional [that is, linear] regression analysis and apply them directly to log odds based models" (Jaccard 2001, 10–11). Also following directly from McCullagh and Nelder, Fox (2008), presents the latent-variable formulation of the binary logit model. This formulation posits an unobserved continuous variable denoted by ξ (or xi), where $Y = 0$ when ξ is at or below a threshold given by α; $Y = 1$ when ξ is above α. So while the observed outcome Y is dichotomous, the unobserved outcome ξ, which is the variable of theoretical interest, is continuous. The latent variable ξ can thus be assumed to be a *linear function* of the independent variables (Fox 2008, 343). This unobserved-variable formulation extends to the case of multiple ordered categories. This latent variable approach to ordinal logit models similarly posits an unobserved continuous variable ξ and expands the model to include multiple thresholds, given by $\alpha_1, \alpha_2, \ldots \alpha_{m-1}$, where m is the number of observed categories of Y. In this formulation, $Y = 1$ when $\xi \leq \alpha_1$, $Y = 2$ when $\alpha_1 < \xi \leq \alpha_2$, … $Y = m$ when $\xi > \alpha_{m-1}$. Importantly, ξ remains a *linear function* of the independent variables (Fox 2008, 363–366).

Stepping back from the statistical theory and mathematical notation, it is worth drawing attention to the differences in terminology employed by the two competing perspectives, namely the characterization of logit models as *non-linear* models versus *generalized linear* models. Part of the reason for the difference in terminology is the two perspectives' focus on different quantities of interest despite of their use of a common statistical model. The difference is between a focus on the probability of an outcome, $P(Y)$, versus the value of a hypothetical continuous latent variable, ξ, given an observed categorical measurement. As Rainey (2016) notes, the existing statistical literature has often not been clear which is the quantity of interest, even though the appropriate methods for testing interaction depend on the choice to focus on $P(Y)$ or ξ. If opting for the generalized linear model (log-odds or latent variable) approach, the specification and testing of interactions in binary and ordinal logit models are no different from the case of linear models. Berry, DeMerritt and Esarey (2010, 250) are clear on this point: "If one's hypotheses are about the effects of X_1 and X_2 on the unbounded latent dependent variable, the situation is fully analogous to the case of a continuous dependent variable model estimated with [linear] regression, and a [significant] nonzero product term coefficient is necessary for interaction." Tsai and Gill (2013, 97–98) are similarly clear in stating that where the researcher's interest is centred on an unbounded latent variable and not the probability of an event, then a model specification including a product term, following directly from conventional linear models, is both appropriate and sufficient for testing interaction.

Further, I contend that the latter perspective – focused on ξ, not $P(Y)$ – is more appropriate given my substantive focus on mass public opinion and the attitudinal survey data I rely upon. To be certain, political data provide a number of examples of dichotomous data that are naturally conceived and measured as

dichotomous – e.g., voting (voted versus did not vote), policy adoption (adopted or not), and conflict data (hostilities exist or do not). These are examples where modelling the probability of the occurrence of an event makes most sense. Focusing on $P(Y)$ in such instances accords with the presentation of limited dependent variable models in standard econometrics texts such as Wooldridge (2010).[3] In many cases, though – attitudinal survey data being a case in point – the dichotomous or ordered categorical coding of the dependent variables merely reflects the coarseness of measurement using survey-based measures of what remain best conceived as underlying continuous latent constructs – for example, preferences for closer (or more distant) Canada–US relations, support for (or opposition to) the Keystone XL pipeline, and preferences for more accommodating (or more restrictionist) immigration and naturalization policies. It is these unobserved, underlying constructs that remain the focus of theoretical interest, and not the observed categorical measures. For these reasons, I identify with the generalized linear model perspective represented by McCullagh and Nelder (1983), Jaccard (2001), and Fox (2008), and not the competing nonlinear probability model approach of Norton and colleagues (Ai and Norton 2003; Norton, Wang, and Ai 2004). My approach to specifying and testing interaction effects in logit models thus follows from the former approach, not the latter.

1.4.5 Testing Interaction Effects for Statistical Significance

As for testing the statistical significance of interaction effects, it is important to emphasize the need to examine omnibus tests of the interactions, and not rely solely on the coefficients and standard errors of individual interaction terms. This is

3. The more concrete orientation of the econometric approach focusing on $P(Y)$ is seen clearly in Wooldridge's contention that ξ (given as Y^* in Wooldridge's notation) as "an abstract construct" is therefore "of limited interest" (2010, 656).

because the interactions tested in each of the articles of the thesis involve polytomous (multicategory) variables. To illustrate, party identification is measured with two dummy regressors (for Independents and Republicans, contrasted to Democrats, the reference category) in the American case and with five dummy regressors (for Conservative Party, New Democratic Party, Bloc Québécois, other party and no party, contrasted to Liberal Party, the reference category) in the Canadian case. Tests of the party identification × distance interactions thus involve two and five degrees of freedom, respectively. In the case of linear models, the correct test of the statistical significance of such interactions involving multiple degrees of freedom is an *F*-test of hierarchical models (or incremental *F*-test). This involves comparing the R^2 statistics for the models excluding the interaction and including the interaction. A significant increase in R^2 (as determined by the *F*-test) is evidence of a significant interaction effect (Fox 2008, 135–140; Jaccard and Turrisi 2003, 11–12, 39–40; Knoke, Bohrnstedt, and Potter Mee 2002, 277). In the case of generalized linear models such as binary and ordinal logistic regression, the proper test of the significance of an interaction effect is a similar hierarchical (or incremental) likelihood ratio chi-square test. A significant increase in the model chi-square between the models excluding and including the interaction terms indicates a significant interaction effect (Fox 2008, 348–349).

1.4.6 Probing Interaction Effects

Even after identifying a significant interaction – as each article does – it must be further probed to clarify its substantive meaning. Different strategies exist to depict graphically the moderated relationship between the focal independent variable and dependent variable. The first strategy involves producing an effect plot highlighting the strength and direction of the relationship between the focal

independent variable and dependent variable at different levels of the moderator variable. The second complementary strategy involves producing a plot displaying the estimated coefficient for the focal independent variable (and its confidence interval) with the scores for the moderator variable centred at different values. This serves to highlight the regions of significance of the focal independent variable – that is, the range of values of the moderator variable over which the focal independent variable exerts a significant effect on the dependent variable. I shall refer to this type of plot as a coefficient plot. I discuss each in turn below.

The principle underlying effect plots (or effect displays) is to allow the variables comprising the interaction effect to range over their values while holding other variables constant at some typical value (such as their means) and then to use the regression equation to calculate the predicted value of the dependent variable. These predicted values are then graphed (Aiken and West 1991, 12–15; Fox 2008, 136–137). Some authors have sought to describe interaction effects by producing tables of the coefficients, standard errors and confidence intervals for the focal independent variable with the moderator variable set to a finite number of values; these might be the mean and one standard deviation above and below the mean, or other values that meaningfully correspond to "low," "medium" and "high" values of the moderator variable (Cohen et al. 2003; Jaccard and Turrisi 2003). This so-called "pick-a-point" approach (Rogosa 1980) has been criticized by proponents of more mathematically involved approaches (such as Johnson–Neyman techniques) for being somewhat arbitrary in the values of the moderator variable chosen, for choosing relatively few values to describe an interaction effect, and also for failing to determine precisely the range of values of the moderator variable over which the focal independent variable exerts a significant effect (Hayes and Matthes 2009).

The approach I favour draws on the intuitiveness of the "pick-a-point" approach while automating the process of calculating coefficients and confidence intervals for the focal independent variable using a large number of values of the moderator variable. Indeed, the macro capabilities of enterprise-grade statistical software such as SAS (SAS Institute 2014a) makes this quite feasible. In a sense, I use computer automation to pick *many* points covering the full range of values of the moderator variable. Full technical details of the implementation of this approach appear in Gravelle (2012). This approach also avoids the limitations of available tools implementing Johnson–Neyman techniques, which (at present) do not have the ability to accommodate data collected using complex sample designs – e.g., designs with sample stratification and poststratification weights. It is also motivated by the work of authors who have sought to use graphical techniques to depict the strength and direction of a moderated relationship while also representing the confidence intervals associated with model coefficients (Brambor, Clark, and Golder 2006; Braumoeller 2004).

In sum, linear and generalized linear models containing interactive relationships certainly require greater care and nuance in their interpretation than simply additive (or main effects-only) models, but they nevertheless remain interpretable when properly specified and tested, and also complemented with graphical displays such as effect plots and coefficient plots to assist in elucidating their substantive meaning.

1.5 A Note on Model Fit

It is also worth noting in advance the relative lack of discussion of overall model fit in the chapters to follow. This is to say that references to model R^2 statistics, or more frequently pseudo-R^2 statistics for generalized linear models, are

relatively brief (if referenced at all) and are reported mainly in keeping with the convention to report such measures as part of the results of regression analyses. There are well-founded reasons for not emphasizing (pseudo-) R^2 measures. First, there is no consensus within the statistics literature as to what pseudo-R^2 (or "R^2 analogue") measure ought to be used in the case of logit models (Lemeshow and Hosmer 1982; Hagle and Mitchell 1992; Menard 2000; DeMaris 2002; Tjur 2009). Second, and more importantly, there is a strong argument that overall model fit as assessed by R^2 in least squares regression (or a pseudo-R^2 measure in the case of logit models) is *not* an especially important criterion. Landmark statements in the political methodology literature have been especially clear in stating that values of R^2 are not the primary quantities of interest in assessing statistical models (King 1986; Achen 1982; Achen 1990). Following closely this literature, I take the position that overall model fit has little bearing on the validity of the inferences relating to the politics–proximity interactions tested in the substantive chapters of the thesis (or for that matter, any other hypothesis-driven quantitative study).

Misuse of model R^2 statistics is by no means restricted to political science (see Kvålseth 1985). Within political science, though, King has taken applied researchers to task for (among other transgressions) investing meaning into model R^2 statistics that they do not possess – for example, as a summary measure of the influence of all of the Xs on Y, as the proportion of "variance explained," or as the fit between the specified model and the true model. On these understandings, a high model R^2 is taken as an indicator of the correctness of the hypotheses being tested – and by extension, a low R^2 signals that one's hypotheses are not supported. In short, a high R^2 indicates a "good" model and a low R^2 indicates a "poor" model. King's rejoinder is direct: "All these interpretations are wrong" (1986, 677). Achen's is equally direct: "Nothing about R^2 supports these claims" (1982, 60). In linear models, R^2 measures

the spread of points around a regression line (or plane), but "[t]here is nothing intrinsically or politically interesting in the spread of points around a regression line" (King 1986, 676). In making this argument, King parallels Achen (1982, 58–61), who provides an example highlighting how the point clouds around a regression line from two samples can yield very different R^2 values depending on the variances of Y. This leads Achen to similarly view R^2 as used in much quantitative social science research as a "meaningless accident of the sample" and "useless for drawing inferences about causal strength or substantively meaningful goodness of fit" (1990, 180, 183). What matters for hypothesis testing and statistical inference are the unstandardized regression coefficients and their standard errors, not R^2. Thus, "it makes little sense to base decisions on a statistic that, for most social science applications, measures nothing of serious importance. 'Explaining variance' is not what social science is about" (Achen 1982, 61). King is equally clear on this point: "If your goal is to get a big R^2, then your goal is not the same as that for which regression analysis was designed. The purpose of regression analysis and all of parametric statistical analyses is to estimate interesting population parameters (regression coefficients in this case)" (1986, 677).[4]

These critiques of the uses of R^2 have less to do with its statistical properties than with some applied researchers' "fixation on fit" to the detriment of testing specific hypotheses (Luskin 1991, 1041). According to King (and others), political scientists ought to pursue the estimation of specific causal effects, rather than attempt to uncover the "true" model or "full" explanation for some phenomenon. (King 1991). Rather, in keeping with the principle of Occam's razor, a good model ought to be a parsimonious one. A "model is necessarily (and preferably) an

4. King, however, fully recognizes the use of R^2 in testing nested models (1986, 677), as discussed above in section 1.4.5.

abstraction and thus a drastic simplification" of a given social process, and a good research design ought to "focus on a small number of particularly important research questions" (King 1991, 1048). As both King (1986) and Luskin (1991) have noted, model fit can always be increased by adding additional independent variables, particularly those closely conceptually related to the dependent variable, though such a strategy is unlikely to advance substantive theory. Such a strategy also runs the risk of becoming what Achen has derisively labelled a "garbage can" approach to regression modelling: "we treat the independent variable list as a garbage can: Any variable with some claim to relevance can be tossed in. […] It is certainly easy: We just drop variables into our mindless linear functions, start up our computing routines, and let 'er rip" (2005, 329). The alternative is to keep the number of explanatory factors short (Achen 2002, 445–447).

Berry and Feldman also note that some might contend that low R^2 values are clear evidence of specification error, and that important independent variables have been excluded from the model. However, "a low R^2 does not necessarily indicate that theoretically relevant independent variables have been excluded." Other potential causes of low R^2 values include measurement error (Berry and Feldman 1985, 25). Acknowledging measurement error is particularly important when working with survey data (as this thesis does), and particularly when relying on single survey items to measure concepts of interest.

There is therefore a tension between approaches to modelling political data that seek to maximize model fit by including many potential explanatory variables and those that choose to focus on a small number of independent variables and their parameter estimates, setting aside issues of overall model fit. This contrast is usefully described by Hagquist and Stenbeck (1998) as the difference between a "factor orientation" and a "model orientation" to regression analysis. While model-

oriented approaches are framed in terms of "what explains Y?" and endeavour to include as many independent variables as needed to explain the dependent variable, factor-oriented approaches are framed in terms of "what is the effect of X on Y?" or "how does Z modify the effect of X on Y?" and often involve testing a small number of model parameters while also possibly including potentially confounding effects (Hagquist and Stenbeck 1998). Given such a factor orientation, measures of model fit are not centrally important. Hagquist and Stenbeck are clear on this point: "In factor oriented linear or logistic regression on individual data goodness of fit is not applicable. The fit of the model must be evaluated only against the specific part of the variation which is relevant to the subset of effects of interest. An overall test of the model fit is too general for this purpose and does not answer the right question" (1998, 231).

The preceding discussion of this chapter makes clear my factor orientation (as opposed to a model orientation) in Hagquist and Stenbeck's terms. My focus on the politics–proximity interaction can be expressed as "how does spatial proximity to relevant geographic features modify the effects of political variables on policy attitudes?" The relevant tests, then, are tests of *P*, *D*, and particularly *PD* (as discussed above in section 1.3.5). Overall model fit – whether R^2 for linear models or pseudo-R^2 measures for generalized linear models – are neither the focus of my analysis nor a relevant criterion for evaluating the results. What matters are the coefficients and standard errors for *P*, *D*, and *PD*.

1.6 Geocoding Survey Data and Distance Calculations

Given the theoretical importance attached to proximity and distance in this thesis, and given that spatial data do not commonly appear in political behaviour research, it is worth expanding on the brief discussions of the geocoding and distance calculation methods contained in the articles. Here, I describe in greater detail how the survey data are geocoded and why the appended latitude–longitude ought to be accepted as valid approximations of survey respondents' true locations. I similarly expand on how distance calculations are performed, and further why the type of straight-line distances used in all of the articles is a valid measure of true distance.

Geocoding is defined as the process of assigning geographic coordinates (typically latitude–longitude coordinates) to locations (Karimi, Durcik, and Rasdorf 2004). In this case, the locations of interest are survey respondents' places of residence, and the spatially-referenced data associated with their places of residence – their ZIP code or postal code, county, etc. – are used to characterize their locale in terms of their distance to relevant geographic features (and in chapter 5, also their demographic context). The ease of geocoding various data has been increasing in recent years, and is largely due to expanded and continually-improving features in both industry-standard geographic information systems (GIS) software such as ArcGIS as well as statistical packages such as SAS (SAS Institute 2014b).

While ease of use of such geocoding tools is one consideration, the accuracy of the appended latitude–longitude coordinates is another. Several studies of geocoding results from the fields of epidemiology and public health find high location accuracy and precision when full street addresses are available (Krieger et al. 2001; McElroy et al. 2003; Whitsel et al. 2004). This provides little assurance,

however, to those conducting secondary analyses of survey data where the best available, most granular geographic codes are typically larger geographies such as US ZIP codes, US county FIPS codes, or Canadian postal codes or postal code forward sortation areas (FSAs, the first three characters of a six-character postal code). More precise spatially-referenced data are often not obtainable, owing to the need to protect respondent confidentiality. Using such codes to assign latitude–longitude coordinates in the absence of full street addresses are referred to as "approximation methods" of geocoding; such methods are also called "areal geocoding" since the assigned coordinates are based on a larger area (Armstrong and Tiwari 2010, 18–19; Gutmann et al. 2007, 52). The extant research indicates that such areal geocoding methods still provide reasonably accurate results. Empirical research has found that the distances between true (address-geocoded) locations and ZIP code-based geocodes were modest: the median error was 3.5 kilometres (2.2 miles) (Hurley et al. 2003). Further, simulation research has found that the differences (mean absolute error) between address-geocoded and ZIP code-geocoded locations used in calculating distances are similarly modest, with urban areas exhibiting smaller error errors than rural areas (Berke and Shi 2009). In short, the areal geocoding methods relied upon in the articles comprising this thesis produce coordinates containing an element of error, but these are nevertheless usable measures of location, and further fit the purpose for which they are used.

The task of calculating distances between survey respondents' geocoded locations and geographic features of interest (such as the nearest border crossing, the frontier line or an oil pipeline route) for each survey respondent can be accomplished in one of two equivalent ways. First, one can iteratively calculate the distance to each point comprising the geographic feature (e.g., each Canada–US border crossing) and take the minimum of these distances. This method quickly

becomes cumbersome when, for example, the route of the Keystone XL pipeline is represented by several thousand quarter-mile markers. A more efficient method is to use a common database language SQL (Structured Query Language) to create a Cartesian join between the individual-level survey data and the geographic feature data set where every respondent record is joined to each point in the geographic feature data set. This procedure "expands" the survey data set – for example, assuming a survey data set of 1,000 geocoded respondents and 1,000 latitude–longitude coordinates in the geographic feature data set, the Cartesian join between the two will create a new table of 1 million (1,000 × 1,000) rows, one for each respondent–feature coordinate combination. This new table can be re-aggregated by respondent identifier, selecting the minimum distance value for each respondent. A dialect of SQL is implemented in SAS software (SAS Institute 2013).

It is worth noting briefly that the pairwise distance calculations performed in this process rely on the Vincenty (1975) algorithm. This algorithm is the most appropriate method for calculating geodetic distances potentially spanning several hundred (or perhaps a thousand or more) kilometres, since it accounts for the curvature of the surface of the earth, whereas simple two-dimensional Euclidean distances do not. The Vincenty algorithm is also built in to the function for geodetic distances in SAS (SAS Institute 2014c, 532–534).

Finally, it is important to acknowledge that distances based on the Vincenty algorithm remain a type of straight-line (or "as the crow flies") distance, which is invariably an underestimate of travel distances over road networks. Road travel distances could also be argued to better reflect how individuals experience distance. There are two principal reasons for continuing to use straight-line distances. As noted briefly in the first and second articles, straight-line distances have been shown to be a near perfect substitute for actual road travel distances: Boscoe and colleagues

(2012) report a bivariate r^2 statistic of 0.94 for the two distance measures. Additionally, as a practical matter, calculating distance to the border as a straight-line distance is also infinitely simpler and faster in terms of computing: it is the difference between executing a Cartesian join (as described above) versus making repeated calls to a Google Maps or Mapquest application programming interface (API), once for each respondent and each border crossing – that is, several million API calls in total for all of the data sets employed in this thesis. In essence, the choice between straight-line distance and road distance is a choice between seconds of computing time versus hours (possibly even days) for little marginal benefit. Straight-line methods have the further benefit of being easily replicable: given the same survey data, geocoding procedures and feature data, one will reproduce the distance calculations exactly. This cannot be assumed with API-based methods, since most commercial APIs undergo periodic updates.

1.7 Conclusion

This introductory chapter has thus laid the foundation for the four substantive chapters that follow. It has articulated the core hypothesis of the thesis – the expectation that the effect of political variables (party identification, ideology) on policy attitudes is moderated by proximity to relevant geographic features. This interactive relationship may operate according to one of two dynamics. Proximity to relevant features (e.g., the Canada–US border or the US–Mexico border) may amplify partisan differences by making a given policy issue (e.g., Canada–US relations or immigration policy reform) more salient, or proximity may mute such political differences, where issue awareness, knowledge, or local economic benefits act to dampen ideological effects. Which dynamic prevails is a matter for careful, context-specific theorizing.

This introduction has also rooted the politics–proximity interaction in the tradition of spatial social science – a tradition that can be traced from classical social theory, specifically, in Durkheim's (1899; 1978a) concept of social morphology, to the current literature on spatially integrated social science within geography (Goodchild et al. 2000; Goodchild and Janelle 2004; Goodchild and Janelle 2010). In outlining this synthetic, multidisciplinary tradition, I have positioned the project of this thesis as one that endeavours to advance spatial social science within the fields of public opinion and political behaviour. Specifically, I adopt its orientation toward contextual explanations of human behaviour, and draw on the concepts of space (as an abstract relation between two objects) and the related concepts of proximity and distance in articulating my hypotheses. I also take inspiration from figures such as Key (1949) who sought to depict the spatial dynamics at work in political behaviour through maps. I similarly borrow tools from geographic information science, namely geocoding, calculating geodetic distances, and mapping techniques.

In articulating the politics–proximity interaction, this introduction has shown how it is motivated by not only the tradition of spatial social science, but also by current empirical social science that has found "proximity effects" on policy attitudes in variety of substantive domains, including attitudes European integration (Berezin and Díez Medrano 2008; Díez Medrano 2003; Kuhn 2011), US–Mexico border issues (Branton et al. 2007; Branton and Dunaway 2009a; Branton et al. 2011), and attitudes toward the siting of energy infrastructure – sites which carry with them both potential benefits and risks (Ansolabehere and Konisky 2014; Franchino 2014; Greenberg 2009; Michaud, Carlisle, and Smith 2008; E. R. A. N. Smith 2002). The chapters of this thesis thus aim to contribute to this contemporary literature by examining attitudes in three policy areas of real-world political

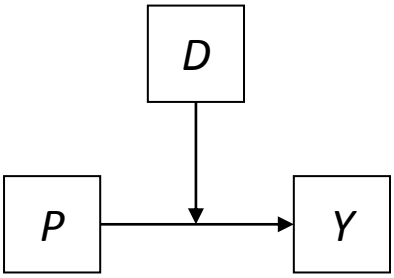
relevance: Canada–US relations, the Keystone XL pipeline, and immigration reform in the US.

This introduction has also discussed at length a number of theoretical and statistical topics that recur throughout the thesis, namely the specification, testing, and probing of interactive (moderated) relationships in linear and generalized linear models, and the interpretation given to measures of overall model fit. To restate briefly some of the key positions taken, when working with public opinion survey data, the political methodology and social statistics literatures point to an essential continuity between interactive relationships in linear models and in generalized linear models (such as binary logit and ordinal logit). When opting for limited dependent variable (or categorical) modelling approaches due to no other reason than the coarseness of the survey-based measurement of the dependent variables (as opposed to an interest in the probability of a specific observed outcome), the testing of interactions is no different from the case of linear models (Berry, DeMeritt, and Esarey 2015; Fox 2008; Jaccard 2001; Tsai and Gill 2013). Also, assessments of overall model fit, whether R^2 with linear models or pseudo-R^2 measures with logit models, are not a central consideration, as these are not statistics with substantive importance. Rather, what matter for the purpose of advancing social science are the unstandardized regression coefficients and their standard errors (Achen 1982; Achen 1990; King 1986).

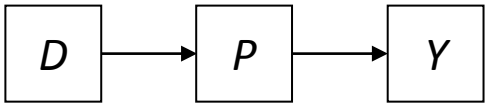
With these preliminaries in place, I can turn to the project of explicating what blue-furred Grover from Sesame Street always knew – that there is an important difference between *near* and *far*.

Figure 1.1: Moderation versus Mediation

(a) Moderation



(b) Mediation



2. Love Thy Neighbo(u)r? Political Attitudes, Proximity and the Mutual Perceptions of the Canadian and American Publics[1]

2.1 *Abstract*

There has been renewed interest in recent years in both the foreign perceptions of the United States as well as the foreign policy attitudes of the American public. In this light, it is interesting to observe that there is a substantial body of research on Canadian public opinion toward the United States but relatively little on American public opinion toward Canada. Further, most literature neglects the effect of spatial proximity to the other country on perceptions. This article addresses both shortcomings in the literature. It investigates the mutual perceptions of the Canadian and American publics drawing on public opinion data from both Canada and the US. The explanation of attitudes toward the other country has three main foci: the roles of political party identification and political ideology; the role of spatial proximity to the Canada–US border; and the interactive relationship between political attitudes and border proximity.

2.2 *Introduction*

One of the best-known (and most often recited) quotes in the study of Canada–United States relations is that "Americans are benevolently ignorant about Canada" while "Canadians are malevolently well informed about the United States" (Brebner 1945, 3). Though now verging on cliché, this nevertheless serves as a useful starting point for considering the mutual perceptions of the Canadian and American publics, since it draws our attention to the positive (or benevolent) and negative (or malevolent) dispositions at play. To be sure, the reciprocal perceptions of Canadians and Americans reported in the news media vary widely. Consider, for example, the

1. Originally published as Gravelle (2014b).

contrast between the March 2003 *Wall Street Journal* letter by then-Canadian Alliance opposition leader Stephen Harper criticizing the Liberal government's refusal to join the invasion of Iraq, writing "in our hearts and minds, we will be with our allies and friends" and former Liberal Member of Parliament Carolyn Parrish's infamous "Damn Americans" comment in February 2003. Consider also the contrast between US President Barack Obama's statement "I love this country" in Ottawa in February 2009 and cable news pundit Pat Buchanan's pejorative "Soviet Canuckistan" remark in 2002. Given such declarations of both benevolence and malevolence, the question remains – what factors shape Canadians' views of the United States and Americans' views of Canada?

The answer to this question is consequential. Canada–US trade represents the largest bilateral trading relationship in the world. The two countries' shared geography also implies shared threats to their security and common environmental challenges. By the same token, foreign policy is developed and implemented within a context (in part) shaped and constrained by public opinion (J. H. Aldrich et al. 2006; Soroka 2003). Put another way, analysts of Canada–US relations ought to pay attention to public opinion (and its causes) because policy makers do in formulating policy.

In spite of the importance of the topic, there are substantial gaps in our knowledge of Canadian and American perceptions. A corollary to the asymmetries in power and mutual dependence between the US and Canada noted by numerous authors (Hale 2012; Keohane and Nye 1974; Lennox 2009; Von Riekhoff and Neuhold 1993) is the asymmetry that exists at the level of mass public opinion. Sigler and Goresky (1974, 637) observed forty years ago that Canadian public opinion polls routinely feature questions about Canadian–American affairs. On the other hand, Canada rarely appears as a topic in American polls. Arguably, this

remains the case today, and reflects a tendency toward "cognitive isolationism" on the part of the American public and news media (Brooks 2006, 15). In sum, we know more about what the Canadian public thinks of the US than we know about what the American public thinks of Canada.

The existing public opinion research literature dealing with Canadian–American affairs is further limited in that it has not accounted for *space*. It is widely acknowledged that the trade, travel and personal ties that constitute the day-to-day reality of Canada–US relations are spatially concentrated near the Canada–US border. As Clarkson notes, cross-border interactions in the Canada–US context "are so intense that the notion of 'borderlands' has been coined" to describe those cross-border communities "that have more in common with each other in certain respects that they have with other parts of their national jurisdiction" (2008, 134). Tight bonds persist in binational communities as diverse and far-flung as Stanstead, Quebec–Derby Line, Vermont, and Hyder, Alaska–Stewart, British Columbia (Peritz 2009; J. O'Connor 2013). These observations support the expectation that border proximity matters. Nevertheless, spatial proximity to the other country has not factored into analyses of mass public opinion on this topic. This omission is even more conspicuous in light of the place of proximity as an analytical concept in spatial approaches to social science (reviewed in chapter 1). Are such spatial dynamics at work in the Canadian–American context?

In this article, I aim to contribute to the research literatures on both themes by exploring the mutual perceptions of the Canadian and American publics, paying particular attention to the effects of proximity to the Canada–US border (on one hand) and political party identification and political ideology (on the other) on attitudes toward the other country. My focus in this article is on the *general* impressions of the two publics toward the other country as opposed to attitudes

toward Canada–US relations or more specific policy attitudes such as trade or security co-operation. (Canadian attitudes toward Canada–US ties is the focus of chapter 3.) The remainder of the article is structured as follows. I first review the existing research on Canadian public opinion toward the US and American public opinion toward Canada while pointing out some of its limitations. I then motivate my hypotheses relating to, first, political party identification and political ideology, second, proximity to the Canada–US border, and third, the *interaction* between border proximity and political variables. Next, I present the survey data employed in this study, namely the Canadian Election Studies (1997–2011) and data drawn from the Gallup Poll (2001–2011), and discuss relevant aspects of the methodology, including the measurement of border proximity. I then present the results from a series of regression models before offering some concluding remarks on potential avenues of inquiry for future studies.

2.3 *Canadian Public Opinion toward the US and American Public Opinion toward Canada*

Views of the US – both positive and negative, and the competition between the two – have held a central place in Canadian politics dating back to the pre-Confederation era.[2] As Inwood notes, "Positions on the United States – both pro and con – are fundamental to Canadian discourse" (2005, 23). Indeed, as a function of geography and the circumstances of its historical development, anti-American and pro-American sentiments have both a longer lineage in Canada than anywhere else

2. This review of Canadian views of the US and American views of Canada focuses on mass public opinion. For studies focusing on elite opinion, see Alper (1980), Doran and Sewell (1988), and Kirton and Bothwell (1983; 1985; 1986). There is also a rich literature in the field of political culture comparing Canada and the US (Adams 2003; Grabb and Curtis 2005; Lipset 1990; Nevitte 1996). The central questions of this literature, namely, how the values and patterns of political behaviour of the Canadian and American publics differ and whether they are converging, are different from the one taken up here, that is, what the Canadian and American publics think of *each other*.

in the world (Granatstein 1996; Nossal 2008).[3] Still, research on Canadian mass public opinion toward the US has tended to focus on policy issues, such as investment and trade, rather than general impressions of the US. Rising concern about American investment in Canada in the 1970s led to research showing that the Canadian public was divided on the questions of investment from and closer ties with the US (Munton and Poel 1977; Murray and Gerace 1972; Murray and Leduc 1976; Sigler and Goresky 1974). With the shift in the policy agenda in the 1980s and 1990s from foreign investment to free trade, public opinion research followed suit. Polls reporting Canadians' attitudes toward, first, the Canada–US Free Trade Agreement and, later, the North American Free Trade Agreement, demonstrated that Canadian public opinion on the trade agreements was volatile, with support decreasing as an agreement drew nearer (Dasko 1986; Mendelsohn and Wolfe 2001).

While the study of Canadian attitudes toward the US during the 1970s, 1980s and 1990s was a largely Canadian endeavour, the terrorist attacks of September 11, 2001 created a renewed (and broader) interest in the attitudes of foreign publics toward the US. The years since the 9/11 attacks have seen a number of important studies of attitudes toward the US, and with many of them presenting Canadian data (Brooks 2006; Chiozza 2009; Holsti 2008; Katzenstein and Keohane 2007a; Kohut and Stokes 2006). Based mainly on aggregate survey data, these studies generally paint the picture of a Canadian public with favourable views of the US and a strong affinity for American democratic ideas and popular culture, but with less attraction to American business practices. Considered in cross-national perspective, the Canadian public is often shown to be among the most positive in its

3. Different definitions of "anti-Americanism" have been proposed (see Doran and Sewell 1988, 106–108; Granatstein 1996, 4; Nossal 2008, 130). Here, I follow the minimal definition offered by Katzenstein and Keohane who define anti-Americanism as "a psychological tendency to hold negative views of the United States and of American society in general" (2007b, 12) or even more simply as "the expression of negative attitudes toward the United States" (2007b, 12).

attitudes toward the US. These studies do repeatedly note, however, that Canadian attitudes became more negative in the mid-2000s, coinciding with the Iraq War.

Given the volume and long lineage of research on Canadian attitudes toward the US, the literature on American attitudes toward Canada is relatively thin. A series of studies conducted by the Chicago Council on Foreign Relations during the 1980s and 1990s found that 90 to 96 percent of American policy elites thought that the U.S. had a vital interest in Canada, a view shared by 70 to 78 percent of the American public.[4] It is worth noting that the Canada–US Free Trade Agreement did not generate the level of political debate in the US that it did in Canada and so did not generate the same kind of public opinion polling. Polls did, however, proliferate in the 1990–1992 period with the contemplated extension of the free trade zone to Mexico under NAFTA, especially in the lead-up to the 1992 Presidential election. Most analyses of American attitudes toward NAFTA during this period have been oriented toward Mexico and not Canada owing to the survey data available (Bennett 2004; Rankin 2004; Warf and Kull 2002). One exception is the study by Inglehart and colleagues (1996) of the social values among the three North American publics (Canada, the US and Mexico) that found that majorities in Canada and the US expressed trust in and desired closer ties with the other country. Research on American public opinion toward Canada in the post-9/11 time frame is equally scarce. A notable exception is Katzenstein and Keohane's discussion of American attitudes toward allied countries in the years immediately before and after 9/11. They note that a majority of the American public consistently viewed Canada as "a close ally" or "a friend" between 1999 and 2004, though the proportion who held this view declined in the 2002–2004 period, which Katzenstein and

4. Archived reports are taken from www.thechicagocouncil.org.

Keohane plausibly attribute to the decision of the Canadian government not to send troops to Iraq (2007a, 17–18).

To summarize, the literature on Canadian and American public opinion toward the other country – much like the substance of Canada–US relations themselves – is asymmetrical. Much more attention is paid to the topic on the Canadian side of the border. Another gap in the literature is the neglect of the role of proximity to (or distance from) the other country in shaping attitudes toward that country. The existing literature proceeds as though Canadian and American attitudes come from "nowhere." This maintains even though the previously noted networks of trade, personal and business travel, and the social ties of family and friendship that constitute the everyday reality of Canada–US relations are concentrated near the border. This points to the need for a spatially informed approach to Canadian and American mass public opinion.

2.4 *Hypotheses: Political Attitudes, Border Proximity and Their Interaction*

It is a well-established finding that mass public opinion on a range of subjects is shaped by political party identification and political ideology. As Zaller (1992) has argued, partisan cleavages in mass public opinion are often a function of cleavages in elite opinion: when a partisan or ideological cleavage exists at the elite level, the politically attentive segments of the mass public mirror the opinions of those elites with whom they have a partisan or ideological affinity. There are good reasons to expect Canadian and American mutual perceptions to be congruent with this research and to exhibit such partisan and ideological cleavages.

In the Canadian context, public attitudes toward the US are influenced by the "filtered image of the United States provided by interpreters of that country" with political leaders among the primary interpreters (Brooks 2008, 31–32). Ample

evidence of this is found in Canadian electoral politics. Though the partisan dynamics have not been constant over time, in federal elections over the past 25 years, parties of the centre and left have shown less affinity for American values and culture, have often staked out policy positions less inclined toward greater Canada–US co-operation, and have occasionally invoked anti-American sentiment for political gain. Parties of the right have been more pro-American and more "continentalist" in their stances, seeking to strengthen Canada–US ties (Granatstein 1996; Inwood 2005; Nossal 2008). The theoretical expectations that follow from this are that the Canadian mass public ought to interpret such "elite cues" through the lenses of their pre-existing partisan and ideological attachments (Zaller 1992). I expect the Canadian public to structure its attitudes toward the US accordingly; Canadians who identify with the Conservative party ought to hold the most positive feelings toward the US, followed by Liberal party identifiers, and NDP and Bloc Québécois identifiers should have the least positive feelings toward the US. Similarly, Canadians who identify as left wing should tend to have less positive feelings toward the US than those who identify as right wing. A number of previous studies have found research on Canadian public opinion toward Canada–US relations has found precisely these types of effects of political factors (Bennett 2004; Munton and Poel 1977; Nevitte, Anderson, and Brym 2002; Sigler and Goresky 1974).

In the American context, there is reason to expect the same dynamic. Brooks writes that there are both positive and negative images of Canada current in American political discourse, and that they similarly divide along partisan and ideological lines. The positive view of Canada held by American liberals began to form in the 1970s in which Canada was perceived as "a social democratic refuge, a model of what the United States could and should be. Canada acquired the role of a

sort of nirvana north" (Brooks 2008, 38). This positive image of Canada has been joined more recently by a competing negative image advanced by Republican elites in Congress and the conservative-leaning news media. It stems from an aversion to developments in Canadian society such as same-sex marriage, as well as perceptions that Canada is a security free-rider and a security risk in terms of its border with the US (Brooks 2008; Gecelovsky 2006). I contend that it is reasonable to expect that such elite attitudes about Canada will carry over to mass public opinion. Consequently, I expect than Democrats (and self-reported liberals) will be more favourable toward Canada than Republicans (and self-reported conservatives).

It is less apparent that public opinion in the Canadian–American context ought to show effects of proximity. This hypothesis, however, can be advanced by pointing to strands of social scientific inquiry that highlight how proximity shapes political phenomena. Surveying these different strands of thought, it becomes clear that proximity serves to encapsulate or perhaps act as a proxy for a range of social processes including interpersonal contact, cross-cultural interaction and economic exchange. As Eagles (2002, 206) argues, such spatial or contextual measures usefully "stand as proxies for other social or political processes hypothesized to have political consequences." One such strand of inquiry is found in the seminal work of Allport (1954), in particular his intergroup contact hypothesis, which has become a cornerstone of social-psychological research on group relations (see Pettigrew 1998). Though primarily concerned with race relations in the US, Allport's work nonetheless offers insight into the dynamics of group relations more generally, including perceptions of other nationalities. In discussing the effect of contact on attitudes and beliefs toward another group, Allport concludes that the available evidence points to a positive correlation between greater interaction with members of a group and positive attitudes toward that group. Some forms of contact,

however, are likely to shift attitudes in a negative direction, for example, when a particular resource (such as housing) is scarce (1954, 268–276). Allport nevertheless concludes that the likelihood of intergroup contact reducing prejudice is high.

The implication of the intergroup contact hypothesis, then, is that proximity to a group (since contact can only occur in close proximity) is likely to lead to more positive impressions of that group. Dealing with much of the same subject matter as Allport, Blalock (1966) similarly concludes that prejudice is often a function of intergroup competition. In articulating his intergroup competition hypothesis, Blalock argues that increased contact between groups may lead to heightened perceptions of competition for resources and thus more negative other-group impressions (Blalock 1966, 72–108). The intergroup contact and intergroup competition hypotheses thus generate opposing predictions best adjudicated through empirical research. Still, they stand on common ground insofar as both predict that contact (and by implication proximity) will exert an effect on other-group attitudes; they differ with respect to the predicted *direction* of the relationship between contact and other-group attitudes.

Another relevant strand of inquiry from the study of international politics is offered by Karl Deutsch. In his seminal works on international integration, Deutsch and colleagues are concerned with nothing less than "possible ways in which men some day might abolish war" (1957, 3). It is in this context that he develops his transactionalist theory and the related concept of security community. Deutsch defines a security community as a group that has become integrated, meaning that they have attained a sense of community and have, as a minimum, agreed that common problems ought to be resolved through peaceful means (1954, 33; Deutsch et al. 1957, 5). In studying the formation of security communities, Deutsch argues that transactions, contact and communication – often at the individual level – hold

the key to the successful creation of a security community and a type of "we feeling." For example, Deutsch and colleagues observe that the development of security communities is aided by the existence of a wide range of mutual transactions, evidenced by "all sorts of interactions – written and spoken messages, face-to-face contact, and dealings such as trade" (1957, 144). Also important are strong links of social communication, the mobility of persons and strong economic ties between the respective political units (Deutsch et al. 1957, 149–152, 157–158). What is more, these phenomena were seen as being a function of distance: "The density of transactions – visits, messages, interactions, general human contact – diminishes with distance" (Deutsch 1966, 98; also see Deutsch 1954, 59). In this way, Deutsch presages later work on social networks using methods originating in statistical physics, and which finds a "gravitational law of social interaction" – specifically, an inverse relationship between social interactions and spatial distance (Levy 2010; Levy and Goldenberg 2014).

Beyond such classic works in psychology and international politics, one also finds a number of recent empirical studies of public opinion that adopt a spatial perspective and conclude that public attitudes are shaped by proximity and distance to relevant geographic features. This recent research has had two distinct foci: attitudes toward European integration, and – somewhat fortuitously – attitudes toward US–Mexico border issues. Examining attitudes toward European integration, Díez Medrano (2003, 243–246) finds significant effects of residing in a region bordering another European Union member state and the distance to Brussels (the symbolic "centre" of the EU) on support for EU membership: those residing in a border region are more likely to favour EU membership as are those residing in closer proximity to Brussels. Berezin and Díez Medrano (2008, 18–22) similarly find those residing closer to Brussels are more likely to say they would

experience regret were the EU to dissolve. Recalling the theoretical strands discussed above, Berezin and Díez Medrano conclude that distance matters "because it takes time to get there, but also because our visualization, our perception, of the space in between" exert effects on "our emotions, our beliefs, our attitudes, and, eventually, our behaviour" (2008, 22–23). Drawing explicitly on Allport and Deutsch for her theoretical framework, Kuhn finds that residing in a border district has a significant effect on public attitudes toward European integration in Germany, but not in France. Further, Kuhn finds that this border effect is mediated by having transnational ties such as having engaged in cross-border shopping and socializing with nationals of other EU countries (2011, 103–109). Kuhn's findings are noteworthy in two respects. First, they provide confirmation of some of the mechanisms through which proximity exerts its effects on political behaviour, namely interpersonal contact and economic exchange. Second, they demonstrate that the effect of proximity varies across national contexts (present in Germany but absent in France). It is therefore an open question as to whether the effect of proximity can be found (or not) in other national contexts.

Recent scholarship has also found "border effects" at work in American public opinion on immigration. Motivating their research by referencing the intergroup contact and competition theories, Branton and colleagues (2007) find that proximity to the US–Mexico border affects voting behaviour on state ballot initiatives in California to deny social services and education to illegal immigrants (so-called "nativist" ballot initiatives). This research is notable in that it identifies an interaction effect between political party identification and border proximity; the effect of partisanship is only observed in places distant from the US–Mexico border, where Democrats are less likely to vote for nativist ballot initiatives than Republicans; Democrats and Republicans in close proximity to the US–Mexico

border are equally likely to vote for nativist ballot initiatives. Dunaway and colleagues (2010) find that identifying illegal immigration as the "most important problem" facing the US is partly shaped by residing in a US–Mexico border state. This research similarly finds an interaction involving border state residence; the effect of media coverage of immigration issues on immigration attitudes is stronger among residents of non-border states than border states.

But does it in fact hold that proximity serves as a proxy for contact? A test of the plausibility of this assumption might comprise an analysis of the cross-border travel of Canadians and Americans with particular attention to their places of residence and their travel destinations. If proximity to the Canada–US border acts as a proxy for contact, one ought to find that Canadians (and Americans) residing closer to the Canada–US border are more likely to travel to the other country. In keeping with Hawley's notion of the "friction of space" (1950), an additional expectation is that Canadians are more likely to visit areas of the US close to the border – that is, within easy travel distances (and vice versa).

These expectations are readily tested using data from the Statistics Canada International Travel Survey (ITS), a large-scale, ongoing, probability survey of Canadians travelling abroad and international travellers to Canada (including travellers from the US).[5] Inspired by the work of V.O. Key (1949) who used maps to visually depict spatial relationships, maps of the 2013 ITS data (the most recent data

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5. Interestingly, there is no American equivalent to the ITS produced by Statistics Canada measuring Canada–US travel flows. Rather, the US International Trade Administration, an agency of the US Department of Commerce, relies upon ITS data provided by Statistics Canada.

A similar analysis might also be undertaken with export and import data, following Deutsch's (1957) claim that trade relations are an important form of interaction between groups (or states). Unfortunately, trade data for US exports to Canada are available only for the top 15 exporting MSAs (J. Hall 2015). Data for all MSAs are not made publicly available due to confidentiality considerations (personal communication with Jeffrey Hall, International Trade Administration, US Department of Commerce, 9 July 2015). Data on Canadian exports to the US are not publicly released at the CMA/CA level. These data limitations preclude an analysis of the correlation between trade (export) volumes and proximity to the Canada–US border.

available) allow for a visual confirmation that areas more proximate to the Canada–US border have greater cross-border travel (and thus cross-border contact). The map presented in Figure 2.1 demonstrates that in 2013, large absolute numbers of Canadian visitors originated from Canada's largest population centres – namely, the Toronto, Vancouver and Montreal census metropolitan areas (CMAs) – but smaller population centres such as the CMAs and census agglomerations (CAs) of St. Catharines–Niagara, Windsor, Sarnia, and Sault Ste. Marie (in Ontario), Abbotsford–Mission and Victoria (in British Columbia), and Edmundston (in New Brunswick) – all areas in close proximity (or adjacent) to the Canada–US border – also generated large aggregate numbers of cross-border travellers.[6] Cross-border visits and distance to the Canada–US border also show a strong inverse relationship when measured statistically: the aggregate (CMA/CA-level) correlation between total cross-border visits and distance to the Canada–US border (using the CMA/CA centroid) in logged kilometres is –0.49 ($p < 0.001$).[7]

Examining visits per capita (allowing for a more direct comparison between less-populated and more-populated areas) of the concentration of cross-border travel mapped in Figure 2.2, one finds an even clearer pattern. Within Canada, places closer to the Canada–US border generated more cross-border visits per capita than those further away in 2013. Indeed, places located close to or directly on the Canada–US border – such as Edmundston (in New Brunswick), St. Catharines–Niagara, Windsor, Sarnia, and Sault Ste. Marie (in Ontario), Cowansville (in Quebec), Estevan (in Saskatchewan) and Vancouver (in British Columbia, whose

6. It should be noted that the areas with no data in Figures 2.1 and 2.2 reflect areas outside Canada's CMAs (with populations of 100,000 or more) and CAs (with populations between 10,000 and 100,000). Owing to the fact that no geographic indicators are available in the ITS public use microdata file for Canadian respondents residing outside a CMA or CA, values for these less densely populated areas cannot be mapped.

7. Data are weighted by population from the 2011 census at the census metropolitan area (CMA)/census agglomeration (CA) level for the purposes of calculating these correlations.

census metropolitan area stretches to the border) – have the greatest number of visits to the US per capita. Cross-border visits per capita and distance to the Canada–US border show an even stronger inverse relationship than total visits: the CMA/CA-level correlation between cross-border visits to the US per capita and distance to the Canada–US border in logged kilometres is –0.62 ($p < 0.001$).

As for where Canadians travelled to in the US in 2013, the map presented Figure 2.3 does not suggest a distinct spatial pattern. The states of Washington, Michigan, New York and Maine (all bordering Canada) received large numbers of Canadian visitors, as did the border states of Montana, North Dakota, Minnesota and Vermont to a lesser extent. At the same time, Florida, which is far removed from the Canada–US border, received a large number of Canadian visitors, as did California and Nevada to a lesser extent. These states, however, are widely recognized as popular vacation destinations for Canadians. Despite these varied spatial patterns, the aggregate (state-level) correlation between total cross-border visits and distance to the Canada–US border (using the state centroid) in logged kilometres is –0.51 ($p < 0.001$).[8]

Again examining visits per capita (allowing for a more direct comparison between states of widely varying population bases), in the map presented in Figure 2.4, one finds a clearer spatial pattern. Washington, Idaho, Montana, North Dakota, Michigan, New York, Vermont and Maine (all of which border Canada) have the highest number of Canadian visitors per capita. These states are followed by Alaska, Nevada, Wyoming, Minnesota, Florida and New Hampshire – states which either border Canada, or are common vacation and recreation destinations. The state-level

8. Data are weighted using 2013 state population estimates for the purposes of calculating these correlations.

correlation between total cross-border visits and distance to the Canada–US border in logged kilometres is –0.52 ($p < 0.001$).

Turning to American visits to Canada, the 2013 ITS data for total visits mapped in Figure 2.5 indicate that the largest absolute numbers of American visitors resided in Washington, Michigan and New York – all border states. The states of California, Minnesota, Ohio, Pennsylvania, Massachusetts, Maine and Florida also provided large numbers of visitors to Canada. These states are either proximate to Canada (being either a border state or bordering a border state) or have a large population base (e.g., California and Florida), perhaps accounting in part to the large number of visits. The state-level correlation between total cross-border visits and distance to the Canada–US border in logged kilometres is –0.53 ($p < 0.001$).

As seen previously with the 2013 ITS data for Canadian visits to the US, total visit figures can obscure the spatial relationship between visits and proximity to the Canada–US border. Examining visits per capita state by state provides a clearer comparison. Mapping American visits to Canada on a per capita basis in Figure 2.6 confirms that states closer to the Canada–US border provide more visitors to Canada per capita. Washington, Michigan, Vermont and Maine – all states bordering Canada – have the highest numbers of visitors to Canada per capita. These states are followed by Alaska, Montana, North Dakota, Minnesota, New York and New Hampshire – again, all states on the Canada–US border. The state-level correlation between cross-border visits to Canada per capita and distance to the Canada–US border in logged kilometres is –0.68 ($p < 0.001$).[9]

9. The ITS public use microdata files from Statistics Canada unfortunately do not contain information on the destinations of American travellers within Canada. Maps and analyses of the Canadian travel destinations of American visitors are therefore not possible.

In light of existing theory and research, then, the expectations for the Canadian–American context are as follows. In accordance with intergroup contact theory and transactionalist theory, a first-order expectation is that closer proximity to the Canada–US border implies more positive perceptions among Canadians and Americans; increasing distance from the border implies less positive perceptions. This hypothesis finds support in observations of the cultural similarities of Canadians and Americans residing in border regions, long histories of cross-border migration and social ties between border communities in Canada and the US that persist to the present day (Laxer 2003). It is also plausible that border regions have greater exposure to print, radio and television news media from the other country (Payne 1978; Payne and Caron 1982). Consequently, it is credible to suggest that proximity to the Canada–US border serves to increase awareness of the other country, increases the likelihood (and frequency) of both social and economic interaction with nationals of the other country, and thereby promotes more positive perceptions of the other country. Conversely, increasing distance to the Canada–US border serves to decrease awareness of the other country and interactions with nationals of the other country, thereby promoting less positive perceptions of the other country.

At the same time, it is arguably too simple to posit a constant effect of proximity for all segments of the Canadian and American publics. In the Canadian context, a reasonable expectation is for proximity to the border to amplify the effects of political attitudes, either positive or negative. The expectations of the intergroup contact and transactionalist theories arguably hold among those segments of the Canadian public who identify with the political centre and right; closer proximity to the border creates greater pro-American sentiments. In keeping with intergroup competition theory, those who identify with the NDP and the political left, with

closer proximity to (and thus greater awareness of) the US, may experience heightened perceptions of threat (that is, fears of the "Americanization of Canada") and thus exhibit more anti-American sentiments. It is less clear how and whether Bloc Québécois support and border proximity will interact, if at all. It is possible that the Bloc's recent efforts to align itself with Quebec's tradition of anti-militarism and anti-interventionism and its open criticism of aggressive American foreign policy actions will affect public opinion toward the US (Haglund 2006). The expectation for Bloc Québécois supporters, then, is for closer proximity to the US to produce more anti-American sentiments. It is reasonable to expect similar dynamics in the American context. Specifically, proximity to the border (and greater familiarity with Canada and its comparatively more progressive public policies) should amplify favourable impressions of Canada among those who identify with the progressive end of the American political spectrum, that is, Democrats and self-described liberals. This is to say that the effect of proximity should be greater among those on the left than on the right.

2.5 Data and Methods

The data for this study are drawn from the Canadian Elections Studies from 1997 to 2011 and the Gallup Poll from 2001 to 2011. While a number of cross-national survey research projects contain items measuring attitudes toward the US and Canada (including the World Values Survey and the International Social Survey Programme), recent data from the CES and the Gallup Poll are noteworthy in that they not only provide relevant attitudinal measures, but they also contain sufficiently precise geographic indicators to permit geocoding (the appending of latitude and longitude co-ordinates) of the survey data.

The key survey item measuring Canadian attitudes toward the US from the Canadian Election Studies is a "thermometer"-style scale which reads as follows: "How do you feel about the United States? Zero means you really dislike the United States and one hundred means you really like the United States." This item has been asked consistently in the CES post-election surveys since 1997.[10] Given the framing of the question in terms of "like" and "dislike," it taps respondents' broad orientations toward the US instead of more specific policy attitudes. These data indicate that Canadian feelings toward the US are, in the aggregate, more positive than negative. Still, they also display variability over time in line with political events (in particular the US invasion of Iraq in 2004 and Barack Obama holding the presidency in 2011; see Figure 2.1).

The key survey item measuring American attitudes toward Canada from the Gallup Poll, taken from a series of questions probing attitudes toward a number of countries included in its annual world affairs polls, is a four-point survey scale and reads as follows: "I'd like your overall opinion of some foreign countries. First, is your overall opinion very favourable, mostly favourable, mostly unfavourable, or very unfavourable? How about Canada?" Similar to the CES thermometer item, the Gallup Poll item taps overall impressions toward Canada. Mirroring the CES data, the Gallup data reveal an American public positively inclined toward Canada, though the intensity of that positive view has varied in line with events (see Figure 2.2). Although a minority view, the percentage of "not very favourable" and "not at all favourable" responses did increase in the 2003–2006 time period. These results suggest that at least part of the American public took note of actions (or non-actions) of the Canadian government with respect to the invasion of Iraq in 2003 and the

10. Though the 2004, 2006, 2008 and 2011 CES datasets contain a panel component, these panel respondents are removed from the 2006, 2008 and 2011 data in the analyses presented here and the appropriate weight variables are used. These analyses of the 1997–2011 data therefore represent independent repeated cross-sections.

ballistic missile defence program in 2006. They are also consistent with results from other polls cited by Katzenstein and Keohane (2007b, 18).

In order to *explain* individual-level Canadian attitudes toward the US and American attitudes toward Canada, I test the hypotheses articulated above in a series of regression models. Given the 0–100 dislike–like scale and roughly normal distribution of the US feelings item from the CES, linear models are appropriate. In the case of the Gallup Poll data, with only four categories in the Canada favourability scale, and few "very unfavourable" and "somewhat unfavourable" responses, I combine the last two responses to create a synthetic "unfavourable" category and employ ordinal logit models (Fox 2008). This approach models the probabilities of a lower-ordered response as cumulative over the probabilities of higher-ordered responses. The response categories are therefore ordered "very favourable" (3), "somewhat favourable" (2) and "unfavourable" (1) so that coefficients have an interpretation analogous to those from the CES linear models: independent variables with positive coefficients produce more pro-American (or pro-Canadian) sentiments; those with negative coefficients produce more anti-American (or anti-Canadian) sentiments.

The CES and Gallup Poll survey data themselves contain the attitudinal variables of interest, yet a measure of border proximity is still needed. I create such a measure by first geocoding both the survey data and a list of land and sea ports of entry published by US Customs and Border Protection (www.cbp.gov). In the case of the CES data, I use indicators in the survey datasets for census dissemination areas, federal electoral districts and postal code forward sortation areas to append representative latitude–longitude co-ordinates. In the case of the Gallup Poll data, I use ZIP codes and telephone area code-exchanges (the first six digits of a ten-digit telephone number) to geocode the data. Geocoding of border crossings was done

manually using Google Earth (earth.google.com). Next, I calculate the geodetic distances between the two sets of data to find the closest Canada–US border crossing for each survey respondent.[11] In keeping with previous research (Berezin and Díez Medrano 2008; Díez Medrano 2003; Kuhn 2011), I use a logarithmic transformation of my distance measure. Using logged distance in kilometres also accords with the theoretical expectation of a diminishing effect of proximity as distance to the border increases.

Here, it is also worth addressing directly the belief that nearly all Canadians are proximate to the Canada–US border. An often-repeated claim is that 75 percent of the Canadian population resides within 100 miles (or roughly 160 kilometres) of the Canada–US border. While factually accurate, it is overly simplistic to claim as a corollary that border proximity in the Canadian case is a constant, not a variable. Such a perspective further implies that it is *linear* distance to the border that is consequential. Neither claim is valid. As the histogram presented is Figure 2.9 indicates, proximity to the Canada–US border exhibits significant positive (right) skew, with the bulk of the data found below the sample mean of 174 kilometres. Importantly, though, the data still exhibit variation, especially when *log-transformed*, where the data are roughly normally distributed (see Figure 2.10). Implicit in such a transformation of distance measures is the expectation that an increase in distance from, say, 10 kilometres to 20 kilometres, is larger than the nominally identical increase from 100 to 110 kilometres. Log-transforming distances to the Canada–US border captures this intuition, and thus operationalizes the non-linear expectations

11. Distances to Canada–US border crossings are calculated using the Vincenty (1975) formula (implemented in the SAS GEODIST function). This type of straight-line distance measure might be criticized on the basis that it differs from travel distance (and travel time) over road networks. Research comparing straight-line and driving distances has found that the two measures are very highly correlated ($r^2 = 0.94$); the two are therefore practically interchangeable measures (Boscoe, Henry, and Zdeb 2012).

contained in the concepts of the friction of space (A. H. Hawley 1950) and the distance decay function (Taylor 1971). (See Figures 2.9–2.12.)

The regression analyses of the CES and Gallup Poll data are conducted using pooled datasets with controls for time implemented by using a series of dummy variables where the earliest time periods serve as the reference categories (Wooldridge 2009, 444–445). In addition to the key independent variables – political party identification, political ideology and distance from the Canada–US border – the regression models include controls for demographic variables: sex, age, education, income and province (Canada) or census division (US).[12]

2.6 *Results: Canadian Perceptions of the US*

The regression analyses of the CES data yield several key findings (see Table 2.1). The effects of both party identification and left−right placement on feelings toward the US are highly significant and in the theoretically expected directions. Models 2.1.1 and 2.1.2 confirm that Conservative supporters tend to have more positive feelings toward the US compared to Liberal supporters (the reference group), while NDP and Bloc Québécois supporters have significantly lower scores. Also, moving from the left to the right on the ideology scale produces more positive feelings toward the US. These effects remain robust even after controlling for time (year), demographics and province. There is also a significant negative effect of the distance to the Canada–US border (in logged kilometres). This has the interpretation that Canadians who are proximate to the Canada–US border are predicted to have more positive feelings toward the US; Canadians who are distant from the Canada–

12. The Conservative Party of Canada, formed in 2003 by the merger of the Canadian Alliance and Progressive Conservative parties, obviously did not contest the 1997 and 2000 federal elections. The Conservative dummy variables for these years are created by coding Progressive Conservative, Reform Party (1997) and Canadian Alliance (2000) support as Conservative.

US border are predicted to have more negative feelings toward the US. These results confirm the hypotheses relating to the political variables and border proximity.

These findings, however, relate only to the "main effects" of party identification, ideology and border proximity – that is, these model specifications assume that their effects are not contingent upon one another. The results from model 2.1.3, however, reveal a significant interaction between political party identification and border proximity (additional analyses testing an interaction between border proximity and left–right placement showed no significant interaction effect). Specifically, there is a significant *F*-test of the party identification × border distance interaction. Also, the interaction terms for the NDP and Bloc Québécois dummy variables and logged distance to the Canada–US border are significant. These results indicate that the slopes for the effect of distance to the Canada–US border among NDP and Bloc supporters are significantly different from the slope for Liberal supporters (these effects are also positive, not negative). By contrast, the interaction term for Conservative supporters is not significant. This result does *not* indicate that there is no effect of distance to the Canada–US border among Conservative supporters, but rather that the effect of distance to the border is not significantly different from the effect among Liberal supporters, which is captured in the lower-order term for logged distance to the Canada–US border – i.e., the slopes for Liberal supporters (–0.90) and Conservative supporters (–0.90 + (–0.18) = –1.08) are not significantly different. With model 2.1.3 respecified with Conservative supporters as the reference category for party identification (see Table 2.2), it is clear that logged distance to the Canada–US border has a significant and negative effect among Conservative supporters (–1.08); further, the slope for Liberal supporters (–1.08 + 0.18) = –0.90) is not significantly different. These results therefore indicate that Conservative supporters have higher expected scores (and more

positive feelings toward the US) than Liberal supporters, but they do not differ in terms the effect of proximity to the Canada–US border on their attitudes.

By contrast, when model 2.1.3 is respecified to have NDP supporters as the reference category (see Table 2.3), the lower-order coefficient for logged distance to the the Canada–US border is not statistically significant despite being correctly (positively) signed (0.47). The conclusion to be drawn from the CES data, then, is that NDP supporters' feelings toward the US are not moderated by proximity to the border in the way that Liberal and Conservative supporters' feelings are; they are rather consistent across space (that is, across distances to the border). When Bloc Québécois supporters are specified as the reference category for model 2.1.3 (see Table 2.4), there is weak evidence that proximity to the Canada–US border produces more negative feelings among Bloc supporters: the lower-order coefficient for logged distance to the Canada–US border is positive (1.60) and nearly significant at conventional levels (p = 0.058). This provides partial confirmation of the party identification × border distance hypothesis.

Overall, the analyses of the CES data indicate that the strength of the relationship between party identification and feelings toward the US is a conditional one: it depends on proximity to the Canada–US border. Making sense of the different patterns of such conditional effects from tables of regression coefficients, however, is difficult. Effect plots can further aid in clarifying the patterns of relationships at work (Fox 1987). From Figure 2.13, it is clear that proximity to the Canada–US border serves to amplify positive feelings toward the US – but only for Conservative and Liberal supporters. For NDP supporters, there is effectively no relationship. For Bloc Québécois supporters, border proximity serves to slightly amplify negative feelings. To illustrate, a Conservative identifier 5 kilometres from the Canada–US border (roughly the distance from many locations in either Niagara

Falls, Ontario and Abbotsford, British Columbia to the Canada–US border), has a predicted 0–100 feelings thermometer score of 67.35; at the sample mean of 174 kilometres, the predicted score is 63.52; at 500 kilometres from the border, the predicted score is 62.38.[13] (If there were no interaction between party identification and border proximity, the predicted scores would be the same at all distances from the Canada–US border, and the lines in the plot would be horizontal.) A Liberal identifier 5 kilometres from the Canada–US border has a predicted score of 64.38; at the sample mean of 174 kilometres, the predicted score is 61.19; at 500 kilometres from the border, the predicted score is 60.24. These patterns differ from those for NDP supporters. An NDP identifier 5 kilometres from the Canada–US border has a predicted score of 54.49; at the sample mean of 174 kilometres, the predicted score is 56.15; at 500 kilometres from the border, the predicted score is 56.65. Again, the results from model 2.1.3 indicate that these small differences are not statistically significant, and the prediction line in Figure 2.13 for NDP supporters is (as expected) nearly horizontal. The pattern for Bloc Québécois supporters differs still. A Bloc identifier at the sample mean of 174 kilometres, the predicted score is 54.79; at 500 kilometres from the border, the predicted score is little different at 56.48. Taken in sum, these results are mostly congruent with expectations. They are also theoretically interesting in that they suggest the processes highlighted by intergroup contact theory and transactionalist theory (on one hand) and intergroup competition theory (on the other) may operate concurrently, producing alternatively positive or negative affect among different segments of the public.

The interaction between party identification and distance to the Canada–US border can also be probed further to determine the range of values of logged

13. The predicted scores plotted in Figure 2.13 and predicted probabilities plotted in Figure 2.14 and also discussed here set categorical control variables at their reference values and continuous controls at their means.

distance to the border over which party identification exerts significant effects. This involves repeatedly running the regression analysis with distance to the border centred at different values to obtain the coefficients for the party identification variables and their 95 percent confidence intervals. Techniques for probing of interactive relationships in this way are discussed in Braumoeller (2004) and Hayes and Matthes (2009) and were introduced above in section 1.4.6. The plots generated by performing these analyses indicate that the effects of political party identification hold over most of the range of distances to the Canada–US border observed in the CES data (see Figures 2.15–2.17). The effect of Conservative identification on feelings toward the US holds for border distance values between 7 and 716 kilometres. This is to say that at very close proximity to the Canada–US border and when the border is very distant, Conservative and Liberal supporters are statistically indistinguishable in their feelings toward the US (see Figure 2.15). NDP supporters, on the other hand, are significantly different from Liberal supporters at distances to the border of 1,004 kilometres or less (see Figure 2.16). Bloc Québecois supporters are significantly different from Liberal supporters at distances to the border of 562 kilometres or less (see Figure 2.17). Thus, it is only when the US is literally a distant consideration (and also where the CES data are particularly thin) that differences between partisans of different stripes dissolve as it pertains to feelings toward the US, except in the case of differences between Liberals and Conservatives very near the Canada–US border.

The CES regression models also show effects of different provincial contexts on feelings toward the US. Feelings are more negative in Quebec and all of the provinces of Western Canada (with the exception of Manitoba) than in Ontario (the reference category), though the differences between the western Canadian provinces and Ontario are not large. There are no consistent significant differences

between Ontario and the provinces of Atlantic Canada. It is notable that these effects persist even after the inclusion of party identification, left–right placement and border proximity in the model. The results for Quebec are arguably not attributable to the cultural and linguistic differences between Québécois and American society. In the past, Quebec has been notably more pro-American than other parts of Canada. Rather, the more negative feelings observed in Quebec are more plausibly explained as a recent "mood swing" prompted by objections to the wars in Afghanistan and Iraq, the ballistic missile defence plan and particular antipathy toward former President George W. Bush (Haglund 2006; P. Martin 2011). The results for Western Canada – and British Columbia in particular – are less readily explained, though they may be attributed to two factors. First, they may be a function of the longer standing historical ties between Ontario and the Atlantic Canadian provinces to the United States (Grabb and Curtis 2005). Second, there is a history of antagonistic relations between British Columbia and the US over trade and natural resource issues stretching back decades to the Trans-Alaska Pipeline dispute in 1970s (Groen 1994). Similarly, the trade dispute over softwood lumber has festered since the mid-1980s due to different American and Canadian approaches to the taxation of timber (stumpage fees) on US public and Canadian Crown lands (Cashore 1997). As Bernstein and Cashore (2001) and Gagné (2003) note, the softwood lumber dispute has primarily engaged British Columbia, where Canada's softwood lumber industry is concentrated. The slightly more negative views of British Columbians, even after controlling for other political, demographic and spatial factors, may be something of a softwood lumber hangover. Brunet-Jailly (2006) also notes that British Columbia's level of economic integration with the US does not approach that of Ontario; there is also a history of cooperation between Ontario and Michigan, particularly in the automotive sector, whereas the

Vancouver, Seattle, and Portland metropolitan areas compete more directly with one another for business investment. Still, it is worth pointing out that the difference between a Conservative supporter and an NDP supporter (at the mean distance from the border) is 8.17 points on the 0–100 thermometer scale (based on the results from model 2.1.3), a difference more than double the largest significant differences between the provinces – 3.79 points between Ontario and Quebec, and 3.35 points between Ontario and British Columbia. Thus, one should be cautious to not overstate the importance of regional variation in shaping Canadian attitudes toward the US. Nevertheless, these results underline the importance of considering multiple spatial contexts and the possibility of effects operating at different levels (Cochrane and Perrella 2012). Such regional dynamics are an area that ought to be pursued in future research.

In addition to bearing the imprint of spatial context, the CES results also show effects of time. As previously observed from the summary statistics, feelings toward the US were notably more negative in 2004 (early in the Iraq War) and more positive in 2011 (with Barack Obama as president). Canadian feelings toward the US are thus responsive to events in the current political context, though the effects of political and spatial factors remain key.[14]

2.7 Results: American Perceptions of Canada

In many respects – but not all – the dynamics of American public opinion toward Canada are similar to those found in Canadian public opinion toward the

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14. It is worth also noting that the key results from model 2.1.3 are robust to the inclusion of numerous other variables that potentially influence feelings toward the US. Adding interest in politics, attitudes toward international trade, national identity (identifying with Canada), perceptions of the national economy, perceptions of one's financial situation, employment status, area unemployment rate and area median family income have no appreciable effects on the parameter estimates for party identification, logged distance to the Canada–US border, and the party identification × border distance interaction. See Table 2.5.

US (see Table 2.6). Models 2.2.1 and 2.2.2 confirm that Republicans (and those who lean Republican) are less likely to express favourable views of Canada compared to Democrats (and those who lean Democrat). Also, moving from conservative to liberal on the ideology scale produces more favourable attitudes toward Canada. These effects are similarly robust when controlling for time (year), demographics and census division. Also similar to the results obtained with the CES data, the Gallup data exhibit a significant negative effect of the distance to the Canada–US border (in logged kilometres). Thus, Americans who are proximate to the Canada–US border are predicted to hold more favourable attitudes toward Canada; those who are farther away from the border are predicted to have less favourable attitudes toward Canada.

Again, these results from models 2.2.1 and 2.2.2 assume that the relationship between the political variables and border proximity is not interactive. Model 2.2.3, however, reveals a significant interaction between party identification and border proximity (additional analyses testing an interaction between border proximity and liberal−conservative placement showed no significant interaction effect). A likelihood ratio chi-square test of the party identification × border distance interaction is significant. The interaction term for Republican Party identification and logged distance to the Canada–US border is positive and significant. Thus, the slopes for the effect of logged distance to the Canada–US border is significantly different between Democrats and Republicans: while it is negative and significant among Democrats (–0.19), it is substantially weaker (–0.19 + 0.13 = –0.06) among Republicans. Setting Republicans as the reference category for party identification also reveals that this weaker effect is not significant (see Tables 2.6 and 2.7). Consequently, the Gallup Poll data indicate that proximity to the Canada–US border amplifies favourable impressions among Democrats, but there is no discernible

effect among Republicans. The larger finding is that the American context is similar to the Canadian context in that the relationship between political party identification and feelings toward Canada are moderated by proximity to the Canada–US border.

The form of this moderated effect of party identification on perceptions of Canada nevertheless differs from the pattern found in the CES data. An effect plot is once more useful in showing how. Figure 2.14 makes clear that Democrats are more likely than Republicans to hold a "very favourable" or "somewhat favourable" view of Canada irrespective of distance to the Canada–US border, but the effect of partisanship is amplified for Democrats in close proximity to the Canada–US border. To illustrate, a Democrat residing 5 kilometres from the Canada–US border (roughly the distance from downtown Detroit, Michigan, Buffalo, New York, or Blaine, Washington to the Canada–US border) has a predicted probability of providing a "very favourable" response ($P(Y) = 3$) of 0.78; at the sample mean of 799 kilometres from the border, the predicted probably is 0.57; at 2,000 kilometres from the border, the predicted probability is 0.53. By comparison, a Republican residing 5 kilometres from the Canada–US border has a predicted probability of providing a "very favourable" response of 0.55; at the sample mean of 799 kilometres from the border, the predicted probably is 0.47; at 2,000 kilometres from the border, the predicted probability is 0.46. Still, one should discount the differences between these predicted probabilities on account of the absence of a statistically significant slope for logged distance to the Canada–US border for Republican identifiers in model 2.2.3-R (see Table 2.7).

Addition probing of the party identification × border distance interaction from model 2.2.3 reveals that the effect of Republican Party identification is significant for all distances observed in the sample data (see Figure 2.18). By

contrast, the effect of identifying as an Independent is significant for distance values of 1,138 kilometres or less (see Figure 2.19).

In sum, proximity to the Canada–US border leads to more favourable attitudes toward Canada, but this effect is only observed among Democrats. Among Republicans, there is no effect. This pattern of effects differs from what is observed in the Canadian case where the effect of distance to the Canada–US border is positive for Conservative and Liberal supporters but is reversed (becomes negative) for Bloc Québécois supporters, with no effect among NDP supporters. The American case therefore fits partly the expectations of intergroup contact theory and transactionalist theory, but not those of intergroup competition theory.

While the Canadian data exhibited some regional variation in attitudes, this is noticeably absent in the American context. None of the census division dummy variables are significant, implying that the lone spatial dimension of consequence in the American case is proximity to the border. The temporal dynamic in the US, however, is similar to that in Canada: the dummy variables for the years 2003 to 2011 are all significant and negative. Attitudes became less favourable during the lead-up to the invasion of Iraq and remained so for an extended period, even into the Obama presidency. American attitudes toward Canada are thus similarly responsive to current political events.[15]

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15. As with the case of Canadian attitudes toward the US, the key results from model 2.2.3 are robust to the inclusion of several other variables that potentially influence attitudes toward Canada. Adding following news about international relations, attitudes about the role of the US in the world, attitudes toward foreign trade, perceptions of the national economy, perceptions of the job market, employment status, county unemployment rate, and county median family income to the model have no appreciable effects on the parameter estimates for party identification, logged distance to the Canada–US border, and the party identification × border distance interaction. See Table 2.8.

2.8 Conclusion

I have set out to contribute to the literatures on Canadian and American mass public opinion in investigating the roles played by two factors in shaping the mutual perceptions of the Canadian and American publics: first, political party identification and political ideology; and second, proximity to the Canada–US border. The analyses of survey data from the CES and the Gallup Poll presented here have confirmed that both exert significant effects on Canadian and American views of the other country, and further that their effects are contingent upon each other. In brief, the more conservative segments of Canadian society express greater affinity for the US while the more progressive segments of American society express greater affinity for Canada. At the same time, these effects are spatially dependent. In the Canadian context, proximity to the Canada–US border tends to produce more positive attitudes toward the US, but only among Conservative and Liberal supporters; among NDP and Bloc Québécois supporters, the effect of border proximity is either not present or negative. In the American context, border proximity produces more positive attitudes toward Canada among Democrats, but not among Republicans.

I have advanced an argument in favour of taking a spatially informed approach to survey data analysis, one that has been similarly advanced by others (Eagles 2002), and that aligns with the tradition of spatial social science (see section 1.2 above). Still, my conclusions should be considered tentative, in part because of the limitations of the CES and Gallup data. Bennett (2004), Nevitte and colleagues (2002) and Rankin (2004) have all found that national and continental (that is, pan-North American) identity constructs shape Canadian and American attitudes toward one another. Consistent measures of these identity concepts are not available in all waves of the CES data and are absent from the Gallup data

altogether. This represents the potential for omitted variable bias.[16] It may be the case that each of identity-centred variables, political party identification (and ideology) and border proximity contribute to a more complete explanation of Canadian and American attitudes toward the other country. It may also be the case that border proximity serves to moderate the effects of national and continental identity constructs. Testing all of these hypotheses concurrently, however, will require data from surveys capturing all of these concepts, and that are also amenable to geocoding (for calculating distance to the border). Those responsible for collecting and disseminating survey data (academic and professional survey researchers alike) would do well to record and retain reasonably granular geographic indicators.

It is also important to note that my data are relatively recent (from the late 1990s onward), and so my results should be understood in the context of the current "continentalized" period of Canada–US relations. As Inwood notes, Canadian party positions toward the US have evolved over time, with the political left and right having switched positions more than once (2005, 18–24). The effects of party identification and ideology may thus be contingent on the time period under consideration. Also, the salience of border proximity to attitudes might be less in earlier, more protectionist periods owing to reduced cross-border interaction. It would be valuable to test both possibilities using historical survey data. I have also consciously focused my analyses here on general attitudes toward the other country. Whether the same dynamics with respect to border proximity are observed in Canadian and American public opinion toward Canada–US relations writ large or more specific policy areas such as trade and border security are additional

16. An attempt to use a four-point scale capturing strength of identification with Canada from the 2011 CES – a rather low-fidelity measure of national identity – while using multiple imputation to complete the CES data failed to yield a significant effect (see Table 2.5).

avenues of inquiry for future research. (I take up the topic of Canadian attitudes toward North American integration in chapter 3.) There is likely a wide range of equally interesting questions relating to geographic and spatial dynamics at work in other areas of political behaviour, such as party identification, voting, environmental attitudes, and so on. Future research should also investigate these possibilities.

Lastly, additional research is needed to more precisely specify the mechanisms though which proximity exerts its effects on attitudes, and for which proximity may serve as a proxy, for example, personal contact, economic exchange and media exposure (see Kuhn 2011). The preliminary analyses afforded by the ITS data from Statistics Canada points toward cross-border contact as such a mechanism, though not the only conceivable one. It may also be the case that the effect of proximity may be mediated (or perhaps only partly mediated) by such mechanisms. Advancing these lines of inquiry will thus serve to advance our understanding of the mutual perceptions of Canadians and Americans.

Table 2.1: Canadian Feelings toward the United States (OLS)

	Model 2.1.1			Model 2.1.2			Model 2.1.3		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	61.95	(0.74)		61.76	(0.75)	***	61.66	(0.75)	***
Year (ref = 1997)									
2011	8.07	(0.59)	***	8.06	(0.60)	***	8.08	(0.60)	***
2008	-0.21	(0.63)		-0.18	(0.63)		-0.14	(0.63)	
2006	-0.19	(0.71)		-0.17	(0.71)		-0.08	(0.71)	
2004	-4.38	(0.58)	***	-4.37	(0.58)	***	-4.32	(0.58)	***
2000	-2.43	(0.59)	***	-2.40	(0.59)	***	-2.38	(0.59)	***
Male	1.10	(0.40)	**	1.10	(0.40)	**	1.09	(0.40)	**
ln Age (Years)	1.47	(0.56)	**	1.49	(0.56)	**	1.48	(0.56)	**
Education (ref = High school or less)									
University	-0.02	(0.47)		-0.06	(0.47)		-0.08	(0.47)	
College	-1.39	(0.49)	**	-1.40	(0.49)	**	-1.42	(0.49)	**
Household income (ref = $60,00-$89,999)									
< $30,000	-2.95	(0.64)	***	-2.95	(0.64)	***	-2.99	(0.64)	***
$30,00-$59,999	-0.55	(0.52)		-0.54	(0.52)		-0.56	(0.52)	
$90,000+	1.03	(0.56)		1.02	(0.56)		1.00	(0.56)	
Province (ref = Ontario)									
Newfoundland and Labrador	0.73	(0.97)		2.21	(1.16)		2.78	(1.17)	*
Nova Scotia	-0.23	(1.18)		0.74	(1.27)		1.12	(1.28)	
Prince Edward Island	-0.08	(0.99)		0.80	(1.07)		1.05	(1.06)	
New Brunswick	0.87	(1.03)		1.58	(1.07)		1.86	(1.07)	
Quebec	-3.99	(0.63)	***	-3.86	(0.64)	***	-3.79	(0.64)	***
Manitoba	0.01	(0.92)		0.18	(0.93)		0.22	(0.93)	
Saskatchewan	-3.32	(0.87)	***	-2.70	(0.92)	**	-2.59	(0.92)	**
Alberta	-2.37	(0.73)	**	-1.57	(0.81)		-1.27	(0.83)	
British Columbia	-3.05	(0.62)	***	-3.32	(0.63)	***	-3.35	(0.63)	***
Party identification (ref = Liberal)									
Conservative	2.34	(0.54)	***	2.36	(0.54)	***	2.42	(0.54)	***
NDP	-5.81	(0.66)	***	-5.79	(0.66)	***	-5.75	(0.66)	***
Bloc Québécois	-7.88	(0.87)	***	-7.84	(0.87)	***	-7.70	(0.86)	***
Other Party	-4.44	(1.31)	***	-4.38	(1.31)	***	-4.35	(1.31)	***
No Party	-2.28	(0.58)	***	-2.25	(0.58)	***	-2.22	(0.58)	***
Ideology: Left (0) vs. Right (10)	0.47	(0.11)	***	0.47	(0.11)	***	0.47	(0.11)	***
ln Distance to Canada–US Border (km)		—		-0.54	(0.22)	*	-0.90	(0.34)	**
ln Distance to Can.-US Border × Conservative		—			—		-0.18	(0.48)	
ln Distance to Can.-US Border × NDP		—			—		1.37	(0.53)	**
ln Distance to Can.-US Border × BQ		—			—		2.50	(0.91)	**
ln Distance to Can.-US Border × Other		—			—		0.74	(1.22)	
ln Distance to Can.-US Border × No Party		—			—		0.15	(0.48)	
N	17,021			17,021			17,021		
R^2	0.08			0.09			0.09		
F-Test for Nested Models	—			6.97		**	4.18		***

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 2.2: Canadian Feelings toward the United States (OLS), Conservative as Reference Category

	Model 2.1.3-C		
	b	(SE)	
Intercept	64.08	(0.79)	***
Year (ref = 1997)			
2011	8.08	(0.60)	***
2008	-0.14	(0.63	
2006	-0.08	(0.71)	
2004	-4.32	(0.58)	***
2000	-2.38	(0.59)	***
Male	1.09	(0.40)	**
ln Age (Years)	1.48	(0.56)	**
Education (ref = High school or less)			
University	-0.08	(0.47)	
College	-1.42	(0.49)	**
Household income (ref = $60,00-$89,999)			
< $30,000	-2.99	(0.64)	***
$30,00-$59,999	-0.56	(0.52)	
$90,000+	1.00	(0.56)	
Province (ref = Ontario)			
Newfoundland and Labrador	2.77	(1.17)	*
Nova Scotia	1.12	(1.28)	
Prince Edward Island	1.05	(1.06)	
New Brunswick	1.85	(1.07)	
Quebec	-3.79	(0.64)	***
Manitoba	0.22	(0.93)	
Saskatchewan	-2.59	(0.92)	**
Alberta	-1.27	(0.83)	
British Columbia	-3.35	(0.63)	***
Party identification (ref = Conservative)			
Liberal	-2.42	(0.54)	***
NDP	-8.17	(0.72)	***
Bloc Québécois	-10.12	(0.90)	***
Other Party	-6.77	(1.33)	***
No Party	-4.64	(0.60)	***
Ideology: Left (0) vs. Right (10)	0.47	(0.11)	***
ln Distance to Canada–US Border (km)	-1.08	(0.38)	**
ln Distance to Can.-US Border × Liberal	0.18	(0.48)	
ln Distance to Can.-US Border × NDP	1.55	(0.57)	**
ln Distance to Can.-US Border × BQ	2.68	(0.94)	**
ln Distance to Can.-US Border × Other	0.92	(1.20)	
ln Distance to Can.-US Border × No Party	0.33	(0.50)	
N	17,021		
R^2	0.09		
F-Test for Nested Models	4.18	***	

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 2.3: Canadian Feelings toward the United States (OLS), NDP as Reference Category

	Model 2.1.3-NDP		
	b	(SE)	
Intercept	55.91	(0.92)	***
Year (ref = 1997)			
2011	8.08	(0.60)	***
2008	-0.14	(0.63)	
2006	-0.08	(0.71)	
2004	-4.32	(0.58)	***
2000	-2.38	(0.59)	***
Male	1.09	(0.40)	**
ln Age (Years)	1.48	(0.56)	**
Education (ref = High school or less)			
University	-0.08	(0.47)	
College	-1.42	(0.49)	**
Household income (ref = $60,00-$89,999)			
< $30,000	-2.99	(0.64)	***
$30,00-$59,999	-0.56	(0.52)	
$90,000+	1.00	(0.56)	
Province (ref = Ontario)			
Newfoundland and Labrador	2.77	(1.17)	*
Nova Scotia	1.12	(1.28)	
Prince Edward Island	1.05	(1.06)	
New Brunswick	1.85	(1.07)	
Quebec	-3.79	(0.64)	***
Manitoba	0.22	(0.93)	
Saskatchewan	-2.59	(0.92)	**
Alberta	-1.27	(0.83)	
British Columbia	-3.35	(0.63)	***
Party identification (ref = NDP)			
Liberal	5.75	(0.66)	***
Conservative	8.17	(0.72)	***
Bloc Québécois	-1.96	(1.02)	
Other Party	1.40	(1.37)	
No Party	3.53	(0.72)	***
Ideology: Left (0) vs. Right (10)	0.47	(0.11)	***
ln Distance to Canada–US Border (km)	0.47	(0.48)	
ln Distance to Can.-US Border × Liberal	-1.37	(0.53)	**
ln Distance to Can.-US Border × Conservative	-1.55	(0.57)	**
ln Distance to Can.-US Border × BQ	1.13	(0.98)	†
ln Distance to Can.-US Border × Other	-0.63	(1.28)	
ln Distance to Can.-US Border × No Party	-1.22	(0.58)	*
N	17,021		
R^2	0.09		
F-Test for Nested Models	4.18	***	

† $p \leq 0.06$; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 2.4: Canadian Feelings toward the United States (OLS), Bloc Québécois as Reference Category

	Model 2.1.3-BQ		
	b	(SE)	
Intercept	53.95	(1.13)	***
Year (ref = 1997)			
2011	8.08	(0.60)	***
2008	-0.14	(0.63)	
2006	-0.08	(0.71)	
2004	-4.32	(0.58)	***
2000	-2.38	(0.59)	***
Male	1.09	(0.40)	**
ln Age (Years)	1.48	(0.56)	**
Education (ref = High school or less)			
University	-0.08	(0.47)	
College	-1.42	(0.49)	**
Household income (ref = $60,00-$89,999)			
< $30,000	-2.99	(0.64)	***
$30,00-$59,999	-0.56	(0.52)	
$90,000+	1.00	(0.56)	
Province (ref = Ontario)			
Newfoundland and Labrador	2.77	(1.17)	*
Nova Scotia	1.12	(1.28)	
Prince Edward Island	1.05	(1.06)	
New Brunswick	1.85	(1.07)	
Quebec	-3.79	(0.64)	***
Manitoba	0.22	(0.93)	
Saskatchewan	-2.59	(0.92)	**
Alberta	-1.27	(0.83)	
British Columbia	-3.35	(0.63)	***
Party identification (ref = Bloc Québécois)			
Liberal	7.70	(0.86)	***
Conservative	10.12	(0.90)	***
NDP	1.96	(1.02)	†
Other Party	3.35	(1.48)	*
No Party	5.48	(0.94)	***
Ideology: Left (0) vs. Right (10)	0.47	(0.11)	***
ln Distance to Canada–US Border (km)	1.60	(0.84)	†
ln Distance to Can.-US Border × Liberal	-2.50	(0.91)	**
ln Distance to Can.-US Border × Conservative	-2.68	(0.94)	**
ln Distance to Can.-US Border × NDP	-1.13	(0.98)	
ln Distance to Can.-US Border × Other	-1.76	(1.53)	
ln Distance to Can.-US Border × No Party	-2.35	(0.92)	**
N	17,021		
R^2	0.09		
F-Test for Nested Models	4.18	***	

† $p \leq 0.06$; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 2.5: Canadian Feelings toward the United States (OLS), Expanded Model

	Model 2.1.4		
	b	(SE)	
Intercept	62.20	(0.84)	***
Year (ref = 1997)			
2011	7.10	(0.75)	***
2008	-0.49	(0.93)	
2006	-0.86	(0.88)	
2004	-4.54	(0.72)	***
2000	-2.96	(0.78)	***
Male	0.45	(0.41)	
ln Age (Years)	1.09	(0.62)	
Education (ref = High school or less)			
University	-0.97	(0.47)	*
College	-1.69	(0.49)	***
Household income (ref = $60,00-$89,999)			
< $30,000	-2.66	(0.67)	***
$30,00-$59,999	-0.37	(0.52)	
$90,000+	0.75	(0.56)	
Employment status (ref = Employed)			
Unemployed	0.40	(1.05)	
Not in Labour Force	-0.03	(0.46)	
Province (ref = Ontario)			
Newfoundland and Labrador	3.92	(1.57)	**
Nova Scotia	2.15	(1.61)	
Prince Edward Island	2.11	(1.25)	
New Brunswick	3.38	(1.27)	**
Quebec	-2.49	(0.85)	**
Manitoba	1.04	(1.07)	
Saskatchewan	-1.65	(1.07)	
Alberta	-1.56	(0.87)	
British Columbia	-2.57	(0.72)	***
Interest in Politics	0.43	(0.08)	***
International Trade Creates Jobs	1.48	(0.20)	***
Identify with Canada	0.27	(0.30)	
Economy (ref = stay about the same)			
Getting Better	0.16	(0.44)	
Getting Worse	-2.00	(0.52)	***
Personal Financial Status (ref = stay about the same)			
Getting Better	0.72	(0.49)	
Getting Worse	-0.76	(0.49)	

Table 2.5: Canadian Feelings toward the United States (OLS), Expanded Model, cont'd.

	Model 2.1.4		
	b	(SE)	
Party identification (ref = Liberal)			
Conservative	2.44	(0.55)	***
NDP	-5.35	(0.66)	***
Bloc Québécois	-7.26	(0.91)	***
Other Party	-3.76	(1.32)	**
No Party	-1.30	(0.61)	*
Ideology: Left vs. Right	0.43	(0.11)	***
ln Distance to Canada–US Border (km)	-0.83	(0.34)	**
ln Distance to Can.-US Border × Conservative	-0.22	(0.48)	
ln Distance to Can.-US Border × NDP	1.36	(0.53)	**
ln Distance to Can.-US Border × BQ	2.46	(0.89)	**
ln Distance to Can.-US Border × Other	0.67	(1.21)	
ln Distance to Can.-US Border × No Party	0.13	(0.48)	
Area Unemployment Rate (%)	0.04	(0.15)	
Area Median Family Income ($000)	0.09	(0.05)	*
N	17,021		
R^2	0.10		
F-Test for Nested Models	19.35	***	

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Sources: Canadian Election Studies, 1997–2011; Statistics Canada, CANSIM II table 282-0135 (unemployment rate); Statistics Canada, CANSIM II table 202-0411 (median family income).

Notes: Results are ordinary least squares regression estimates with standard errors adjusted for the complex sample design (stratification and weighting) and multiple imputation. Continuous independent variables (age, left vs. right, distance to the Canada–US border, interest in politics, views of international trade, identification with Canada, area unemployment rate and area median family income) are mean-centred. Missing data are multiply imputed 10 times using all available data.

Table 2.6: American Favourability Toward Canada (Ordinal Logit)

	Model 2.2.1			Model 2.2.2			Model 2.2.3		
	b	(SE)		b	(SE)		b	(SE)	
Intercept 3	0.31	(0.14)	*	0.34	(0.14)	*	0.34	(0.14)	*
Intercept 2	3.85	(0.15)	***	3.89	(0.15)	***	3.88	(0.15)	***
Year (ref = 2001)									
2011	-0.32	(0.13)	*	-0.32	(0.13)	*	-0.32	(0.13)	*
2010	-0.68	(0.13)	***	-0.69	(0.13)	***	-0.69	(0.13)	***
2009	-0.76	(0.13)	***	-0.76	(0.13)	***	-0.76	(0.13)	***
2008	-0.54	(0.13)	***	-0.54	(0.13)	***	-0.54	(0.13)	***
2007	-0.63	(0.13)	***	-0.63	(0.13)	***	-0.63	(0.13)	***
2006	-0.77	(0.13)	***	-0.77	(0.13)	***	-0.77	(0.13)	***
2005	-0.86	(0.13)	***	-0.86	(0.13)	***	-0.87	(0.13)	***
2004	-0.98	(0.13)	***	-0.98	(0.13)	***	-0.99	(0.13)	***
2003	-0.55	(0.13)	***	-0.55	(0.13)	***	-0.56	(0.13)	***
2002	-0.22	(0.13)		-0.22	(0.13)		-0.22	(0.13)	
Male	0.21	(0.05)	***	0.21	(0.05)	***	0.21	(0.05)	***
ln Age (Years)	0.06	(0.06)		0.06	(0.06)		0.06	(0.06)	
Education (ref = High school or less)									
College	0.39	(0.06)	***	0.40	(0.06)	***	0.40	(0.06)	***
Some College	0.21	(0.06)	***	0.22	(0.06)	***	0.22	(0.06)	***
Race (ref = White)									
Black	-0.45	(0.09)	***	-0.44	(0.09)	***	-0.43	(0.09)	***
Other	-0.08	(0.12)		-0.06	(0.12)		-0.07	(0.12)	
Hispanic	-0.33	(0.11)	**	-0.29	(0.11)	**	-0.29	(0.11)	**
Household income (ref = $30,00-$49,999)									
< $20,000	-0.04	(0.08)		-0.03	(0.08)		-0.03	(0.08)	
$20,00-$29,999	-0.12	(0.09)		-0.12	(0.09)		-0.12	(0.09)	
$50,000-$74,999	0.05	(0.07)		0.05	(0.07)		0.05	(0.07)	
$75,000+	0.12	(0.07)		0.13	(0.07)		0.12	(0.07)	
Census Division (ref = South Atlantic)									
New England	0.03	(0.11)		-0.11	(0.12)		-0.11	(0.12)	
Mid-Atlantic	0.11	(0.08)		-0.02	(0.09)		-0.02	(0.09)	
East North Central	0.16	(0.08)		0.01	(0.09)		0.02	(0.09)	
West North Central	0.06	(0.10)		0.03	(0.10)		0.03	(0.10)	
East South Central	-0.02	(0.11)		-0.03	(0.11)		-0.03	(0.11)	
West South Central	0.05	(0.09)		0.12	(0.09)		0.12	(0.09)	
Mountain	0.00	(0.10)		0.02	(0.10)		0.02	(0.10)	
Pacific	0.00	(0.08)		-0.02	(0.08)		-0.01	(0.08)	
Party identification (ref = Democrat)									
Republican	-0.44	(0.06)	***	-0.44	(0.06)	***	-0.44	(0.06)	***
Independent	-0.42	(0.09)	***	-0.41	(0.09)	***	-0.40	(0.09)	***
Ideology: Conservative vs. Liberal	0.12	(0.03)	***	0.12	(0.03)	***	0.12	(0.03)	***
ln Distance to Canada–US Border (km)		—		-0.12	(0.03)	***	-0.19	(0.04)	***
ln Distance to Cdn. Border (km) x Republican		—			—		0.13	(0.05)	*
ln Distance to Cdn. Border (km) x Independent		—			—		0.25	(0.10)	***
N	10,282			10,282			10,282		
Model χ^2	520.79	***		536.02	***		548.89	***	
Likelihood Ratio χ^2		—		15.23	***		12.87	**	
Nagelkerke pseudo-R^2	0.06			0.06			0.06		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Gallup Poll, World Affairs surveys, 2001–2011

Table 2.7: American Favourability Toward Canada (Ordinal Logit), Republican as Reference Category

	Model 2.2.3-R		
	b	(SE)	
Intercept 3	-0.10	(0.14)	
Intercept 2	3.45	(0.15)	***
Year (ref = 2001)			
2011	-0.32	(0.13)	*
2010	-0.69	(0.13)	***
2009	-0.76	(0.13)	***
2008	-0.54	(0.13)	***
2007	-0.63	(0.13)	***
2006	-0.77	(0.13)	***
2005	-0.87	(0.13)	***
2004	-0.99	(0.13)	***
2003	-0.56	(0.13)	***
2002	-0.22	(0.13)	
Male	0.21	(0.05)	***
ln Age (Years)	0.06	(0.06)	
Education (ref = High school or less)			
College	0.40	(0.06)	***
Some College	0.22	(0.06)	***
Race (ref = White)			
Black	-0.43	(0.09)	***
Other	-0.07	(0.12)	
Hispanic	-0.29	(0.11)	**
Household income (ref = $30,00-$49,999)			
< $20,000	-0.03	(0.08)	
$20,00-$29,999	-0.12	(0.09)	
$50,000-$74,999	0.05	(0.07)	
$75,000+	0.12	(0.07)	
Census Division (ref = South Atlantic)			
New England	-0.11	(0.12)	
Mid-Atlantic	-0.02	(0.09)	
East North Central	0.02	(0.09)	
West North Central	0.03	(0.10)	
East South Central	-0.03	(0.11)	
West South Central	0.12	(0.09)	
Mountain	0.02	(0.10)	
Pacific	-0.01	(0.08)	
Party identification (ref = Republican)			
Democrat	0.44	(0.06)	***
Independent	0.04	(0.10)	
Ideology: Conservative vs. Liberal	0.12	(0.03)	***
ln Distance to Canada–US Border (km)	-0.06	(0.04)	
ln Distance to Cdn. Border (km) x Democrat	-0.13	(0.05)	*
ln Distance to Cdn. Border (km) x Independent	0.12	(0.09)	
N	10,282		
Model χ^2	548.89	***	
Likelihood Ratio χ^2	12.87	**	
Nagelkerke pseudo-R^2	0.06		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Gallup Poll, World Affairs surveys, 2001–2011

Table 2.8: American Favourability Toward Canada (Ordinal Logit), Independent as Reference Category

	Model 2.2.3-R		
	b	(SE)	
Intercept 3	-0.06	(0.15)	
Intercept 2	3.49	(0.15)	***
Year (ref = 2001)			
2011	-0.32	(0.13)	*
2010	-0.69	(0.13)	***
2009	-0.76	(0.13)	***
2008	-0.54	(0.13)	***
2007	-0.63	(0.13)	***
2006	-0.77	(0.13)	***
2005	-0.87	(0.13)	***
2004	-0.99	(0.13)	***
2003	-0.56	(0.13)	***
2002	-0.22	(0.13)	
Male	0.21	(0.05)	***
ln Age (Years)	0.06	(0.06)	
Education (ref = High school or less)			
College	0.40	(0.06)	***
Some College	0.22	(0.06)	***
Race (ref = White)			
Black	-0.43	(0.09)	***
Other	-0.07	(0.12)	
Hispanic	-0.29	(0.11)	**
Household income (ref = $30,00-$49,999)			
< $20,000	-0.03	(0.08)	
$20,00-$29,999	-0.12	(0.09)	
$50,000-$74,999	0.05	(0.07)	
$75,000+	0.12	(0.07)	
Census Division (ref = South Atlantic)			
New England	-0.11	(0.12)	
Mid-Atlantic	-0.02	(0.09)	
East North Central	0.02	(0.09)	
West North Central	0.03	(0.10)	
East South Central	-0.03	(0.11)	
West South Central	0.12	(0.09)	
Mountain	0.02	(0.10)	
Pacific	-0.01	(0.08)	
Party identification (ref = Independent)			
Democrat	0.40	(0.09)	***
Republican	-0.04	(0.10)	
Ideology: Conservative vs. Liberal	0.12	(0.03)	***
ln Distance to Canada–US Border (km)	0.06	(0.09)	
ln Distance to Cdn. Border (km) x Democrat	-0.25	(0.10)	**
ln Distance to Cdn. Border (km) x Republican	-0.12	(0.09)	
N	10,282		
Model χ^2	548.89	***	
Likelihood Ratio χ^2	12.87	**	
Nagelkerke pseudo-R^2	0.06		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Gallup Poll, World Affairs surveys, 2001–2011

Table 2.9: American Favourability Toward Canada (Ordinal Logit), Expanded Model

	Model 2.2.4		
	b	(SE)	
Intercept 3	0.39	(0.19)	*
Intercept 2	3.95	(0.20)	***
Year (ref = 2001)			
2011	-0.32	(0.16)	*
2010	-0.71	(0.16)	***
2009	-0.80	(0.16)	***
2008	-0.55	(0.14)	***
2007	-0.62	(0.14)	***
2006	-0.77	(0.14)	***
2005	-0.86	(0.14)	***
2004	-1.00	(0.14)	***
2003	-0.58	(0.14)	***
2002	-0.24	(0.13)	
Male	0.19	(0.05)	***
ln Age (Years)	0.03	(0.07)	
Education (ref = High school or less)			
College	0.32	(0.06)	***
Some College	0.18	(0.06)	**
Race (ref = White)			
Black	-0.43	(0.09)	***
Other	-0.08	(0.12)	
Hispanic	-0.27	(0.11)	**
Household income (ref = $30,00-$49,999)			
< $20,000	-0.02	(0.09)	
$20,00-$29,999	-0.11	(0.09)	
$50,000-$74,999	0.04	(0.07)	
$75,000+	0.10	(0.07)	
Employment status (ref = Employed)			
Unemployed	-0.03	(0.12)	
Not in Labour Force	0.00	(0.06)	
Census Division (ref = South Atlantic)			
New England	-0.13	(0.12)	
Mid-Atlantic	-0.03	(0.09)	
East North Central	0.02	(0.09)	
West North Central	0.03	(0.10)	
East South Central	-0.01	(0.11)	
West South Central	0.13	(0.10)	
Mountain	0.02	(0.10)	
Pacific	-0.02	(0.09)	
Follow News about IR	0.08	(0.04)	*
US Role in the World	0.13	(0.03)	***
Trade is Opportunity/Threat	0.05	(0.03)	
Economy (ref = stay about the same)			
Getting Better	-0.07	(0.10)	
Getting Worse	-0.02	(0.10)	
Bad Time to Find a Job	0.05	(0.07)	

Table 2.8: American Favourability Toward Canada (Ordinal Logit), Expanded Model, cont'd.

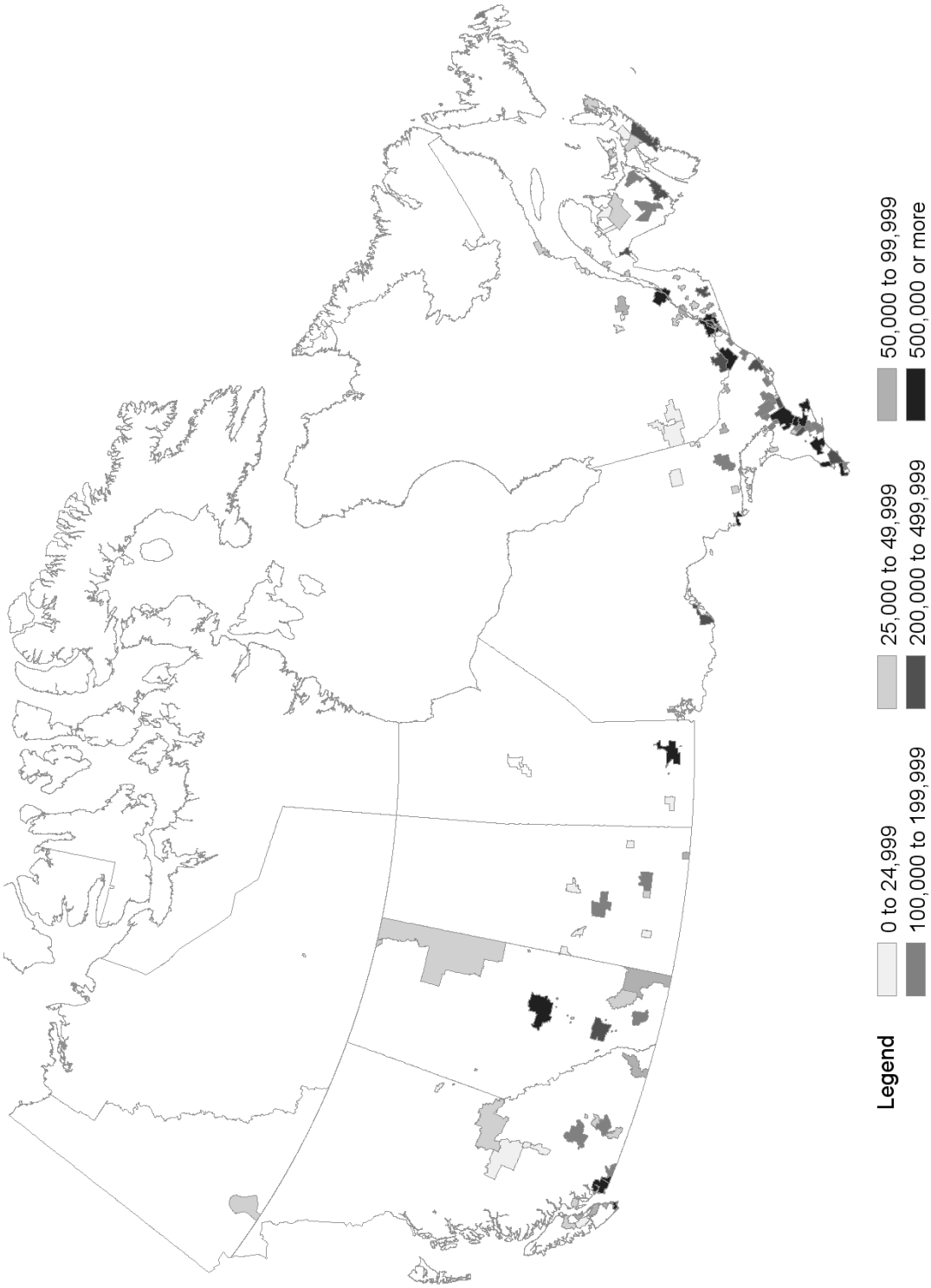
	Model 2.2.4		
	b	(SE)	
Party identification (ref = Democrat)			
Republican	-0.44	(0.06)	***
Independent	-0.38	(0.09)	***
Ideology: Conservative vs. Liberal	0.12	(0.03)	***
ln Distance to Canada–US Border (km)	-0.19	(0.04)	***
ln Distance to Cdn. Border (km) x Republican	0.13	(0.05)	*
ln Distance to Cdn. Border (km) x Independent	0.24	(0.10)	**
County Unemployment Rate (%)	-0.001	(0.016)	
County Median Family Income ($000)	0.002	(0.002)	
N	10,282		
Model χ^2	592.19	***	
Likelihood Ratio χ^2	43.30	***	
Nagelkerke pseudo-R^2	0.07		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Sources: Gallup Poll, World Affairs surveys, 2001–2011; Bureau of Labor Statistics, Local Area Unemployment Statistics, 2001–2011 (unemployment rate); United States Census Bureau, Summary File 3, 2000 Census; United States Census Bureau, American Community Survey, 2010 and 2011 5-year estimates, Table DP03 (median family income).

Notes: Results are ordinal logistic regression estimates with standard errors adjusted for the complex sample design (stratification and weighting) and multiple imputation. Continuous independent variables (age, ideology, distance to the Canada–US border, follow news about international relations, views of the role of the US in the world, views of international trade, perceptions of the national economy, county unemployment rate and county median family income) are mean-centred. Missing data are multiply imputed 10 times using all available data.

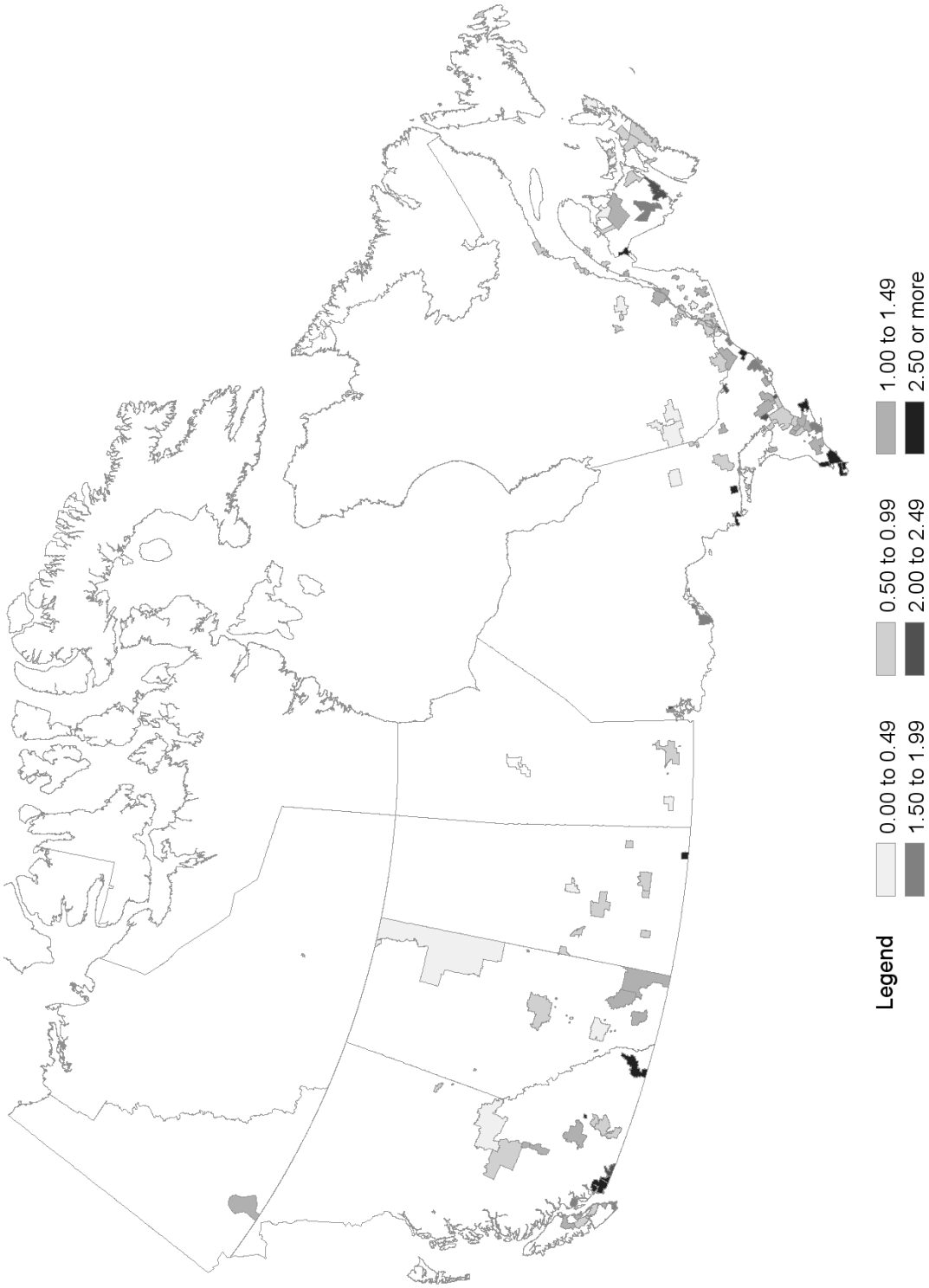
Figure 2.1: Map, Canadian Visits to the United States by Census Metropolitan Area/Census Agglomeration of Residence, 2013



Sources: Statistics Canada, International Travel Survey Public Use Microdata File, Canadian Resident Trips Abroad (2013); Statistics Canada, Census Cartographic Boundary Files – Provinces/Territories (2011); Statistics Canada, Census Cartographic Boundary Files – Census Metropolitan Areas and Census Agglomerations.

Note: Areas with no data (in white) are areas outside the boundaries of census metropolitan areas (CMAs) and census agglomerations (CAs), and for which no data are available.

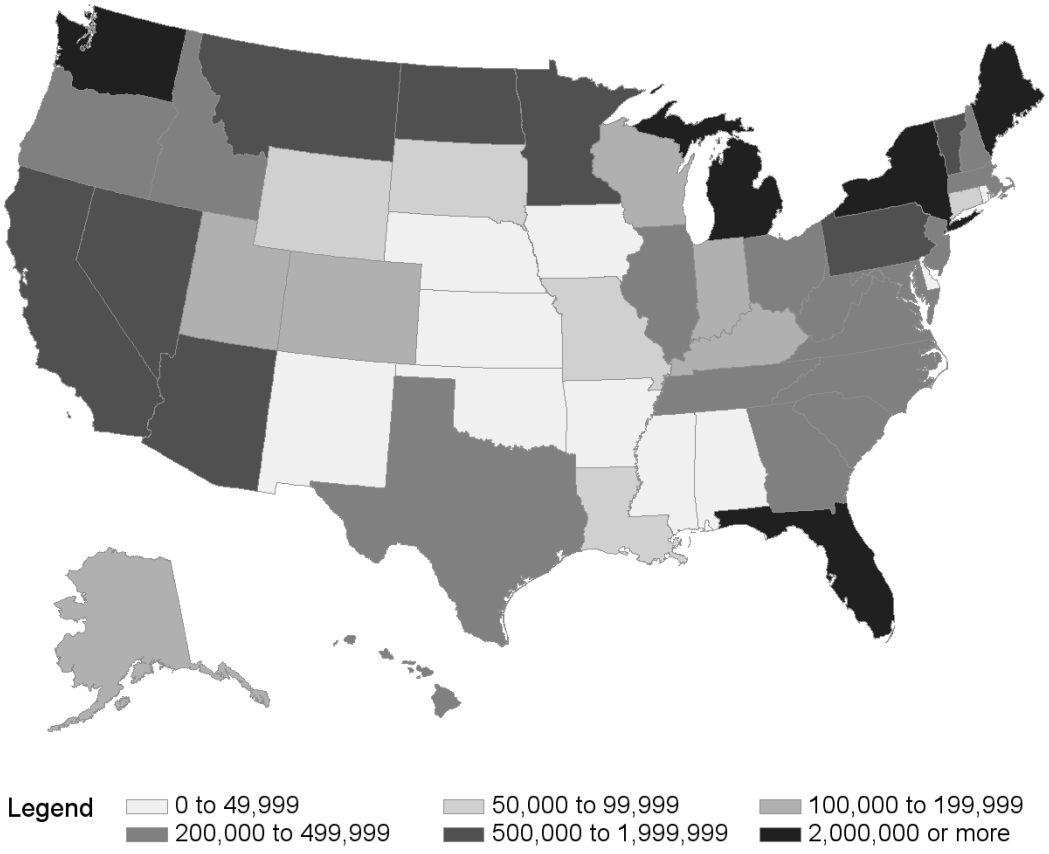
Figure 2.2: Map, Canadian Visitors to the United States Per Capita by Census Metropolitan Area/Census Agglomeration of Residence, 2013



Sources: Statistics Canada, International Travel Survey Public Use Microdata File, Canadian Resident Trips Abroad (2013); Statistics Canada, Population and Dwelling Counts for Census Metropolitan Areas and Census Agglomerations (2011); Statistics Canada, Census Cartographic Boundary Files – Provinces/Territories (2011); Statistics Canada, Census Cartographic Boundary Files – Census Metropolitan Areas and Census Agglomerations.

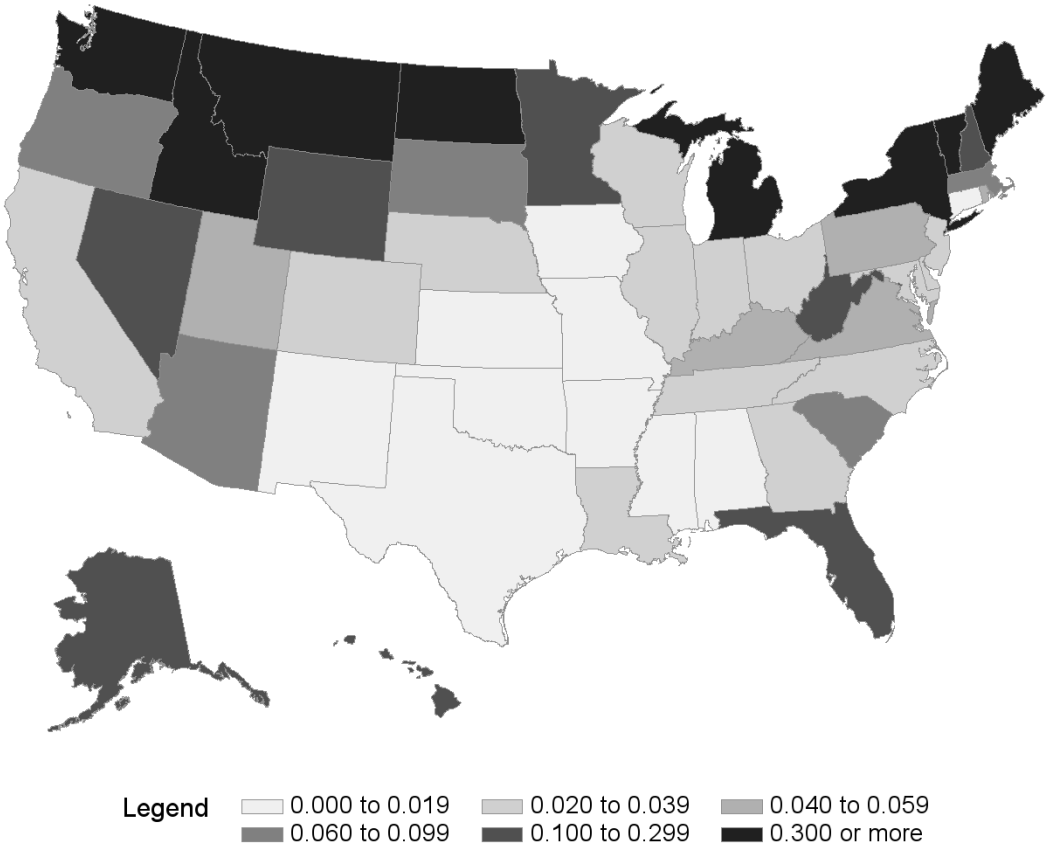
Note: Areas with no data (in white) are areas outside the boundaries of census metropolitan areas (CMAs) and census agglomerations (CAs), and for which no data are available.

Figure 2.3: Map, Canadian Visitors to the United States by State(s) Visited, 2013



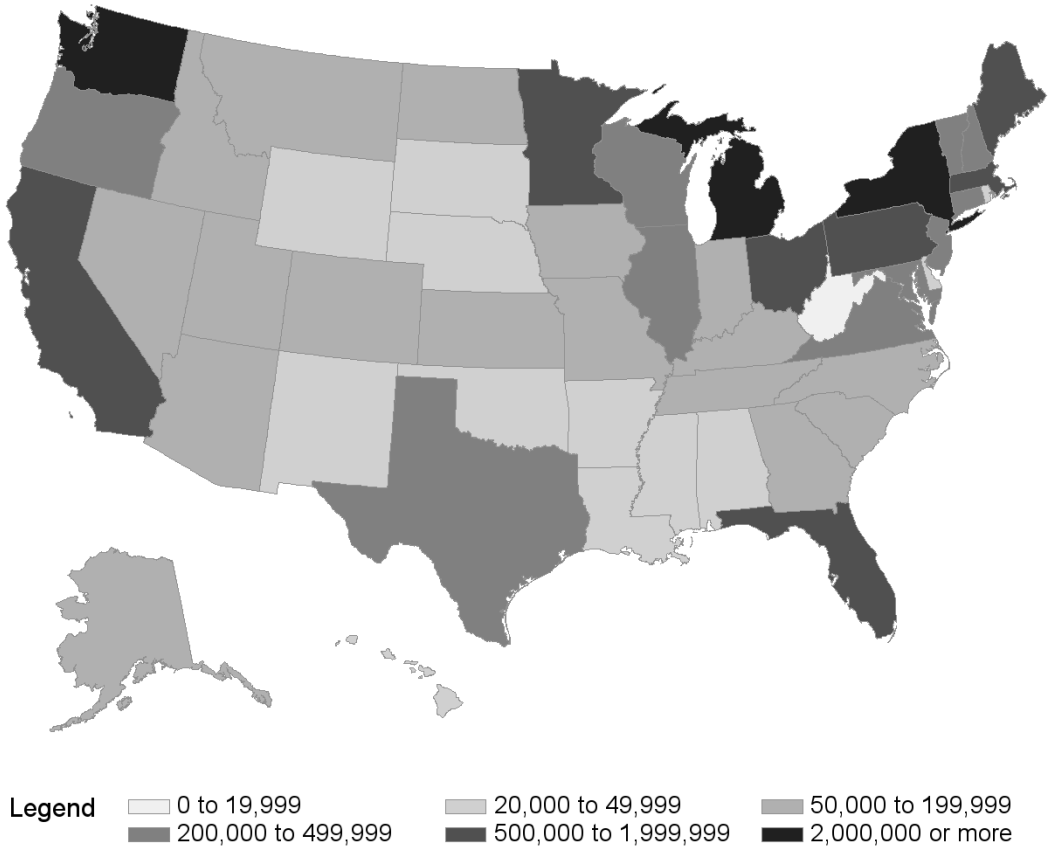
Sources: Statistics Canada, International Travel Survey Public Use Microdata File, Canadian Resident Trips Abroad (2013); United States Census Bureau, Cartographic Boundary Shapefile – States (2013).

Figure 2.4: Map, Canadian Visitors to the United States Per Capita by State(s) Visited, 2013



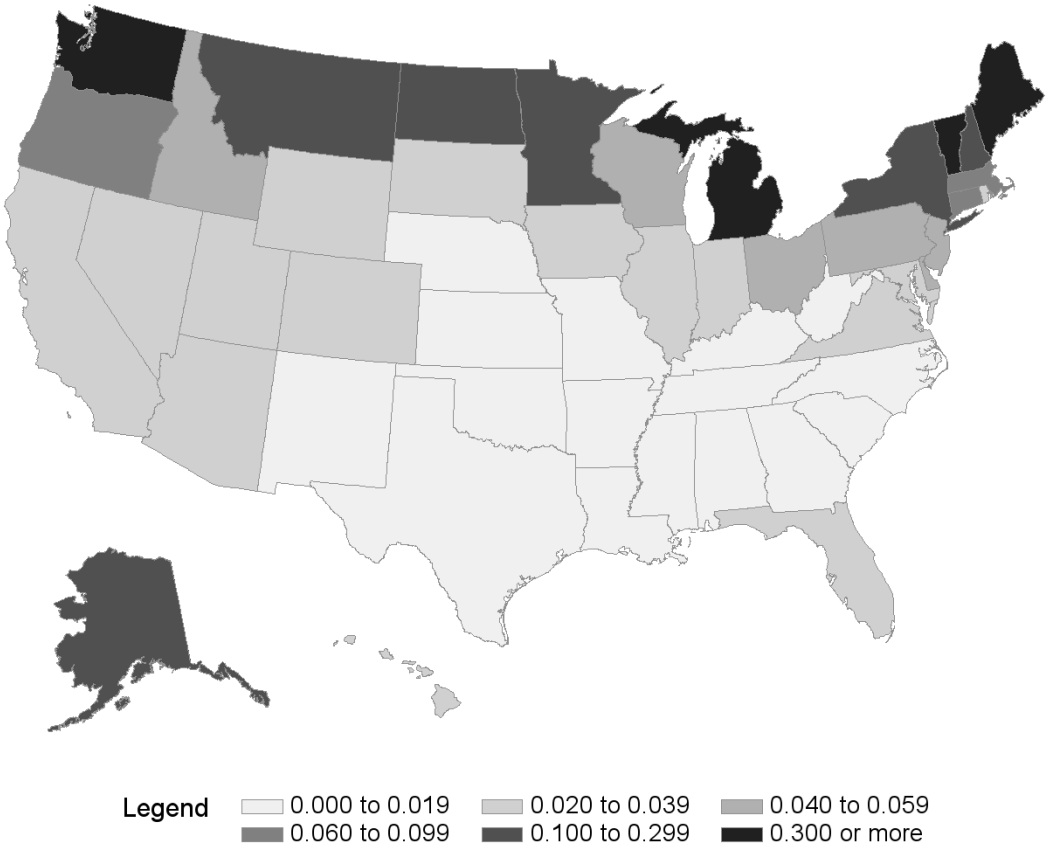
Sources: Statistics Canada, International Travel Survey Public Use Microdata File, Canadian Resident Trips Abroad (2013); United States Census Bureau, Cartographic Boundary Shapefile – States (2013); United States Census Bureau, Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: July 1, 2013 (vintage 2013) (NST-EST2013-01).

Figure 2.5: Map, American Visitors to Canada by State of Residence, 2013



Sources: Statistics Canada, International Travel Survey Summary Table UP01A (2013); United States Census Bureau, Cartographic Boundary Shapefile – States (2013).

Figure 2.6: Map, American Visitors to Canada Per Capita by State of Residence, 2013



Sources: Statistics Canada, International Travel Survey Summary Table UP01A (2013); United States Census Bureau, Cartographic Boundary Shapefile – States (2013); United States Census Bureau, Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: July 1, 2013 (vintage 2013) (NST-EST2013-01).

Figure 2.7: Canadian Feelings toward the United States, 1997–2011 (CES)

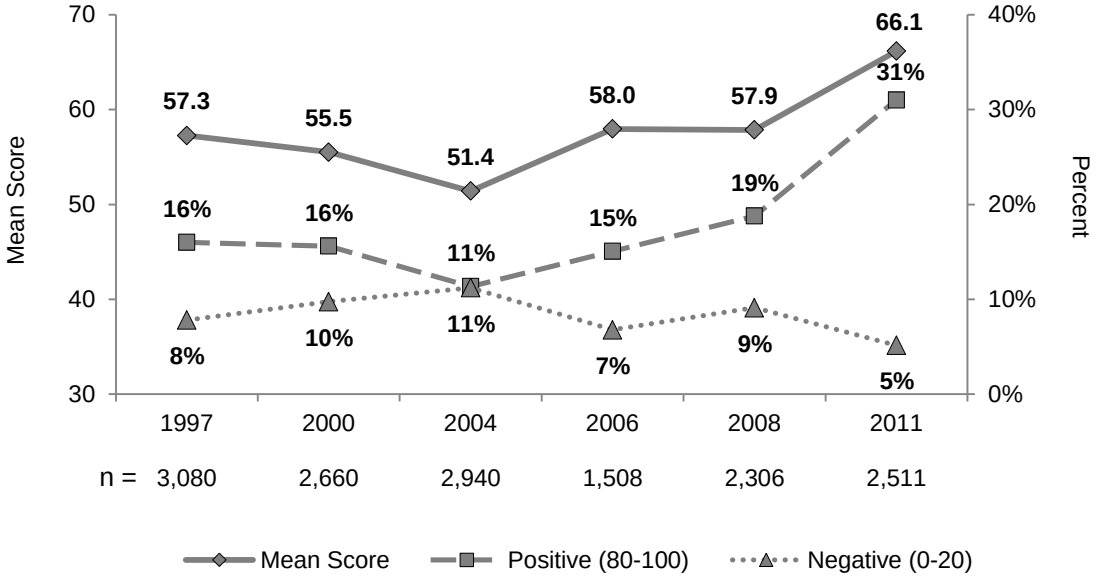


Figure 2.8: American Favourability toward Canada, 2001–2011 (Gallup Poll)

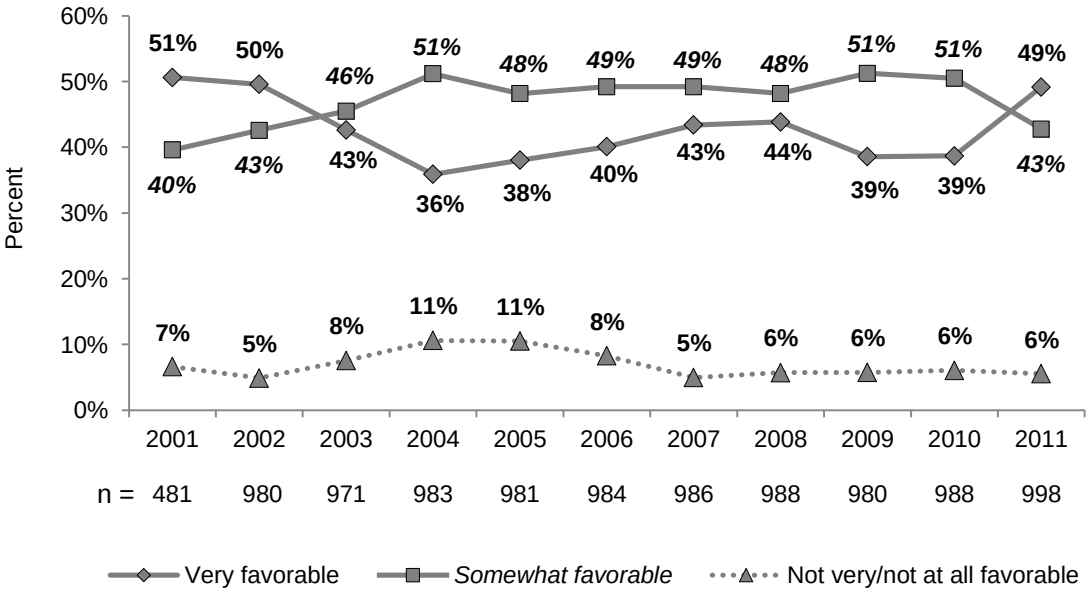


Figure 2.9: Histogram, Distance to Canada–US Border (CES)

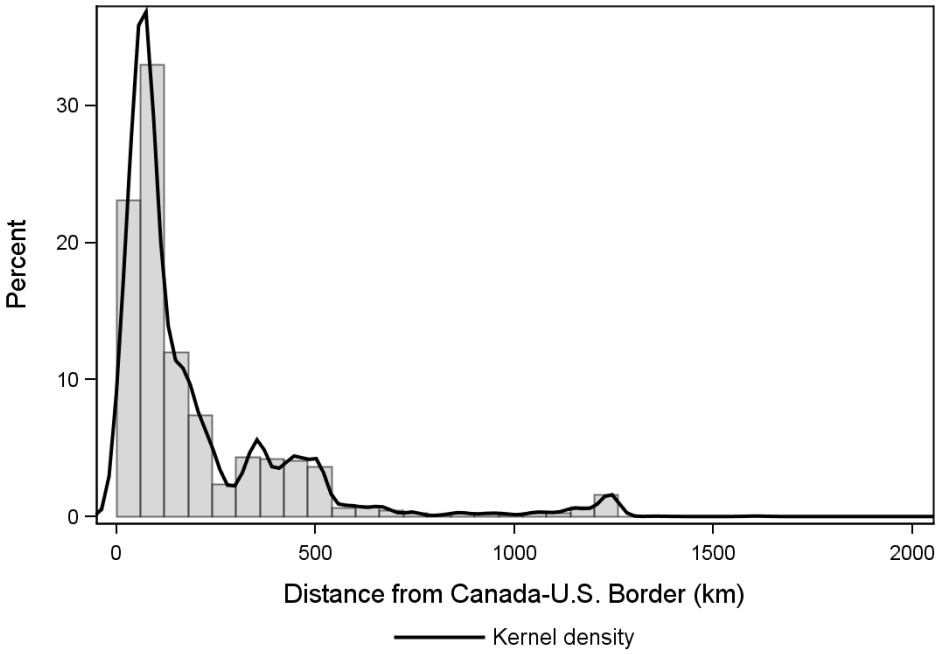


Figure 2.10: Histogram, Logged Distance to Canada–US Border (CES)

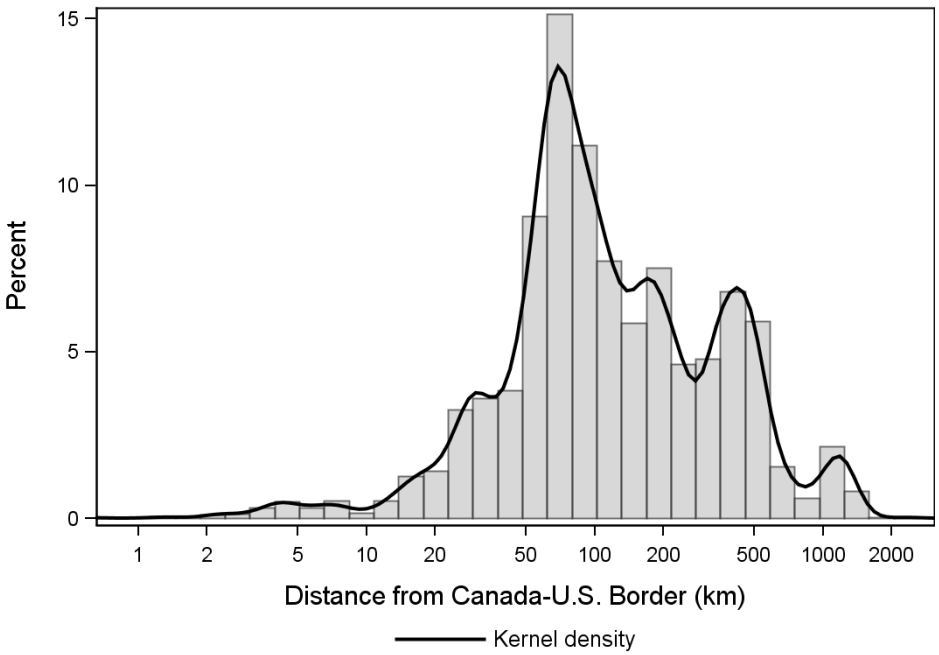


Figure 2.11: Histogram, Distance to Canada–US Border (Gallup Poll)

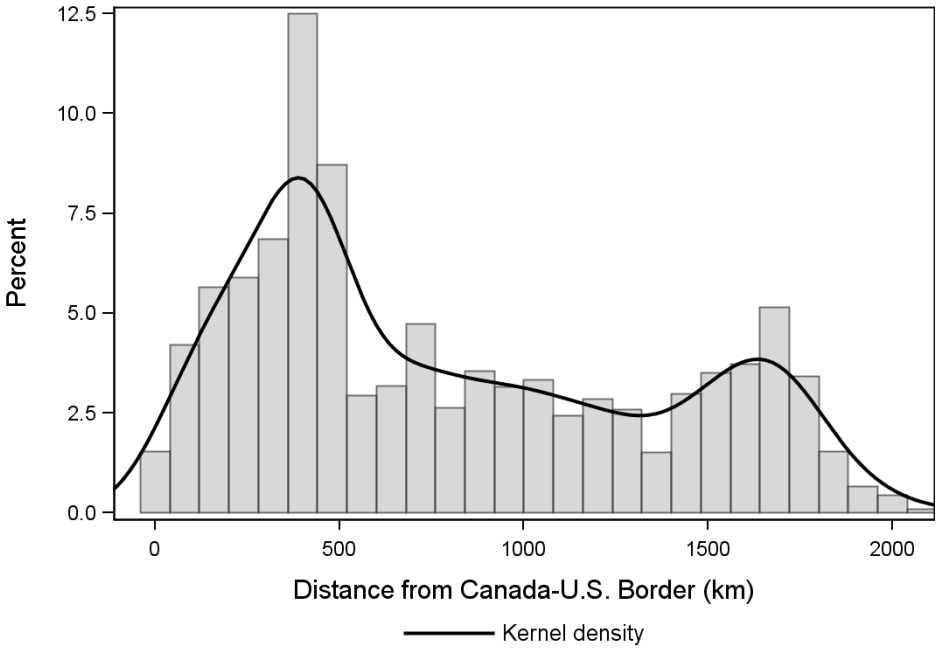


Figure 2.12: Histogram, Logged Distance to Canada–US Border (Gallup Poll)

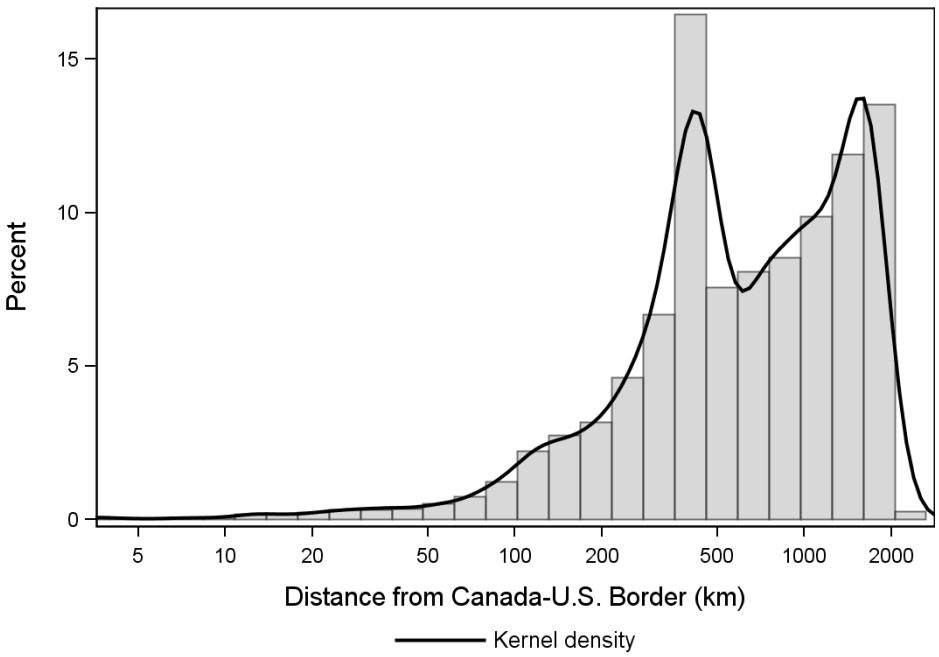


Figure 2.13: Effect Plot, Canadian Feelings toward the United States (CES)

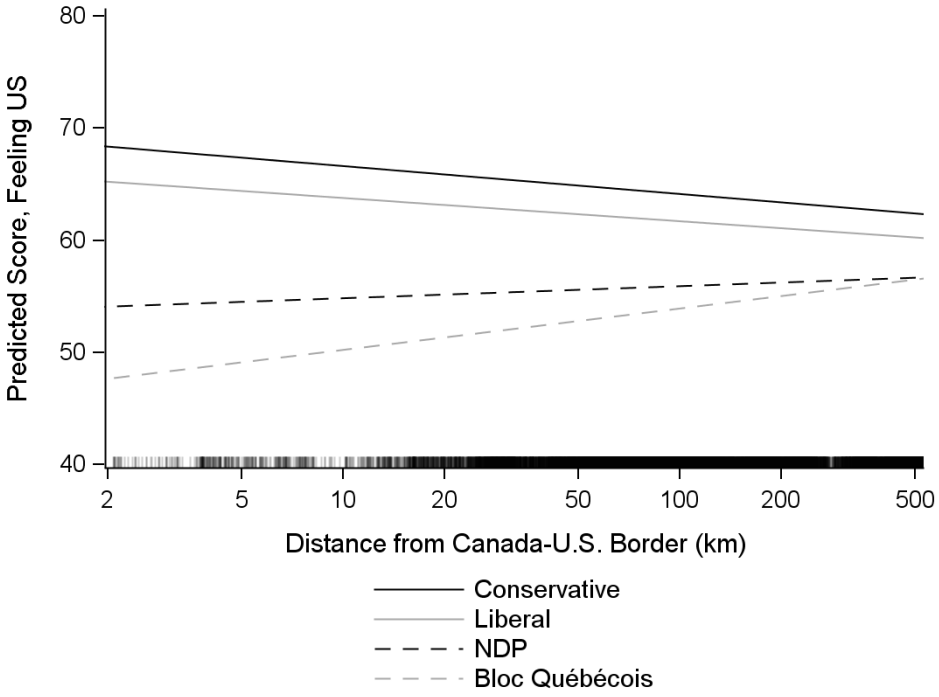


Figure 2.14: Effect Plot, American Favourability toward Canada (Gallup Poll)

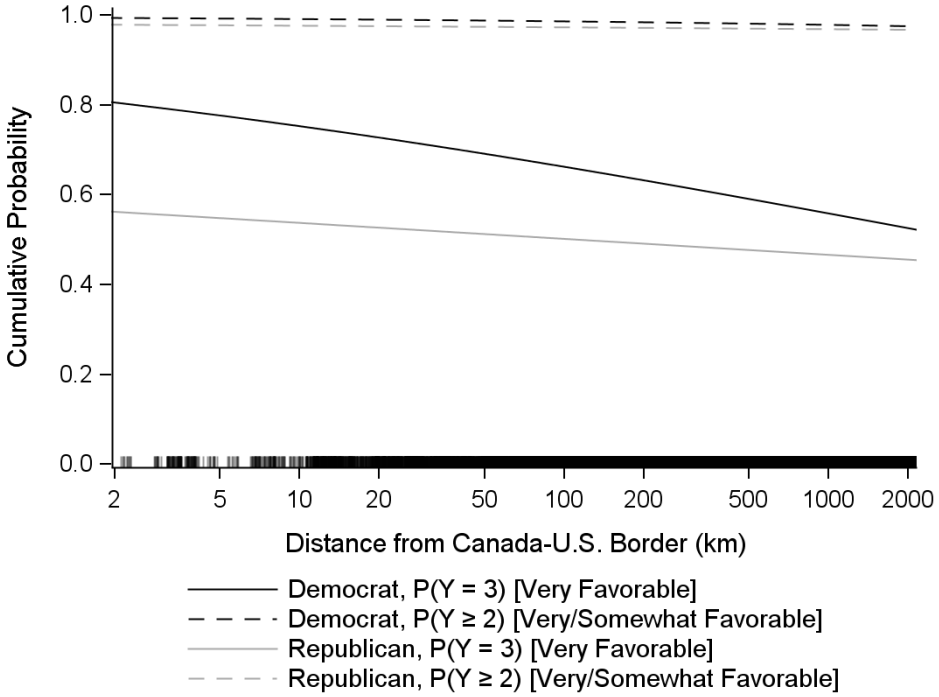


Figure 2.15: Coefficient Plot, Effect of Conservative Party Identification (CES)

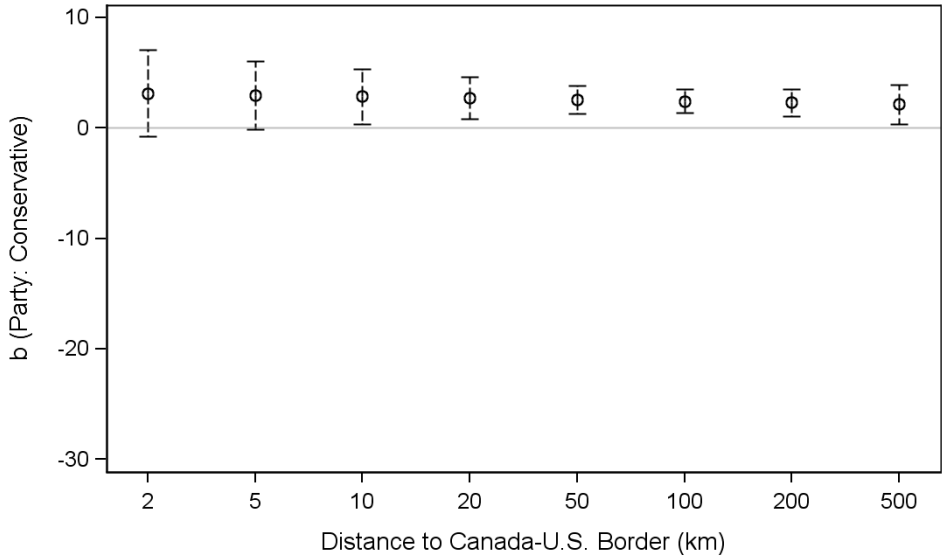


Figure 2.16: Coefficient Plot, Effect of New Democratic Party Identification (CES)

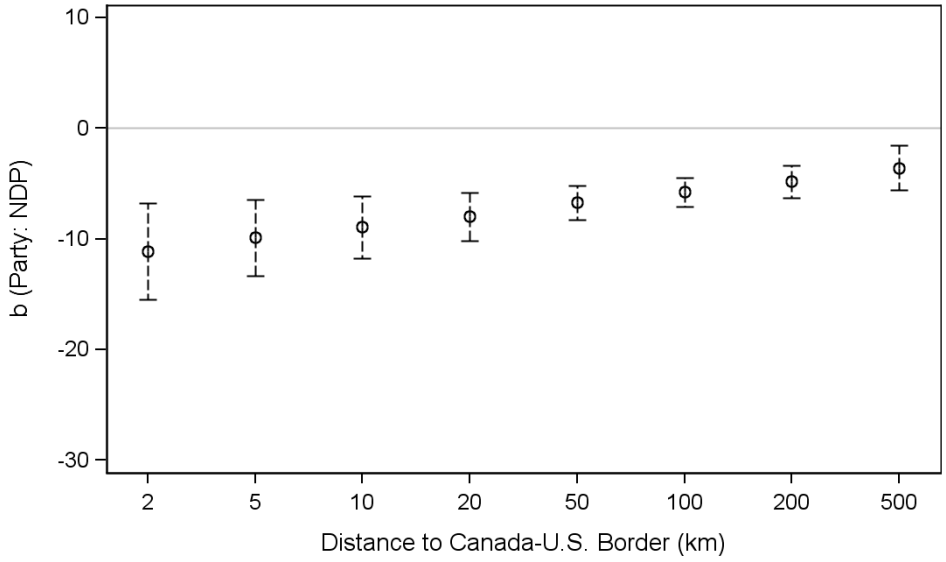
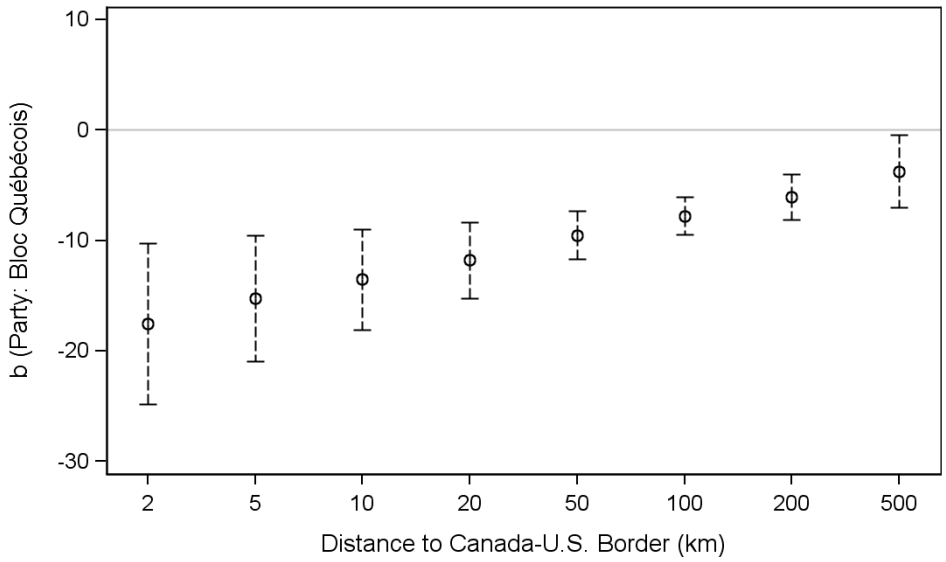


Figure 2.17: Coefficient Plot, Effect of Bloc Québécois Identification (CES)



Note: Figures. 2.15–2.17 show the party coefficients (and 95% confidence intervals) from model 2.1.3 with distance to the Canada–US border centred at different values.

Figure 2.18: Coefficient Plot, Effect of Republican Party Identification (Gallup Poll)

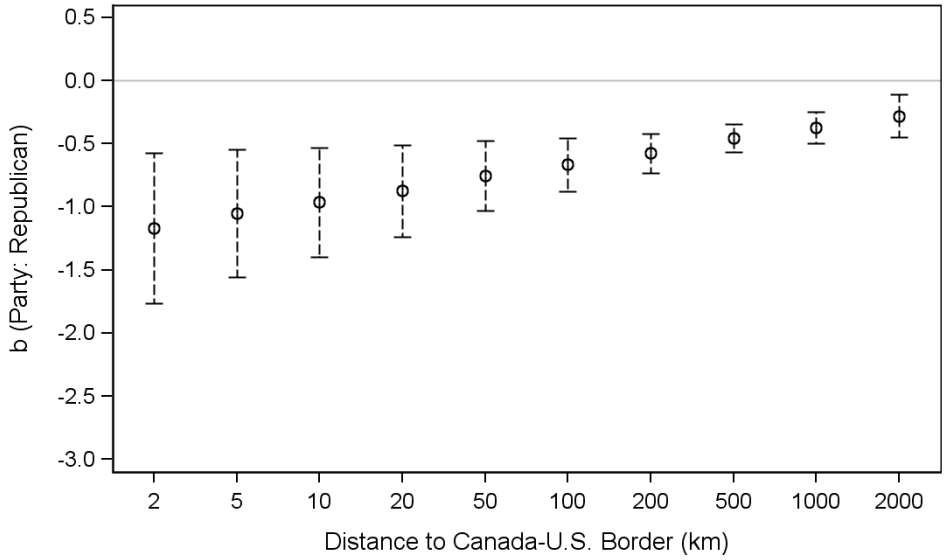
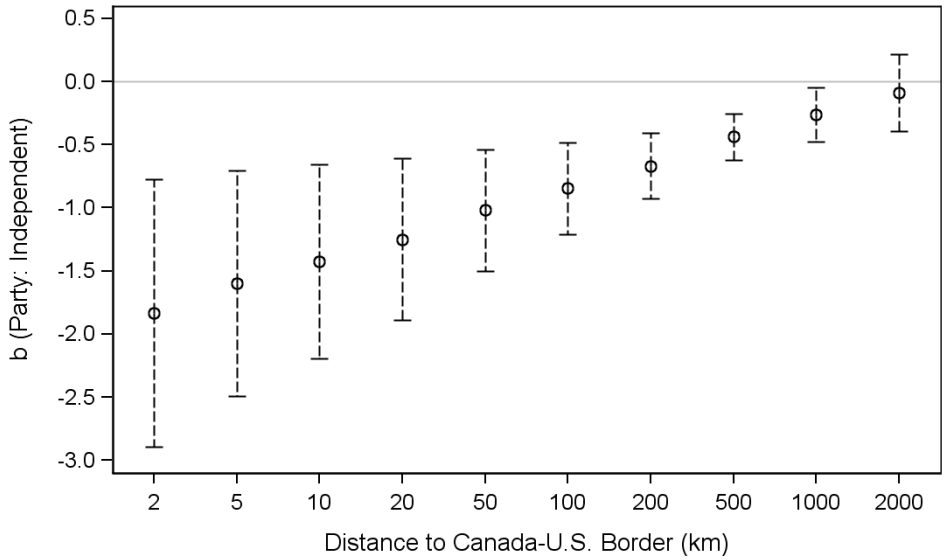


Figure 2.19: Coefficient Plot, Effect of Independent Identification (Gallup Poll)



Note: Figures. 2.18–2.19 show the party coefficients (and 95% confidence intervals) from model 2.2.3 with distance to the Canada–US border centred at different values.

2.9 *Appendix 2A: Data Coding – CES*

Feeling – United States: "And now some questions about countries and groups. How do you feel about CANADA? Use any number from zero to one hundred. Zero means you really DISLIKE Canada and one hundred means you really LIKE Canada. How do you feel about the UNITED STATES?"

Year: Dummy variables using indicator coding for election years 2000, 2004, 2006, 2008 and 2011 (1997 is the reference category).

Male: Male (1), female (0).

ln Age (Years): Age in years; logged (base *e*).

Education: Dummy variables using indicator coding for University and College (High school or less is the reference category).

Employment: "Are you currently self-employed, working for pay, retired, unemployed or looking for work, a student, caring for a family, or something else?" Dummy variables using indicator coding for Unemployed/Looking for Work and Not in Labour Force (Retired, Student, Caring for a Family, Disabled) (Employed (Self-Employed, Working for Pay) is the reference category).

Household Income: Dummy variables using indicator coding for household income less than $30,000, $30,000–$59,999, and $90,000+ ($60,000–$89,999 is the reference category).

Province: Dummy variables using indicator coding for province of residence (Ontario is the reference category).

Interest in Politics: "How interested are you in politics GENERALLY? Use a scale from 0 to 10, where zero means no interest at all, and ten means a great deal of interest." No Interest at All (0), Great Deal of Interest (10); mean centred.

International Trade Creates Jobs: "International trade creates more jobs in Canada than it destroys." Strongly Agree (5), Agree, (4), Not Sure (3), Disagree (2), Strongly Disagree (1); mean centred.

Identify with Canada: "How much do you identify with each of the following? Canada." A Great Deal (4), Quite a Lot (3), Not Very Much (2), None at All (1); mean centred.

Economy Getting Better/Worse: "Over the past year, has Canada's economy gotten better, gotten worse, or stayed about the same?" Dummy variables using indicator coding for Getting Better and Getting Worse (Stayed about the Same is the reference category).

Personal Financial Situation Getting Better/Worse: "Over the past year, has your financial situation gotten better, gotten worse, or stayed about the same?" Dummy variables using indicator coding for Getting Better and Getting Worse (Stayed about the Same is the reference category).

Party: "In federal politics, do you usually think of yourself as a Liberal, Conservative, NDP, [in Quebec: Bloc Québécois], Green Party, or none of these?" [If "none of these":] "Do you generally think of yourself as being a little closer to one of the federal parties than to the others?" [If yes:] "Which party is that?" Dummy variables using indicator coding for Conservative, NDP, Bloc Québécois, Other Party and No Party (Liberal is the reference category).

Left vs. Right: "In politics people sometimes talk of left and right. Where would you place yourself?" Left (0), Right (10); mean centred.

ln Distance Canada–US Border (km): Distance to the Canada–US border in kilometres; logged (base *e*) and mean centred.

Area Unemployment rate (%): Three-month moving average unadjusted unemployment rate at the Census Metropolitan Area (CMA) (where available) or province level for the month of the election; mean centred. Source: Statistics Canada, CANSIM II table 282-0135.

Area Median Family Income ($000): Median total income for all family types at the Census Metropolitan Area (CMA) (where available) or province level in constant 2011 dollars (thousands) for the year of the election; mean centred. Source: Statistics Canada, CANSIM II table 202-0411.

2.10 Appendix 2B: Descriptive Statistics – CES

	Mean	*Min*	*Max*	*SD*	*N*	*Missing*
Feeling – United States	58.65	0	100	21.73	14,654	2,367
Year: 2011	0.15	0	1	0.35	17,021	0
Year: 2008	0.14	0	1	0.35	17,021	0
Year: 2006	0.12	0	1	0.32	17,021	0
Year: 2004	0.25	0	1	0.43	17,021	0
Year: 2000	0.17	0	1	0.37	17,021	0
Year: 1997	0.18	0	1	0.38	17,021	0
Male	0.49	0	1	0.50	17,021	0
Age (years)	46.98	18	102	16.39	16,856	165
ln Age (years)	3.78	2.89	4.62	0.38	16,856	165
Education: University	0.28	0	1	0.45	16,883	138
Education: College	0.19	0	1	0.39	16,883	138
Education: High school or less	0.53	0	1	0.50	16,883	138
Income: < $30,000	0.20	0	1	0.40	14,689	2,332
Income: $30,000 to <$60,000	0.31	0	1	0.46	14,689	2,332
Income: $60,000 to <$90,000	0.23	0	1	0.42	14,689	2,332
Income: $90,000+	0.25	0	1	0.43	14,689	2,332
Employed	0.62	0	1	0.48	16,869	152
Unemployed	0.04	0	1	0.20	16,869	152
Not in labour force	0.34	0	1	0.47	16,869	152
Province: Newfoundland and Labrador	0.02	0	1	0.14	17,021	0
Province: Nova Scotia	0.01	0	1	0.09	17,021	0
Province: Prince Edward Island	0.03	0	1	0.17	17,021	0
Province: New Brunswick	0.02	0	1	0.15	17,021	0
Province: Quebec	0.26	0	1	0.44	17,021	0
Province: Ontario	0.36	0	1	0.48	17,021	0
Province: Manitoba	0.04	0	1	0.19	17,021	0
Province: Saskatchewan	0.04	0	1	0.19	17,021	0
Province: Alberta	0.08	0	1	0.28	17,021	0
Province: British Columbia	0.13	0	1	0.33	17,021	0
Interest in politics	5.68	0	10	2.75	16,886	135
International trade creates jobs	3.30	1	5	1.04	7,116	9,905
Identify with Canada	3.21	1	4	0.76	1,033	15,988
Economy: Getting better	0.32	0	1	0.46	16,436	585
Economy: Same	0.45	0	1	0.49	16,436	585
Economy: Getting worse	0.24	0	1	0.42	16,436	585

	Mean	*Min*	*Max*	*SD*	*N*	*Missing*
Personal financial situation: Getting better	0.21	0	1	0.41	16,865	156
Personal financial situation: Same	0.55	0	1	0.49	16,865	156
Personal financial situation: Getting worse	0.23	0	1	0.42	16,865	156
Party: Liberal	0.31	0	1	0.46	14,717	2,304
Party: Conservative	0.26	0	1	0.44	14,717	2,304
Party: NDP	0.12	0	1	0.32	14,717	2,304
Party: Bloc Québécois	0.09	0	1	0.28	14,717	2,304
Party: Other party	0.02	0	1	0.13	14,717	2,304
Party: No party	0.20	0	1	0.40	14,717	2,304
Left vs. right	5.23	0	10	1.88	4,773	12,248
Distance to Canada–US border (km)	173.59	0.33	2,379.61	205.45	16,781	240
ln Distance to Canada–US border (km)	4.64	-1.10	7.77	1.04	16,781	240
Area unemployment rate (%)	7.34	3.20	20.80	2.33	17,021	0
Area median family income ($000)	55.75	34.00	82.40	7.97	17,021	0

2.11 Appendix 2C: Data Coding – Gallup Poll

Favourability – Canada: "Next, I'd like your overall opinion of some foreign countries. First, is your overall opinion of [READ AND ROTATE] very favourable (3), mostly favourable (2), mostly unfavourable (1), or very unfavourable (1)? How about – Canada?"

Year: Dummy variables using indicator coding for years 2002–2011 (2001 is the reference category).

Male: Male (1); Female (0).

ln Age (Years): Age in years; logged (base *e*).

Education: Dummy variables using indicator coding for College and Some College (High school or less is the reference category).

Race: Dummy variables using indicator coding for Black and Other Race (White is the reference category).

Hispanic: Hispanic (1), not Hispanic (0).

Employment: "Which of the following best describes your current situation – employed full-time, employed part-time, retired, a homemaker, a student, unemployed but looking for work, or unemployed and not looking for work?" Dummy variables using indicator coding for Unemployed but Looking for Work and Not in Labour Force (Retired, Homemaker, Student, Unemployed and Not Looking for Work) (Employed Full-Time/Employer Part-Time) is the reference category).

Household Income: Dummy variables using indicator coding for household income less than $30,000, $30,000–$59,999, $50,000–74,999, $75,000+ ($30,000–$49,999 is the reference category).

Census Division: Dummy variables using indicator coding for Census Division of residence (the South Atlantic Census Division is the reference category).

Follow News about IR: "In general, how closely do you follow news about foreign countries around the world, including relations between the United States and other countries – very closely (4), somewhat closely (3), not too closely (2), or not at all (1)?"; rescaled to 0–1 and mean centred.

US Role in the World: "Next, we would like you to think about the role the U.S. should play in trying to solve international problems. Do you think the United States should – [FORM A: READ 1-4; FORM B: READ 4-1] Take the leading role in world affairs (4), Take a major role, but not the leading role (3), (or) Take a minor role (2), (or) Take no role at all in world affairs (1)"; rescaled to 0–1 and mean centred.

Trade is Opportunity/Threat: "What do you think foreign trade means for America? Do you see foreign trade more as [FORM A: READ 1-2; FORM B: READ 2-1] An opportunity for economic growth through increased U.S. exports (3), (or) A threat to the economy from foreign imports (1), both (vol.) (2), neither (vol.) (2)"; rescaled to 0–1 and mean centred.

Economy Better/Worse: "Right now, do you think that economic conditions in the country as a whole are getting better (3) or getting worse (1)? Same (vol.) (2)"; rescaled to 0–1 and mean centred.

Bad Time to Find a Job: "Thinking about the job situation in America today, would you say that it is now a good time (0) or a bad time (1) to find a quality job?"

Party: "In politics, as of today, do you consider yourself a Republican, a Democrat, or an Independent?" [If Independent, don't know or refused:] "As of today, do you lean more to the Democratic Party or the Republican Party?" Dummy variables

using indicator coding for Republican and Independent (Democrat is the reference category)

Ideology: "How would you describe your political views?" Very conservative (1), Conservative (2), Moderate (3), Liberal (4), Very liberal (5); mean centred.

ln Distance Canada–US Border (km): Distance to the Canada–US border in kilometres; logged (base *e*).

County Unemployment Rate (%): Annual average unadjusted unemployment rate at the county level; mean centred. Source: Bureau of Labor Statistics, Local Area Unemployment Statistics, 2001–2011.

County Median Family Income ($000): Median family income at the county level in inflation-adjusted dollars (thousands); mean centred. Sources: United States Census Bureau, Summary File 3, 2000 Census; United States Census Bureau, American Community Survey, 2010 and 2011 5-year estimates, Table DP03 (Selected Economic Characteristics).

2.12 *Appendix 2D: Descriptive Statistics – Gallup Poll*

	Mean	Min	Max	SD	N	Missing
Canada - Very favourable	0.45	0	1	0.49	10,021	261
Canada - Somewhat favourable	0.51	0	1	0.49	10,021	261
Canada - Unfavourable	0.04	0	1	0.19	10,021	261
Year: 2011	0.10	0	1	0.29	10,282	0
Year: 2010	0.10	0	1	0.29	10,282	0
Year: 2009	0.10	0	1	0.29	10,282	0
Year: 2008	0.10	0	1	0.29	10,282	0
Year: 2007	0.10	0	1	0.29	10,282	0
Year: 2006	0.09	0	1	0.28	10,282	0
Year: 2005	0.09	0	1	0.29	10,282	0
Year: 2004	0.09	0	1	0.29	10,282	0
Year: 2003	0.09	0	1	0.29	10,282	0
Year: 2002	0.10	0	1	0.29	10,282	0
Year: 2001	0.04	0	1	0.20	10,282	0
Male	0.48	0	1	0.49	10,282	0
Age (Years)	47.84	18	99	17.18	10,195	87
ln Age (Years)	3.79	2.89	4.60	0.39	10,195	87
Education: College	0.32	0	1	0.46	10,236	46
Education: Some College	0.32	0	1	0.46	10,236	46
Education: High School or Less	0.37	0	1	0.47	10,236	46
Race: White	0.87	0	1	0.33	10,049	233
Race: Black	0.10	0	1	0.29	10,049	233
Race: Other	0.04	0	1	0.19	10,049	233
Hispanic	0.05	0	1	0.22	10,212	70
Employed	0.57	0	1	0.49	10,246	36
Unemployed	0.05	0	1	0.22	10,246	36
Not in Labour Force	0.38	0	1	0.48	10,246	36
HH Income: <$20,000	0.15	0	1	0.36	9,432	850
HH Income: $20,000 to <$30,000	0.13	0	1	0.33	9,432	850
HH Income: $30,000 to <$50,000	0.24	0	1	0.42	9,432	850
HH Income: $50,000 to <$75,000	0.19	0	1	0.39	9,432	850
HH Income: $75,000+	0.29	0	1	0.45	9,432	850

	Mean	Min	Max	SD	N	Missing
Census Division: New England	0.05	0	1	0.21	10,282	0
Census Division: Mid-Atlantic	0.14	0	1	0.34	10,282	0
Census Division: East North Central	0.15	0	1	0.35	10,282	0
Census Division: West North Central	0.08	0	1	0.26	10,282	0
Census Division: South Atlantic	0.19	0	1	0.38	10,282	0
Census Division: East South Central	0.07	0	1	0.24	10,282	0
Census Division: West South Central	0.10	0	1	0.30	10,282	0
Census Division: Mountain	0.08	0	1	0.26	10,282	0
Census Division: Pacific	0.14	0	1	0.35	10,282	0
Follow News about IR	3.04	1	4	0.73	8,272	2,010
US Role in the World	2.92	1	4	0.74	10,157	125
Trade is Opportunity/Threat	2.01	1	3	0.96	4,265	6,017
Economy: Getting Better	0.35	0	1	0.47	7,642	2,640
Economy: Same	0.08	0	1	0.26	7,642	2,640
Economy: Getting Worse	0.58	0	1	0.48	7,642	2,640
Bad Time to Find a Job	0.74	0	1	0.43	8,571	1,711
Party: Democrat	0.49	0	1	0.49	10,040	242
Party: Republican	0.44	0	1	0.49	10,040	242
Party: Independent	0.07	0	1	0.25	10,040	242
Ideology: Conservative–Liberal	2.77	1	5	0.97	10,014	268
Distance to Canada–US border (km)	799.18	1.59	2,256.20	535.78	10,282	0
ln Distance to Canada–US border (km)	6.37	0.46	7.72	0.89	10,282	0
County Unemployment rate (%)	6.49	1.90	29.10	2.51	10,282	0
County Median family income ($000)	61.12	20.50	142.04	15.92	10,282	0

3. Partisanship, Border Proximity, and Canadian Attitudes toward North American Integration[1]

3.1 *Abstract*

The study of public attitudes toward continental integration has a long lineage in Canada. Still, the research literature has neglected the effect of spatial proximity to the United States. This maintains even though the cross-border trade, travel, and social ties constituting the daily reality of Canada–US relations concentrate near the Canada–US border. This article advances a spatially informed analysis of Canadian attitudes toward North American integration drawing on data from the Canadian Election Studies (1997–2011). The explanation it advances has three main foci: the roles of political party identification and political ideology; the role of spatial proximity to the Canada–US border; and the interactive relationship between political views and border proximity.

3.2 *Introduction*

Trade between Canada and the United States constitutes the largest trading relationship between two countries in the world. Their shared geography also entails security threats in common. Not surprisingly, then, a large literature examining all different facets of relations between Canada and the United States – trade relations, defence cooperation, border management, energy and natural resource policy, environmental cooperation, and even a potential (albeit unlikely) monetary union – has developed. Successive generations of analysts of the Canada–US relationship have often been quick to note, however, that the relationship is markedly asymmetrical: Canada is far more dependent on its southern neighbour than vice versa (Keohane and Nye 1974; Von Riekhoff and Neuhold 1993; Lennox

1. Originally published as Gravelle (2014a).

2009). It is unsurprising, then, that Canada–US relations command much greater attention among policymakers in Ottawa than among those in Washington, DC (Mahant and Mount 1999).

Nevertheless, Canadian public opinion matters beyond its own borders. In particular, it matters for its neighbour to the south. One recent case should serve to make this point. In March 2003, facing widespread public opposition to the coming US-led invasion of Iraq, then-prime minister Jean Chrétien announced on the floor of the House of Commons in Ottawa that Canada would not participate in any action against Iraq without an authorizing resolution from the United Nations Security Council. Despite this public position, Chrétien (2007) would later write in his political memoirs that his instinct was to have Canada join the mission (despite his reservations about the weak case for Iraq possessing weapons of mass destruction), but that he was constrained by domestic public opinion. In short, domestic public opinion is an important contextual factor shaping foreign policy (J. H. Aldrich et al. 2006; Soroka 2003).

Even though a rich literature on Canadian attitudes toward North American integration has developed in the past 40 years, existing research has not given sufficient consideration to *space*. Some analyses of Canada–US relations stress Canada's proximity to the US and its implications for Canadian public policy (e.g., Hale 2012), but it is important to observe that at the individual level, proximity to the US is a variable, not a constant. Moreover, though it is common to acknowledge that trade, personal and business travel, and the social ties of family and friendship are concentrated near the Canada–US border, geographic proximity to the United States has not been explicitly accounted for in analyses of public attitudes toward Canada's ties to the US. This persists in spite of the increasing use of spatial approaches to social science (reviewed above in section 1.2) and the growing body

of theory and evidence pointing to the relevance of proximity and distance in shaping public attitudes.

My research in this article is guided by three questions: How do political factors – party identification and ideology – shape Canadian attitudes toward continental integration? What is the effect of spatial proximity to the United States in shaping attitudes? Lastly, how do political factors and proximity interact? The focus here is on general attitudes toward North American integration – that is, general dispositions toward closer or more distant relations between Canada and the United States – and not attitudes toward the United States per se (the subject of chapter 2), or attitudes relating to specific policy areas such as trade or border cooperation. The article is structured as follows. First, I review the existing literature on public opinion toward Canada–US relations while highlighting some of its shortcomings. Second, I advance my research hypotheses relating to political partisanship and ideology, border proximity, and their interaction. With respect to the border proximity hypothesis, I demonstrate that classic work in social psychology and international relations lead to the expectation that proximity matters, and further that they are consistent with the findings of current political behaviour research in the North American and European contexts. Third, I introduce the data I utilize, namely the Canadian Election Studies (1997–2011), and describe my methods. Fourth, I present the results from a set of regression models. I conclude with some remarks on potential avenues of inquiry for the further study of attitudes toward continental integration in North America.

3.3 Canadian Public Opinion and Continental Integration, Past and Present

Owing to its geographic location and the historical context of its political development, attitudes toward the United States (both pro and con) have deeper

roots in Canada than anywhere else in the world (Granatstein 1996; Inwood 2005; Nossal 2008; Nossal 2007). The beginnings of research on mass public opinion toward Canada–US relations are nearly contemporaneous with the advent of scientific public opinion polling methods. The Canadian Institute of Public Opinion (CIPO), founded in 1941 as an offshoot of the US-based Gallup Organization, undertook periodic polls touching on Canada–US relations. In polls conducted during World War II, CIPO asked the Canadian public, "After the war, do you think we should have free trade with the United States – that is, that all products and merchandise crossing the border either way should be free of all tariff and customs duties?" A solid majority of the Canadian public expressed support for free trade: In June 1943, results were 67% in favour and 17% opposed; in February 1944, results were 70% in favour and 20% opposed.[2]

Research on Canadian public opinion toward the United States greatly accelerated in the late 1960s and early 1970s – a development that coincided with the expansion of the Canadian public opinion polling industry, growing unease with American investment in Canada (interpreted by some as heralding the "Americanization of Canada") and initiatives by the Trudeau government to diversify Canada's international economic relations away from the United States. Research conducted during this period generally found little consensus among the Canadian public as to whether American investment in Canada was a "good thing" or a "bad thing." Depending on the phrasing of the survey item, polls found that either a thin majority or a plurality of Canadians believed that American investment in Canada was a "good thing" (Munton and Poel 1977; Murray and Gerace 1972; Sigler and Goresky 1974). Presented with explicit choices between the policy status quo, closer integration with the United States and forging stronger links with the

2. CIPO poll results are taken from http://brain.gallup.com.

rest of the world, the Canadian public exhibited a diversity of opinion. In a series of polls conducted in the mid-1970s, Murray and Leduc (1976) found that a plurality of Canadians preferred to maintain Canada's existing arrangements with the United States without any policy adjustments, fewer preferred closer cooperation with Europe and Asia, and even fewer still preferred to move closer to the United States. Literature from this period focused on two primary factors shaping Canadian attitudes toward the United States: political party identification and region. Munton and Poel (1977) and Sigler and Goresky (1974) found that Liberal and Progressive Conservative supporters were more likely to favour US foreign investment than supporters of the New Democratic Party (Canada's left-leaning social democratic party). Murray and Gerace (1972) also found a similar dynamic at work when the Canadian public was asked about the American influence on Canada: PC and Liberal supporters were less likely to think that the United States had too much influence and NDP supporters the most likely. In terms of regional dynamics, support for greater American investment in Canada tended to be higher in Quebec and the Atlantic provinces than in Western Canada (Murray and Gerace 1972; Sigler and Goresky 1974).

Beginning in the 1980s, trade between Canada and the United States replaced investment on the policy agenda, and the focus of public opinion research shifted accordingly. Copious polling was conducted to gauge Canadians' attitudes toward, in the first instance, the Canada–US Free Trade Agreement (FTA), and in the second instance, the North American Free Trade Agreement (NAFTA). Examined over an extended time period, these polls demonstrated that attitudes toward free trade were both volatile and on a downward trajectory as an agreement approached (Dasko 1986). By contrast, data from the 1981 and 1990 World Values Surveys indicate that a majority of Canadians expressed trust in Americans and desired

closer ties with the United States (Inglehart, Nevitte, and Basañez 1996). Mendelsohn and Wolfe (2001) find that support for continental free trade increased steadily from the early 1990s onward, reaching levels of support (between 64 and 70 percent in 2001–2002) not seen since before the FTA. As for the demographic and attitudinal factors shaping Canadians' attitudes, research during this period found that support for free trade was highest in Quebec and Western Canada and lowest in Ontario (Dasko 1986; P. Martin 1995) and higher among men than women (Gidengil 1995). Bennett (2004) and Rankin (2004) find that left–right political orientation is predictive of attitudes toward NAFTA, with those identifying with the political right holding more positive attitudes. Nevitte, Anderson, and Brym (2002) similarly find left–right orientation shapes Canadians' attitudes toward Canada–US ties with those on the right favouring closer ties. Bennett (2004), Nevitte and colleagues (2002), and Rankin (2004) also find that a strong attachment to Canadian national identity decreases support for continental integration.

By the beginning of the 2000s, close economic ties to the United States had become largely settled as a matter of Canadian public policy. When asked in early 2001 about the Canada–US relationship as a whole, a thin majority of Canadians expressed a preference to maintain the status quo; fewer preferred either closer or more distant relations with the United States. Despite seemingly achieving a level of comfort with close economic ties to the United States, the Canadian public overwhelmingly rejected the suggestion of formal political union (Mendelsohn, Wolfe, and Parkin 2002). The terrorist attacks of September 11, 2001 abruptly shifted the focus in the United States to securing the American "Homeland," with the immediate and short-term result being a significant "thickening" of the Canada–US border (Ackleson 2009). The false claim that some of the 9/11 hijackers entered the United States through Canada, having acquired the status of urban myth thanks to

its repetition by a number of American political figures, contributed to the sense of threat posed by the Canada–US border. Policy responses to the changed security environment included the US Western Hemisphere Travel Initiative (which would require for the first time that Americans and Canadians crossing the Canada–US border present a passport) and the trilateral Canada–US–Mexico Security and Prosperity Partnership (SPP) designed to harmonize border security policies while also continuing to facilitate cross-border trade (Ackleson and Kastner 2006). As for Canadian attitudes toward border security, Nevitte, Anderson, and Brym (2002) report on data before 9/11 showing that only a minority of the Canadian public supports doing away with the Canada–US border altogether, with those on the political right more likely to express this sentiment. While not willing to erase the border, Cole, Kincaid, and Parkin (2002) find that in the months following 9/11, a majority of Canadians (66 percent) endorsed a common Canada–US border security policy.

An extensive literature on Canadian attitudes toward continental integration – in terms of investment, trade, and security – has thus developed. What is absent from this literature, though, is an acknowledgement of the role of proximity to (or distance from) the United States in shaping attitudes toward North American integration. Though one might readily admit that the processes constituting Canada–US relations on a day-to-day basis – cross-border trade, personal and business travel, and social ties between family and friends – concentrate near the Canada–US border, proximity has not been acknowledged as shaping Canadian attitudes toward continental integration. As Eagles (2002) has argued, political behaviour bears the imprint of not just individual characteristics, attitudes, and beliefs; it is also shaped by geographic context. This expectation is also motivated by the literature advancing a spatially integrated approach to social science research

(Goodchild et al. 2000; Goodchild and Janelle 2004; Logan 2012; Stimson 2014). Further, different strands of social scientific inquiry provide motivation for the hypothesis that proximity plays a role in shaping attitudes and opinions.

3.4 Hypotheses: Partisanship, Border Proximity, and Attitudes toward Continental Integration

One of the best-established findings in the political behaviour literature is that policy attitudes among mass publics – including foreign policy attitudes – are shaped by political party identification and political ideology (Holsti 2004; Wittkopf 1990). For example, Zaller (1992) has shown that partisan differences in mass public opinion frequently mirror differences in opinion between political elites. That is, those parts of the public with high levels of political information tend to mirror the opinions of those elites with whom they are aligned politically or ideologically. There is a solid basis for the expectation that Canadian attitudes toward continental integration will be congruent with this research.

Canadian attitudes toward the United States (and relations with the United States) are influenced by the "filtered image of the United States provided by interpreters of that country" – with political elites playing a key role (Brooks 2008, 31–32). Recent history serves to highlight the importance of Canada–US relations in Canadian electoral politics, with the prime examples being the 1988 and 2006 federal general elections. The former was largely fought over the Canada–US Free Trade Agreement, in which the Progressive Conservatives and the NDP took clear positions (in favour and opposed, respectively). Liberal leader John Turner publicly opposed the agreement, reversing his pro-business stance from the 1984 election, though powerful interests within the Liberal Party remained supportive of free trade (Clarkson 1989). In the latter, a major election issue was Canada's

participation in US plans for a continental ballistic missile defence (BMD) system. The BMD plan was supported by the Conservatives, opposed by the NDP and Bloc Québécois (the federal-level, Quebec-based separatist party), with the Liberal government of Paul Martin looking to avoid taking a definitive position and to defer any decision until after the election (Bow 2008; Rudd 2005). During the campaign, then-Conservative opposition leader Stephen Harper was also criticized by the governing Liberals for his support of the US-led invasion of Iraq the previous year.

In sum, though party positions have varied across time, and have occasionally reversed, the pattern of the past 30 years is for parties of the centre and left to take policy positions less inclined toward closer Canada–US integration, and on occasion to invoke anti-American sentiment for electoral gain. Parties of the right have been more pro-American, more "continentalist," and have sought to strengthen Canada–US ties (Granatstein 1996; Inwood 2005; Nossal 2007; Nossal 2008). Further, it is worth noting that the left and the right have been more consistent and unambiguous in their positions compared with the centrist Liberals. The theoretical expectations that follow are that Canadians will interpret such "elite cues" through their preexisting partisan and ideological attachments (Zaller 1992). Existing research on Canadian public opinion toward Canada–US relations (discussed above) has found exactly these types of partisan effects at work. Consequently, my research expectation is that Canadians identifying as Conservative will favour closer ties between Canada and the United States than those identifying as Liberals. Canadians identifying with the NDP or Bloc Québécois will favour more distant ties between Canada and the Unites States. Similarly, Canadians identifying as right-wing are more likely to favour closer ties between Canada and the United States than those identifying as left-wing.

Though the hypotheses relating to partisanship and ideology are standard in the political behaviour literature, the expectations regarding proximity to the Canada–US border are less so. Still, they can be shown to have a solid basis in a number of social science literatures. A review of these literatures makes it apparent that proximity serves as an amalgam or proxy measure of a number of different social processes, such as interpersonal contact, cross-cultural interaction, and economic exchange. Eagles (2002, 206) argues, for example, that such spatial or contextual measures are valuable "as proxies for other social or political processes hypothesized to have political consequences." Huckfeldt and Sprague (1995) similarly argue that context and location are important variables in explaining political behaviour because they influence the political information to which individuals are exposed.

The intergroup contact hypothesis, most closely identified with Allport (1954) is an important literature in this regard (see also Pettigrew 1998). Though focused mainly on the social psychology of race relations in the United States, Allport nevertheless provides more general insights into group relations, including perceptions of other nationalities. The central contention of the intergroup contact hypothesis is that there is typically a positive correlation between greater contact with persons belonging to a group (for example, another nationality, race, or ethnic group) and positive attitudes toward that group. A corollary of the intergroup contact hypothesis is that proximity to an out-group should lead to more positive impressions of that group, since contact can only occur in close proximity.

Another line of inquiry focused on group relations is the intergroup competition hypothesis associated with Blalock (1966). Counter to the expectations of Allport, Blalock argues that increased contact between groups (settlers and indigenous populations, different social classes, or racial groups) serves to increase

perceptions of competition for resources and hence more negative other-group impressions. Both the intergroup contact and intergroup competition hypotheses thus expect contact (and proximity) to influence other-group impressions, though their expectations differ as they pertain to the direction of the relationship.

The work of Karl Deutsch on international integration is also particularly germane. In his seminal works, Deutsch develops a transactionalist theory of integration centred on the concept of security communities. According to Deutsch, a security community is a group that has acquired a sense of community – a "we feeling" – and has agreed to resolve common problems through peaceful means (Deutsch 1954, 33; Deutsch et al. 1957, 5). In Deutsch's enumeration of the many processes that enable the formation of a security community, the common thread is that contact, communication, and exchange (frequently between individuals) are critical to the success of a security community. Deutsch notes that the development of security communities is assisted by the existence of "all sorts of interactions – written and spoken messages, face-to-face contact, and dealings such as trade..." (Deutsch et al. 1957, 144). The links created through social communication, personal mobility, and economic ties between political units are the processes that serve to create and sustain a security community (Deutsch et al. 1957, 149–152, 157–158). Consequently, personal contact, cross-border mobility, and economic linkages are all seen as key to developing a sense of community between different political units. Further, and most importantly, these processes are a function of distance: "The density of transactions – visits, messages, interactions, general human contact – diminishes with distance" (Deutsch 1966; cf. Deutsch 1954, 59). Recent work employing methods from statistical physics also confirms the link between social interaction and spatial proximity (Levy 2010; Levy and Goldenberg 2014).

In addition to the classic work of Allport, Blalock, and Deutsch, several recent studies of public opinion in Europe and North America also demonstrate that policy attitudes are shaped by proximity and distance to relevant geographic features. For example, Díez Medrano (2003, 243–246) finds those residing in a region bordering another European Union member state are more likely to favour EU membership, while those residing at a greater distance from Brussels (the symbolic "centre" of the EU) are less likely to favour EU membership. Berezin and Díez Medrano (2008, 18–22) similarly find those residing closer to Brussels are more likely to say they would experience regret with the hypothetical dissolution of the EU. Evoking the theories discussed above, Berezin and Díez Medrano (2008, 22–23) argue that distance matters "because it takes time to get there, but also because our visualization, our perception, of the space in-between" exert effects on "our emotions, our beliefs, our attitudes, and, eventually, our behaviour." Drawing on Allport and Deutsch, Kuhn (2011) finds that residing in a border district produces more favourable attitudes toward European integration in Germany, though the same effect is not observed in France. Kuhn (2011, 103–109) further finds that this effect in Germany is mediated by interpersonal contact with other EU nationals and economic exchange such as cross-border shopping. This work is suggestive of some of the mechanisms through which proximity might influence political behaviour, and further that it is not observed in all national contexts.

"Border effects" are also at work in American public opinion on immigration. Drawing on the intergroup contact and competition hypotheses, Branton et al. (2007) find that proximity to the US–Mexico border affects voting behaviour on "nativist" state ballot initiatives in California to deny social services and education to undocumented immigrants. It is especially noteworthy that the effects of party identification and border proximity are interactive: in places that are

far from the US–Mexico border, Democrats are less likely to vote for nativist initiatives than Republicans, but Democrats and Republicans near the US–Mexico border are equally likely to vote for nativist initiatives. Dunaway, Branton, and Abrajano (2010) similarly find that identifying illegal immigration as the "most important problem" facing the United States is shaped by party identification, ideology, media coverage of immigration issues, and residing in a US–Mexico border state. What is again noteworthy here is the interactive relationship between border state residence and the level of media coverage: the effect of media coverage on immigration attitudes is stronger among residents of nonborder states than among residents of border states.

Given existing theory and empirical research, a baseline expectation in the Canadian context would be that closer proximity to the Canada–US border should increase support for closer ties with the United States; increasing distance from the border should increase support for more distant ties. In keeping with intergroup contact theory and transactionalist theory, this expectation is grounded in the strong and enduring social and economic ties between border communities in Canada and the United States (Stuart 2007). It is also supported by the analysis of the Statistics Canada ITS data (in chapter 2 above) which found strong correlations between aggregate (Census Metropolitan Area/Census Agglomeration-level) visits to the US and proximity to the Canada–US border, and also visits per capita and proximity to the border. Canadian border regions may also have greater exposure to print, radio, and television news media from the United States (Payne and Caron 1982). News media tend to give greater coverage to events occurring locally or nearby, and less coverage to events occurring further away (Branton and Dunaway 2009a; S. R. Martin 1988). It is therefore credible to suggest that proximity to the Canada–US border increases the salience of Canada's ties to the United States, increases the

likelihood of interaction (and frequency of interaction) with Americans, and thus increases support for closer Canada–US ties. On the other hand, increasing distance to the border diminishes the salience of Canada's ties to the United States, decreases the likelihood (and frequency) of interaction with Americans, and thus increases support for more distant ties.[3]

An alternative expectation is that the effect of proximity on Canadian attitudes toward Canada–US ties is nonconstant. This is to say that the relationship between partisanship and proximity may be interactive, resembling the findings of Branton et al. (2007), and border proximity may amplify the effects of political attitudes on Canada–US ties, either positive or negative. The expectations of intergroup contact theory and transactionalist theory arguably hold among those segments of the Canadian public in the political centre and on the right: closer proximity to the border creates stronger preferences for closer Canada–US ties. The

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3. One potential strategy for measuring the salience of Canada–US ties more directly is through open-ended survey questions eliciting respondents' views of the most important issue or most important problem (often abbreviated as "MIP") facing the country. A variant of this type of question exists in the Canadian Election Study datasets (discussed below), though these data have limitations. Specifically, the CES question was framed in terms of the current federal election in asking: "What is the most important issue to *you personally* in this *federal* election?" Given that Canada–US ties have only rarely been a (or *the* single) major election campaign issue, it is unsurprising that few respondents give such an answer. To be specific, less than 1 percent of CES campaign period respondents gave an open-ended response coded as "foreign affairs/US relations, security issues" between 2004 and 2011: 0.9% in 2004, 0.7% in 2006 (even when ballistic missile defence was a campaign issue), 0.3% in 2008, and 0.5% in 2011 (the 1997 and 2000 CES data do not contain a separate code for foreign affairs).

Further, it stands to reason that one could follow news about American political and economic developments closely, and consider Canada–US relations to be a critically important policy issue, but when directed by the survey question wording to the federal election campaign, one would be more inclined to say that the most important issue is (for example) economic growth, unemployment, health care, or returning (or replacing) the government of the day.

Thus, the framing of the CES most-important-issue question (and the empirical distributions of responses) limit its usefulness as even a low-fidelity measure of the importance of Canada–US ties. Arguably, better questions would be: "In the past six months, how closely have you followed news about issues and events in each of the following regions of the world? The United States" or "In your opinion, how important is Canada's relationship with the United States? Is it very important, somewhat important, not very important, not at all important?" Though closer to the ideal, data for such questions are, unfortunately, not provided in the CES.

expectations of intergroup competition theory, on the other hand, may be borne out among those who identify with the NDP and the political left: closer proximity to the United States creates heightened perceptions of threat (that is, fears of the "Americanization of Canada") and thus stronger preferences for more distant Canada–US ties. It is less clear how (and indeed whether) Bloc Québécois support and border proximity will interact. A different constellation of attitudes toward the United States prevails in Quebec compared with the rest of Canada. This has typically involved stronger support for economic ties with the United States but less desire for security cooperation, for example, with BMD (Haglund 2006; P. Martin 2011). Therefore, I do not advance any explicit expectations regarding border proximity and Bloc Québécois support.

3.5 Data and Methods

The data for this study are the Canadian Election Study (CES) data sets from 1997 to 2011.[4] Conducted in conjunction with every federal general election since 1965, the CES surveys are probability samples of the Canadian adult population comprising a campaign-period telephone survey and a series of recontact surveys: a postelection telephone survey, a mailback survey, and a web survey (first introduced in 2011). The key survey item from the CES, taken from the postelection telephone surveys (the exception being the campaign period survey in 2004), asks the following: "Do you think Canada's ties with the United States should be much

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4. The response rates (AAPOR 3) for the CES postelection surveys are the following—1997: 41.6%; 2000: 41.7%; 2004 (campaign period): 46.7%; 2006: 39.7%; 2008: 31.2%; 2011: 22.3%. These response rates are calculated using sample record disposition counts provided in the survey technical documentation and classifying noncompletes from the postelection survey (where appropriate) as noncontacts.

Earlier CES data sets exist, but they are not used here owing to the absence of sufficiently precise geographic indicators for geocoding before 1997. While 2004–2011 CES data sets embed a panel component, these panel respondents are removed from the 2006–2011 data in the analyses presented here and the appropriate (non-panel) weight variables are used. The data are thus analyzed as repeated cross-sections.

closer, somewhat closer, about the same as now, somewhat more distant, or much more distant?"[5] Thus, it purports to tap into respondents' general or overall attitudes toward continental integration and not specific attitudes relating to trade, security, or other policy areas.

Examined across time, the CES data paint a picture of a Canadian public interested in maintaining the status quo in Canada–US relations: a plurality or a slim majority of respondents (between 38.3 and 54.6 percent) say that ties between Canada and the United States should be "about the same as now" (see Figure 3.1). Still, substantial proportions of the Canadian population favour closer ties with the United States (between 24.3 and 37.5 percent) or alternatively more distant relations (between 15.8 and 27.1 percent). The results from the 2004 CES are notable for the increase in the proportions of Canadians expressing a preference for either closer ties or more distant ties to the United States and the decrease in the proportion of "about the same as now" responses. These results point to more polarized attitudes toward the United States among the Canadian public in the early periods of the wars in Afghanistan and Iraq.

The CES survey data contain the attitudinal variables of interest, but an operational measure of border proximity still needs to be constructed. I create this by geocoding both the survey data and Canada–US border crossings. The CES data sets variously retained different geographic indicators – census dissemination areas, federal electoral districts, and forward sortation areas (the first three characters of a Canadian postal code). These geographic indicators are used to append representative latitude–longitude coordinates created from Statistics Canada Postal Code Conversion Files dated September 2006 and March 2009 (Statistics Canada

5. In French, the wording of this survey item was: « Pensez-vous que les liens entre le Canada et les États-Unis devraient être beaucoup plus étroits, un peu plus étroits, ni plus ni moins étroits, un peu moins étroits, ou beaucoup moins étroits? ».

2009). Geocoding of Canada–US border crossings was performed manually using Google Earth (earth.google.com), while cross-referencing the locations of border crossings to be geocoded to the list of ports of entry to the United States published by US Customs and Border Protection (www.cbp.gov). I geocode a total of 145 land and sea crossings on the Canada–US border. With two sets of latitude–longitude coordinates in hand – one for the survey data, and one for the border crossings – geodetic distances can be calculated between each survey respondent and each Canada–US border crossing to find the closest border crossing. This serves as my operational measure of proximity (or distance) to the Canada–US border.[6] Following existing research (Berezin and Díez Medrano 2008; Díez Medrano 2003; Kuhn 2011), I use a logarithmic transformation of my distance measure. This not only corrects the positive skew in the data, but using logged distance in kilometres also fits the theoretical expectation of a diminishing effect of proximity as (linear) distance to the border increases (Deutsch 1966, 98; cf. Deutsch 1954, 59).

To test the hypotheses relating to political partisanship and ideology, border proximity, and the interactions between the political variables and border proximity, I analyse a series of regression models. Given the categorical nature of Canada–US ties survey item, ordinal logit models are appropriate (Fox 2008). This approach models the probabilities of a lower-ordered response as cumulative over the probabilities of higher-ordered responses. Positive coefficients thus imply closer ties and negative coefficients imply more distant ties. I recode the "somewhat more

6. The distances between the survey respondents (based on their census, electoral, or postal geography) and each Canada–U.S. border crossings are calculated using the Vincenty (1975) formula (as implemented by the SAS GEODIST function), which assumes the earth is an oblate spheroid (a sphere flatter at the poles than at the equator), giving more accurate results over long distances than either the Euclidean ("flat-earth") or haversine formulae. It is also worth noting that research comparing straight-line and road driving distances has found a strong correlation between the two distance measures (r^2 = 0.94), meaning they are practically interchangeable (Boscoe, Henry, and Zdeb 2012).

distant" and "much more distant" responses into a single category due to the small proportions registering in each, making for a four-part categorization: Much closer, somewhat closer, about the same as now, and somewhat/much more distant. The regression analysis is conducted using pooled data sets. The individual CES surveys represent independent samples (once the 2006, 2008, and 2011 panel respondents from the 2004–2006–2008–2011 panel are removed). They therefore represent "independently pooled cross-sections" and controls for time are implemented by a set of dummy variables with 1997 as the reference category (Wooldridge 2009, 444–445).

Along with the independent variables of primary theoretical interest – political party identification, political ideology, and logged distance from the Canada–US border – the regression models include controls for demographic variables (sex, age, education, income, and province).[7] The models additionally include variables measuring perceptions of the Canadian economy and attitudes toward international trade, factors that previous research has shown affect attitudes toward continental integration (Bennett 2004; Mendelsohn and Wolfe 2001; Wolfe and Mendelsohn 2005).

3.6 Results and Discussion

A number of important findings emerge from the regression models. Examining the effects of political party identification and political ideology, models 3.1 and 3.2 reveal positive coefficients for the Conservative identification dummy variables and negative coefficients for the NDP and Bloc Québécois identification

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7. The Conservative Party of Canada, as the product of the merger of the Canadian Alliance (previously the Reform Party) and Progressive Conservative parties in 2003, was evidently not on the ballot in the 1997 and 2000 federal elections. The Conservative dummy variables for these two election studies are created by coding Progressive Conservative, Reform (1997), and Canadian Alliance (2000) support as Conservative.

dummy variables; all are highly significant (see Table 3.1). The substantive interpretation of these results is that Conservative identifiers are more likely to support closer Canada–US ties than Liberal identifiers (the reference category); NDP and Bloc Québécois identifiers are less likely to support closer Canada–US ties. There are also positive and highly significant coefficients for the political ideology (left vs. right) variable, indicating that those who position themselves on the political right are more likely to support closer Canada–US ties; those who position themselves on the political left are less likely to support closer ties. These results confirm the expectations regarding the effects of party identification and ideology.

Adding logged distance to the Canada–US border in model 3.2 fails to provide support for the hypothesis of a clear "border effect" on Canadian attitudes. Substantively, then, once one controls for the effects of demographics, attitudinal variables, and political party identification and ideology, proximity to (or distance from) the Canada–US border has no independent effect on attitudes toward continental integration. Nevertheless, it would be premature to conclude that proximity to the Canada–US border is theoretically and substantively unimportant. The specification of model 3.2 assumes that party identification and ideology and border proximity do not interact. Border proximity may still condition the effects of political party identification and ideology. In this formulation, party identification and ideology are the "focal" independent variables and border proximity is the "moderator" variable (Jaccard 2001, 12–15). While adding party identification × border distance interaction terms in model 3.3 does not appreciably increase the value of the pseudo-R^2 statistic, this is not of central importance: the most appropriate test of the significance of the interaction is an omnibus chi-square test (Jaccard 2001; Jaccard and Dodge 2004). This test statistics is highly significant. It thus holds that proximity to the Canada–US border moderates the effect of political

party identification. (Additional analyses revealed no interaction between ideology and border proximity.) Also, the interaction terms for the Conservative and Bloc Québécois dummy variables and logged distance to the Canada–US border are significant. These results thus indicate that the slopes for the effect of distance to the Canada–US border among Conservative and Bloc supporters are significantly different from the slope for Liberal supporters, which is captured in the lower-order term for logged distance to the Canada–US border (and at 0.01, is not significantly different from zero). The effect of distance to the border for Conservatives is 0.01 + (–0.10) = –0.09; for NDP supporters, it is 0.01 + 0.10) = 0.11. With model 3.3 respecified with Conservative supporters as the reference category for party identification (see Table 3.2), the effect of logged distance to the Canada–US border (–0.09) is clearly significant among Conservatives.. Similarly, with model 3.3 respecified with NDP supporters as the reference category for party identification (see Table 3.3), the effect of logged distance to the Canada–US border (0.11) is also significant among NDP identifiers. Respecifying model 3.3 with Bloc Québécois supporters as the reference category for party identification (see Table 3.4) confirms that distance to the Canada–US border no significant effect among this segment of the Canadian public.

The main finding, then, is that the relationship between party identification and attitude toward North American continental integration is moderated by proximity to the Canada–US border. Still, it is difficult to fully understand the party identification × border distance interaction given only a set (or sets) of regression coefficients. Effect plots serve to clarify such patterns of relationships (Fox and Andersen 2006). The graphical depiction of the interaction effect in Figure 3.2 demonstrates that proximity to the Canada–US border amplifies the effect of party

identification among Conservative and NDP supporters, but in opposite directions.[8] In close proximity to the Canada–US border, Conservative identifiers have a higher predicted probability of wanting closer ties with the United States than Conservative identifiers further away from the border. To illustrate, a Conservative identifier 5 kilometres from the border has a predicted probability of providing a "much closer" or "somewhat closer" response ($P(Y) \geq 3$) of 0.43; at the sample mean of 174 kilometres, the predicted probability is 0.36; at 500 kilometres from the border, the predicted probability is 0.34. (In the absence of an interaction between party identification and border proximity, the predicted probabilities would be the same at all distances from the Canada–US border, and the lines in the plot would be horizontal.) Conversely, NDP identifiers in close proximity to the Canada–US border have a lower predicted probability of wanting closer ties with the United States than NDP identifiers further away from the border. An NDP identifier 5 kilometres from the border has a predicted probability of providing a "much closer" or "somewhat closer" response of 0.15; at the sample mean of 174 kilometres, the predicted probability is 0.20; at 500 kilometres from the border, the predicted probability is 0.22. The results for Bloc Québécois identifiers suggest a different (albeit less stark) pattern of moderation, in part owing to the few Bloc Québécois supporters near the border in the CES data (this will come as little surprise to those familiar with the electoral geography of Quebec, as Bloc Québécois support is concentrated in regions of Quebec further away from the border). The regression results indicate that a Bloc Québécois identifier at the sample mean of 174 kilometres has a predicted probability providing a "much closer" or "somewhat closer" response of 0.19; at 500 kilometres from the border, the predicted probability is little different at 0.18. These moderated results contrast with the effect plot for

8. The cumulative probabilities plotted in Figure 3.2 and in the following discussion set categorical control variables at their reference values and continuous controls at their means.

Liberal Party identifiers, where the line is effectively horizontal, indicating that border proximity does not play a role in shaping their attitudes (as was previously inferred from the regression results in Table 3.1). A Liberal identifier 5 kilometres from the border has a predicted probability of providing a "much closer" or "somewhat closer" response of 0.27; at the sample mean of 174 kilometres, the predicted probability is also 0.28; and at 500 kilometres from the border, the predicted probability is 0.29. These patterns of results serve as confirmation of the interactive version of the border proximity hypothesis. The expectations of intergroup contact theory and transactionalist theory are borne out among the part of the Canadian public who identifies with the Conservative Party; the expectations of intergroup competition theory are borne out most clearly among the part of the Canadian public who identify with the NDP. Both processes are seemingly at work simultaneously among different segments of the Canadian public.

The interactive relationship between party identification and Canada–US border proximity can be further probed by rerunning the regression analysis with distance to the border centred at different values to see how the coefficients for party identification (and their confidence intervals) change (cf. Braumoeller 2004, 815). (See Figures 3.3–3.5.) These analyses indicate that the effects of political party identification hold over most of the range of distances to the Canada–US border observed in the CES data. The effect of Conservative identification on attitude toward Canada–US ties holds for values of border distance less than or equal to 835 kilometres, which constitutes the bulk of the CES sample data. Similarly, the effect of NDP identification on attitude toward Canada–US ties holds for values of border distance less than or equal to 1,062 kilometres. In sum, it is only at great distances from the Canada–US border (where the sample data are also relatively thin) that Conservative, NDP, and Liberal party identifiers are statistically indistinguishable

from one another. This suggests that in close proximity to the border, where border-related issues such as cross-border trade and border security are most salient, one finds some of the sharpest partisan differences among the Canadian public.[9]

There are significant (and negative) coefficients for the 2011 and 2008 year dummy variables, indicating that after controlling for demographic, attitudinal, and geographic variables, attitudes toward Canada–US ties leaned in the direction of more distant ties (compared with the reference year, 1997). Conversely, attitudes toward Canada–US ties leaned in the direction of closer ties in 2004. These models also reveal a regional dimension to Canadian attitudes toward Canada–US relations: There are significant (and positive) coefficients for the Newfoundland and Labrador and Quebec dummy variables. There is also a significant (and negative) coefficient for the British Columbia dummy variable. These results indicate that residents of these provinces are conversely more (or less) likely to favour closer Canada–US ties – even after controlling for demographics, attitudinal variables, political party identification, and ideology – than residents of Ontario (the reference group); they also suggest a regional dynamic to Canadian attitudes toward continental integration that is layered on top of proximity to the Canada–US border (cf. Cochrane and Perrella 2012).

The results for Quebec can be accounted for by pointing to support among both Quebec separatists and moderate nationalists for pursuing trade liberalization, as occurred with both the FTA and NAFTA. In both cases, advancing continental integration was viewed as a means of either easing the costs of transitioning to eventual sovereign statehood, or, at a minimum, reducing the power of the

9. Additionally, analysis of the Bloc Québécois coefficient indicates that in close proximity to the border (20 kilometres or less), Bloc Québécois identifiers are not significantly different from Liberal Party identifiers, though this result is likely not robust on account of the few Bloc Québécois identifiers in close proximity to the border.

Canadian federal government. Thus, what prevails in Quebec, paradoxically, is "free trade nationalism" (P. Martin 1995). The result for Newfoundland and Labrador may appear puzzling, but a possible explanation is the lingering effects of the large American military presence there during World War II (when it was still a Dominion of the British Empire and not yet part of Canada). Such a presence brought not only economic and employment gains during the war, and there were even suggestions at the time that Newfoundland ought to join the US, but also part of the social history of the so-called "friendly invasion" was large numbers of marriages between American sailors and Newfoundland women (Cardolis 1990; Neary 1986; Neary 1988). The legacy of this historical contact, then, may account for the more continentatlist views of Newfoundlanders and Labradorians than their distance to the US would otherwise predict. The results for British Columbia are arguably rooted in the trade and natural resource disputes between Canada and the US of recent decades (Groen 1994). The most notable of these is the protracted softwood lumber dispute, and of course, Canada's softwood lumber industry is concentrated in British Columbia (Bernstein and Cashore 2001; Gagné 2003). Further, the existing level of economic integration between British Columbia and the US states of the Pacific Northwest remains below that of Ontario and Michigan (Brunet-Jailly 2006). Given the disparate impact of such trade disputes (and the export restrictions and import duties involved) on the British Columbian economy, and the absence of strong existing economic ties such as those linking Ontario to Michigan via the automotive industry, desire for yet closer ties with the US among British Columbians may be reduced as a consequence.

Though such regional dynamics are robust, one should avoid overstating their size. Based on the results from model 3.3 (and thus holding distance to the Canada–US border at its mean), the difference in the cumulative log-odds of a

Newfoundland and Labrador resident and an Ontario resident is 0.23; the difference between a British Columbia resident and Ontario resident is –0.29. This means that the odds of a Newfoundland and Labrador resident providing a response in a higher category on the Canada–US ties survey item (e.g., "much closer ties" versus "somewhat closer ties" or "somewhat closer ties" versus "about the same as now) are 1.26 times greater than for an Ontario resident ($e^{0.23} = 1.26$); the odds of a British Columbia resident providing a response in a higher category are 0.75 times than for an Ontario resident ($e^{-0.29} = 0.75$). These differences are modest. By contrast, the absolute difference in the cumulative log-odds of a Conservative identifier and an NDP identifier is 0.88 (based on the results from model 3.3), meaning that the odds of a Conservative being in a higher category on the Canada–US ties item is 2.40 times greater than for an NDP supporter ($e^{0.88} = 2.40$). Thus, the effects of political factors are greater in magnitude than regionalism.

While general impressions of the national economy have no discernible impact on attitudes toward Canada–US ties, more specific attitudes relating to the perceived job-creation benefits of international trade are, not surprisingly, associated with a greater likelihood of wanting closer Canada–US ties. Still, the effects of party identification and the interaction of party identification with proximity to the Canada–US border remain after controlling for these factors.[10]

10. One should also note that the key results from model 3.3 are robust to the inclusion of numerous other variables that potentially influence attitudes toward Canada–US ties, including interest in politics, national identity (identification with Canada), perceptions of the national economy, perceptions of one's personal financial status, employment status, area unemployment rate, and area median family income. Including these variables in the model have no appreciable effects on the parameter estimates for party identification, logged distance to the Canada–US border, and the party identification × border distance interaction. See Table 3.5.

3.7 Conclusion

I have endeavoured in this article to expand what we know about Canadian public opinion toward North American integration by offering a spatially informed approach to the analysis of policy attitudes. I have also endeavoured to contribute to the growing literatures on contextual effects in political behaviour and spatial approaches to social science. My analyses have shown that in the Canadian context, political party identification and ideology shape attitudes toward Canada–US ties. While proximity to the Canada–US border was not a significant predictor in its own right, border proximity is nevertheless substantively important in that it *moderates* the effects of political party identification – that is, border proximity serves to amplify its effect. To restate: the absence of a main effect of proximity is not evidence of its lack of importance. Rather, its "true" effect is only revealed when party supporters are examined separately (that is, interactively) – the effect of proximity is positive for Conservatives, negative for New Democrats, and largely absent for Liberals and Blocquistes. These findings reaffirm previous work that has found that "distance matters," and that nuanced, contingent "border effects" are at work in mass public opinion (Berezin and Díez Medrano 2008; Branton et al. 2007). They further reaffirm the notion that the contexts and locations in which individuals find themselves have important implications for public opinion and political behaviour beyond individual-level characteristics (Huckfeldt and Sprague 1995).

While I have argued for an analytic approach that takes proximity and distance into explicit account and have drawn on variety of strands of social scientific research to motivate this argument, my conclusions should be tempered with a recognition of the limitations of the CES data. For example, Bennett (2004), Nevitte, Anderson, and Brym (2002) and Rankin (2004) have found that both national and pan-North American identity constructs influence support for NAFTA

in both the Canadian and American contexts. At the same time, consistently tracked measures of these identity concepts are lacking in the CES data.[11] Also missing from the CES data are general-purpose measures of political information, including information about Canadian foreign policy, as opposed to specific knowledge about the election campaign, that might allow for an investigation of whether the party identification × border proximity interaction identified here varies as a function of political knowledge (that is, a possible three-way interaction). Omitted variable bias therefore remains a possibility. A proper adjudication between the explanatory powers of identity constructs, political information, partisanship, and geographic proximity – and their interactions – necessitates survey instruments measuring all of these. Future research should pursue these lines of inquiry. Professional and academic survey researchers alike should therefore consider recording and retaining sufficiently accurate geographic indicators to permit such analyses.

11. Employing the four-point scale capturing strength of identification with Canada from the 2011 CES as measure of national identity (albeit a coarse one) and using multiple imputation to complete the CES data failed to yield a significant effect (see Table 3.5).

Table 3.1: Canadian Attitudes toward Canada–US Ties (Ordinal Logit)

	Model 3.1			Model 3.2			Model 3.3		
	b	(SE)		b	(SE)		b	(SE)	
Intercept 4	-2.20	(0.07)	***	-2.21	(0.07)	***	-2.21	(0.07)	***
Intercept 3	-0.93	(0.07)	***	-0.94	(0.07)	***	-0.94	(0.07)	***
Intercept 2	1.44	(0.07)	***	1.43	(0.07)	***	1.43	(0.07)	***
Year (ref = 1997)									
2011	-0.14	(0.06)	**	-0.14	(0.06)	**	-0.13	(0.06)	*
2008	-0.35	(0.06)	***	-0.35	(0.06)	***	-0.35	(0.06)	***
2006	0.08	(0.06)		0.08	(0.06)		0.09	(0.06)	
2004	0.28	(0.05)	***	0.28	(0.05)	***	0.28	(0.05)	***
2000	0.07	(0.05)		0.07	(0.05)		0.08	(0.05)	
Male	0.21	(0.03)	***	0.21	(0.03)	***	0.20	(0.03)	***
ln Age (Years)	0.24	(0.08)	**	0.24	(0.08)	**	0.24	(0.08)	**
Education (ref = High school or less)									
University	-0.36	(0.04)	***	-0.36	(0.04)	***	-0.36	(0.04)	***
College/CEGEP	-0.10	(0.04)	*	-0.10	(0.04)	*	-0.10	(0.04)	*
Household income (ref = $60,00-$89,999)									
< $30,000	0.03	(0.06)		0.03	(0.06)		0.03	(0.06)	
$30,00 to $59,999	0.00	(0.05)		0.00	(0.05)		0.00	(0.05)	
$90,000+	0.08	(0.05)		0.08	(0.05)		0.08	(0.05)	
Province (ref = Ontario)									
Newfoundland and Labrador	0.15	(0.09)		0.23	(0.11)	*	0.23	(0.11)	*
Nova Scotia	0.11	(0.12)		0.17	(0.12)		0.16	(0.12)	
Prince Edward Island	0.11	(0.09)		0.16	(0.10)		0.15	(0.10)	
New Brunswick	0.09	(0.09)		0.13	(0.10)		0.13	(0.10)	
Quebec	0.12	(0.05)	*	0.12	(0.05)	*	0.13	(0.05)	**
Manitoba	-0.03	(0.08)		-0.02	(0.08)		-0.03	(0.08)	
Saskatchewan	0.03	(0.07)		0.06	(0.08)		0.05	(0.08)	
Alberta	-0.15	(0.06)	**	-0.11	(0.07)		-0.10	(0.07)	
British Columbia	-0.29	(0.05)	***	-0.30	(0.06)	***	-0.29	(0.06)	***
Economy (ref = stay about the same)									
Getting better	-0.01	(0.04)		-0.01	(0.04)		-0.01	(0.04)	
Getting worse	-0.07	(0.04)		-0.07	(0.04)		-0.07	(0.05)	
International Trade Creates Jobs	0.68	(0.09)	***	0.68	(0.09)	***	0.68	(0.09)	***
Party identification (ref = Liberal)									
Conservative	0.39	(0.05)	***	0.39	(0.05)	***	0.40	(0.05)	***
NDP	-0.48	(0.06)	***	-0.47	(0.06)	***	-0.48	(0.06)	***
Bloc Québécois	-0.44	(0.07)	***	-0.44	(0.07)	***	-0.45	(0.08)	***
Other Party	-0.44	(0.12)	***	-0.44	(0.12)	***	-0.44	(0.12)	***
No Party	0.08	(0.05)		0.08	(0.05)		0.08	(0.05)	
Ideology: Left vs. Right	0.54	(0.12)	***	0.54	(0.12)	***	0.53	(0.12)	***
ln Distance to Canada–US Border (km)		—		-0.03	(0.02)		0.01	(0.03)	
ln Distance to Can–US Border × Conservative		—			—		-0.10	(0.04)	**
ln Distance to Can–US Border × NDP		—			—		0.10	(0.05)	*
ln Distance to Can–US Border × BQ		—			—		-0.09	(0.09)	
ln Distance to Can–US Border × Other		—			—		0.23	(0.13)	
ln Distance to Can–US Border × No Party		—			—		-0.09	(0.04)	*
N	17,081			17,081			17,081		
Model χ^2	1,142.47	***		1,144.86	***		1,174.84	***	
Likelihood Ratio χ^2	—			2.39			29.99	***	
Nagelkerke pseudo-R^2	0.07			0.07			0.07		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 3.2: Canadian Attitudes toward Canada–US Ties (Ordinal Logit), Conservative as Reference Category

	Model 3.3-C		
	b	(SE)	
Intercept 4	-1.81	(0.07)	***
Intercept 3	-0.54	(0.07)	***
Intercept 2	1.83	(0.07)	***
Year (ref = 1997)			
2011	-0.13	(0.06)	*
2008	-0.35	(0.06)	***
2006	0.09	(0.06)	
2004	0.28	(0.05)	***
2000	0.08	(0.05)	
Male	0.20	(0.03)	***
ln Age (Years)	0.24	(0.08)	**
Education (ref = High school or less)			
University	-0.36	(0.04)	***
College/CEGEP	-0.10	(0.04)	*
Household income (ref = $60,00-$89,999)			
< $30,000	0.03	(0.06)	
$30,00 to $59,999	0.00	(0.05)	
$90,000+	0.08	(0.05)	
Province (ref = Ontario)			
Newfoundland and Labrador	0.23	(0.11)	*
Nova Scotia	0.16	(0.12)	
Prince Edward Island	0.15	(0.10)	
New Brunswick	0.13	(0.10)	
Quebec	0.13	(0.05)	**
Manitoba	-0.03	(0.08)	
Saskatchewan	0.05	(0.08)	
Alberta	-0.10	(0.07)	
British Columbia	-0.29	(0.06)	***
Economy (ref = stay about the same)			
Getting better	-0.01	(0.04)	
Getting worse	-0.07	(0.05)	
International Trade Creates Jobs	0.68	(0.09)	***
Party identification (ref = Conservative)			
Liberal	-0.40	(0.05)	***
NDP	-0.88	(0.06)	***
Bloc Québécois	-0.85	(0.08)	***
Other Party	-0.83	(0.12)	***
No Party	-0.32	(0.05)	***
Ideology: Left vs. Right	0.53	(0.12)	***
ln Distance to Canada–US Border (km)	-0.09	(0.03)	**
ln Distance to Can–US Border × Liberal	0.10	(0.04)	**
ln Distance to Can–US Border × NDP	0.20	(0.05)	***
ln Distance to Can–US Border × BQ	0.01	(0.08)	
ln Distance to Can–US Border × Other	0.33	(0.13)	**
ln Distance to Can–US Border × No Party	0.01	(0.04)	
N	17,081		
Model χ^2	1,174.84	***	
Likelihood Ratio χ^2	29.99	***	
Nagelkerke pseudo-R^2	0.07		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 3.3: Canadian Attitudes toward Canada–US Ties (Ordinal Logit), NDP as Reference Category

	Model 3.3-NDP		
	b	(SE)	
Intercept 4	-2.69	(0.08)	***
Intercept 3	-1.42	(0.08)	***
Intercept 2	0.95	(0.08)	***
Year (ref = 1997)			
2011	-0.13	(0.06)	*
2008	-0.35	(0.06)	***
2006	0.09	(0.06)	
2004	0.28	(0.05)	***
2000	0.08	(0.05)	
Male	0.20	(0.03)	***
ln Age (Years)	0.24	(0.08)	**
Education (ref = High school or less)			
University	-0.36	(0.04)	***
College/CEGEP	-0.10	(0.04)	*
Household income (ref = $60,00-$89,999)			
< $30,000	0.03	(0.06)	
$30,00 to $59,999	0.00	(0.05)	
$90,000+	0.08	(0.05)	
Province (ref = Ontario)			
Newfoundland and Labrador	0.23	(0.11)	*
Nova Scotia	0.16	(0.12)	
Prince Edward Island	0.15	(0.10)	
New Brunswick	0.13	(0.10)	
Quebec	0.13	(0.05)	**
Manitoba	-0.03	(0.08)	
Saskatchewan	0.05	(0.08)	
Alberta	-0.10	(0.07)	
British Columbia	-0.29	(0.06)	***
Economy (ref = stay about the same)			
Getting better	-0.01	(0.04)	
Getting worse	-0.07	(0.05)	
International Trade Creates Jobs	0.68	(0.09)	***
Party identification (ref = NDP)			
Liberal	0.48	(0.06)	***
Conservative	0.88	(0.06)	***
Bloc Québécois	0.03	(0.09)	
Other Party	0.04	(0.13)	
No Party	0.56	(0.07)	***
Ideology: Left vs. Right	0.53	(0.12)	***
ln Distance to Canada–US Border (km)	0.11	(0.04)	**
ln Distance to Can–US Border × Liberal	-0.10	(0.05)	*
ln Distance to Can–US Border × Conservative	-0.20	(0.05)	***
ln Distance to Can–US Border × BQ	-0.18	(0.09)	*
ln Distance to Can–US Border × Other	0.13	(0.13)	
ln Distance to Can–US Border × No Party	-0.19	(0.05)	***
N	17,081		
Model χ^2	1,174.84	***	
Likelihood Ratio χ^2	29.99	***	
Nagelkerke pseudo-R^2	0.07		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 3.4: Canadian Attitudes toward Canada–US Ties (Ordinal Logit), Bloc Québécois as Reference Category

	Model 3.3-BQ		
	b	(SE)	
Intercept 4	-2.66	(0.10)	***
Intercept 3	-1.39	(0.09)	***
Intercept 2	0.98	(0.09)	***
Year (ref = 1997)			
2011	-0.13	(0.06)	*
2008	-0.35	(0.06)	***
2006	0.09	(0.06)	
2004	0.28	(0.05)	***
2000	0.08	(0.05)	
Male	0.20	(0.03)	***
ln Age (Years)	0.24	(0.08)	**
Education (ref = High school or less)			
University	-0.36	(0.04)	***
College/CEGEP	-0.10	(0.04)	*
Household income (ref = $60,00-$89,999)			
< $30,000	0.03	(0.06)	
$30,00 to $59,999	0.00	(0.05)	
$90,000+	0.08	(0.05)	
Province (ref = Ontario)			
Newfoundland and Labrador	0.23	(0.11)	*
Nova Scotia	0.16	(0.12)	
Prince Edward Island	0.15	(0.10)	
New Brunswick	0.13	(0.10)	
Quebec	0.13	(0.05)	**
Manitoba	-0.03	(0.08)	
Saskatchewan	0.05	(0.08)	
Alberta	-0.10	(0.07)	
British Columbia	-0.29	(0.06)	***
Economy (ref = stay about the same)			
Getting better	-0.01	(0.04)	
Getting worse	-0.07	(0.05)	
International Trade Creates Jobs	0.68	(0.09)	***
Party identification (ref = Bloc Québécois)			
Liberal	0.45	(0.08)	***
Conservative	0.85	(0.08)	***
NDP	-0.03	(0.09)	
Other Party	0.01	(0.13)	
No Party	0.53	(0.08)	***
Ideology: Left vs. Right	0.53	(0.12)	***
ln Distance to Canada–US Border (km)	-0.07	(0.08)	
ln Distance to Can–US Border × Liberal	0.09	(0.09)	
ln Distance to Can–US Border × Conservative	-0.01	(0.08)	
ln Distance to Can–US Border × NDP	0.18	(0.09)	*
ln Distance to Can–US Border × Other	0.32	(0.15)	*
ln Distance to Can–US Border × No Party	-0.01	(0.09)	
N	17,081		
Model χ^2	1,174.84	***	
Likelihood Ratio χ^2	29.99	***	
Nagelkerke pseudo-R^2	0.07		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Source: Canadian Election Studies, 1997–2011

Table 3.5: Canadian Attitudes toward Canada–US Ties (Ordinal Logit), Expanded Model

	Model 3.4		
	b	(SE)	
Intercept 4	-2.22	(0.08)	***
Intercept 3	-0.94	(0.08)	***
Intercept 2	1.43	(0.08)	***
Year (ref = 1997)			
2011	-0.19	(0.07)	**
2008	-0.41	(0.09)	***
2006	0.03	(0.08)	
2004	0.23	(0.07)	***
2000	0.05	(0.07)	
Male	0.21	(0.03)	***
ln Age (Years)	0.39	(0.09)	***
Education (ref = High school or less)			
University	-0.35	(0.04)	***
College	-0.11	(0.04)	*
Household income (ref = $60,00-$89,999)			
< $30,000	0.05	(0.06)	
$30,00-$59,999	0.02	(0.05)	
$90,000+	0.07	(0.05)	
Employment status (ref = Employed)			
Unemployed	0.02	(0.10)	
Not in Labour Force	-0.08	(0.04)	*
Province (ref = Ontario)			
Newfoundland and Labrador	0.30	(0.15)	*
Nova Scotia	0.23	(0.15)	
Prince Edward Island	0.26	(0.12)	*
New Brunswick	0.24	(0.12)	*
Quebec	0.23	(0.08)	**
Manitoba	0.06	(0.09)	
Saskatchewan	0.13	(0.09)	
Alberta	-0.12	(0.08)	
British Columbia	-0.21	(0.07)	**
Interest in Politics	-0.24	(0.07)	***
International Trade Creates Jobs	0.68	(0.09)	***
Identify with Canada	0.01	(0.09)	
Economy (ref = stay about the same)			
Getting Better	-0.02	(0.04)	
Getting Worse	-0.06	(0.05)	
Personal Financial Status (ref = stay about the same)			
Getting Better	0.11	(0.04)	*
Getting Worse	-0.04	(0.04)	

Table 3.5: Canadian Attitudes toward Canada–US Ties (Ordinal Logit), Expanded Model, cont'd.

	Model 2.1.4		
	b	(SE)	
Party identification (ref = Liberal)			
Conservative	0.40	(0.05)	***
NDP	-0.47	(0.06)	***
Bloc Québécois	-0.44	(0.08)	***
Other Party	-0.43	(0.12)	***
No Party	0.05	(0.05)	
Ideology: Left vs. Right	0.52	(0.11)	***
ln Distance to Canada–US Border (km)	0.01	(0.03)	
ln Distance to Can.-US Border × Conservative	-0.10	(0.04)	**
ln Distance to Can.-US Border × NDP	0.10	(0.05)	*
ln Distance to Can.-US Border × BQ	-0.10	(0.09)	
ln Distance to Can.-US Border × Other	0.23	(0.13)	
ln Distance to Can.-US Border × No Party	-0.09	(0.04)	*
Area Unemployment Rate (%)	0.009	(0.014)	
Area Median Family Income ($000)	0.009	(0.005)	*
N	17,081		
Model χ^2	1,218,15	***	
Likelihood Ratio χ^2	43.31	***	
Nagelkerke pseudo-R^2	0.08		

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Sources: Canadian Election Studies, 1997–2011; Statistics Canada, CANSIM II table 282-0135 (unemployment rate); Statistics Canada, CANSIM II table 202-0411 (median family income).

Notes: Ordinal logistic regression estimates with clustered standard errors (applied to survey respondents clustered by year and province) in parentheses. Continuous independent variables (age, left vs. right, distance to the Canada–US border, interest in politics, views of international trade, identification with Canada, area unemployment rate and area median family income) are mean-centred. Missing data are multiply imputed 10 times using all available data.

Figure 3.1: Attitudes Toward Canada–US Ties, CES, 1997–2011

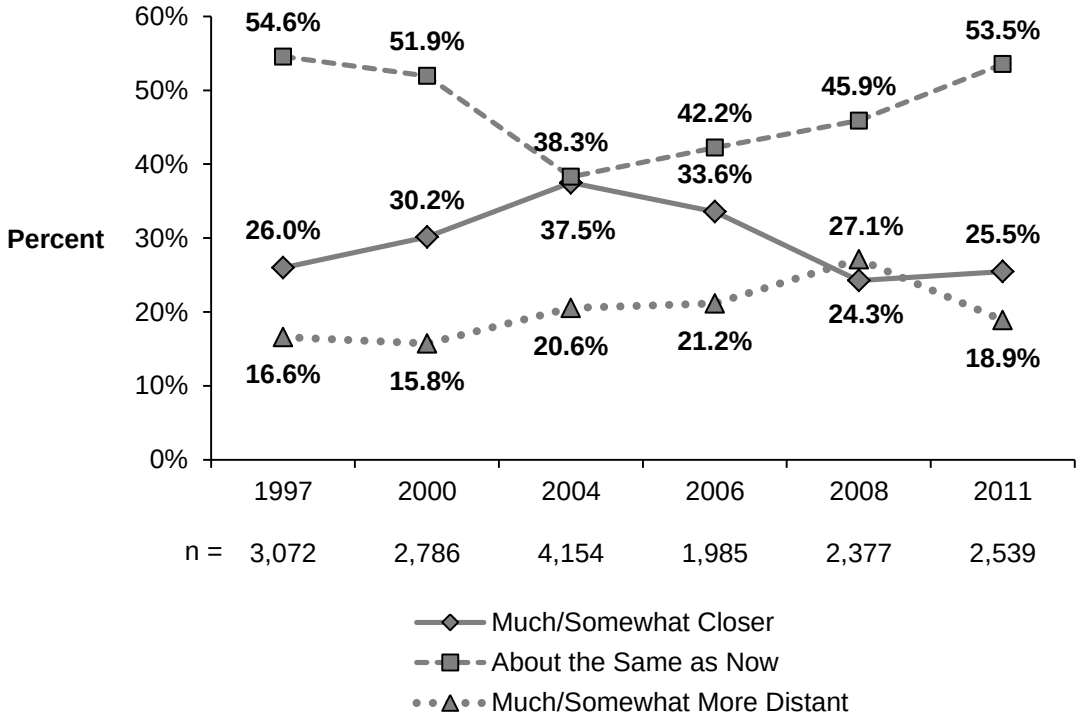


Figure 3.2: Effect Plot, Party Identification and Canada–US Border Proximity

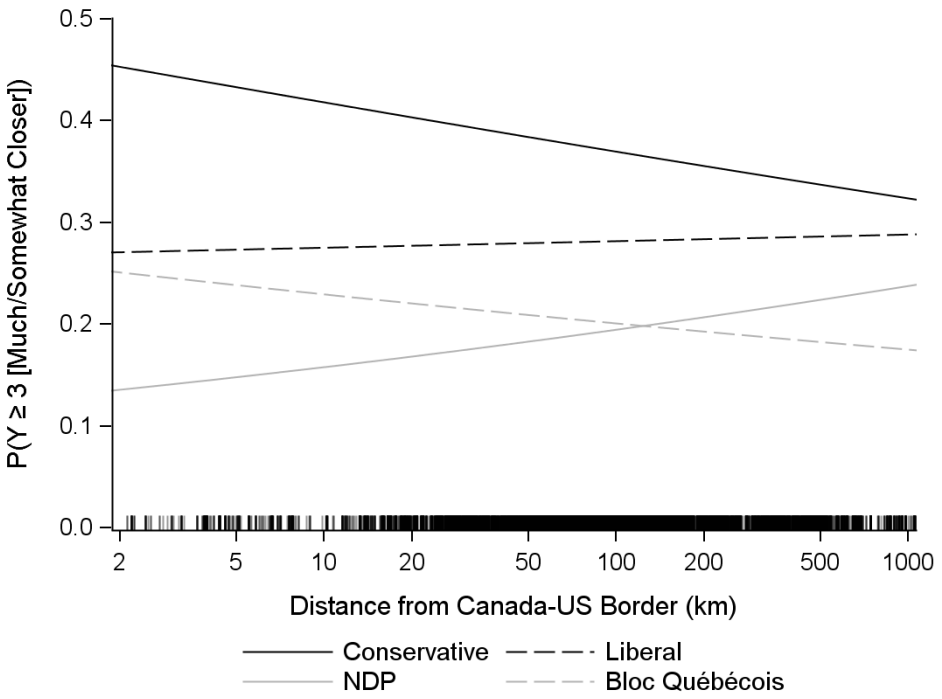


Figure 3.3: Coefficient Plot, Effect of Conservative Party Identification

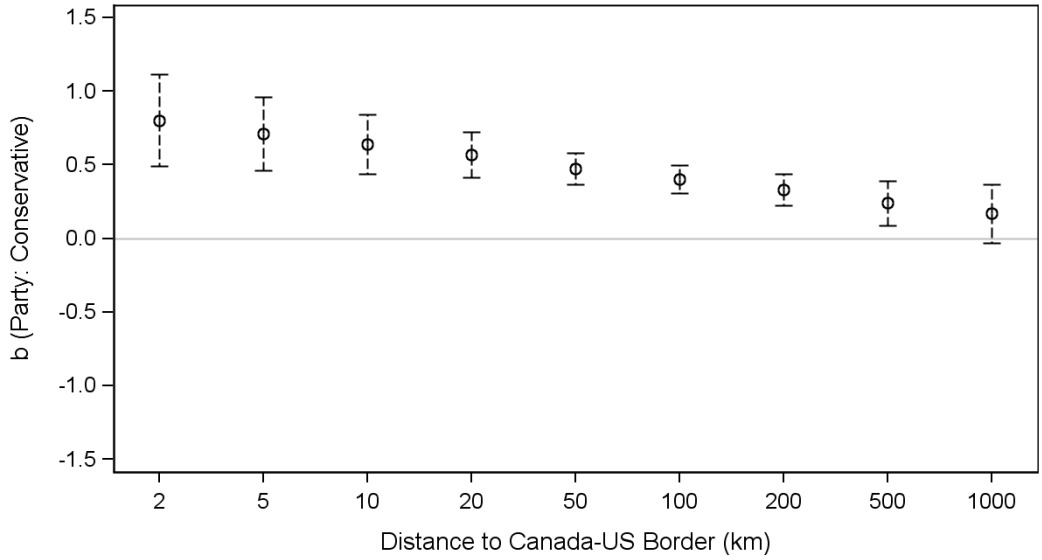


Figure 3.4: Coefficient Plot, Effect of New Democratic Party Identification

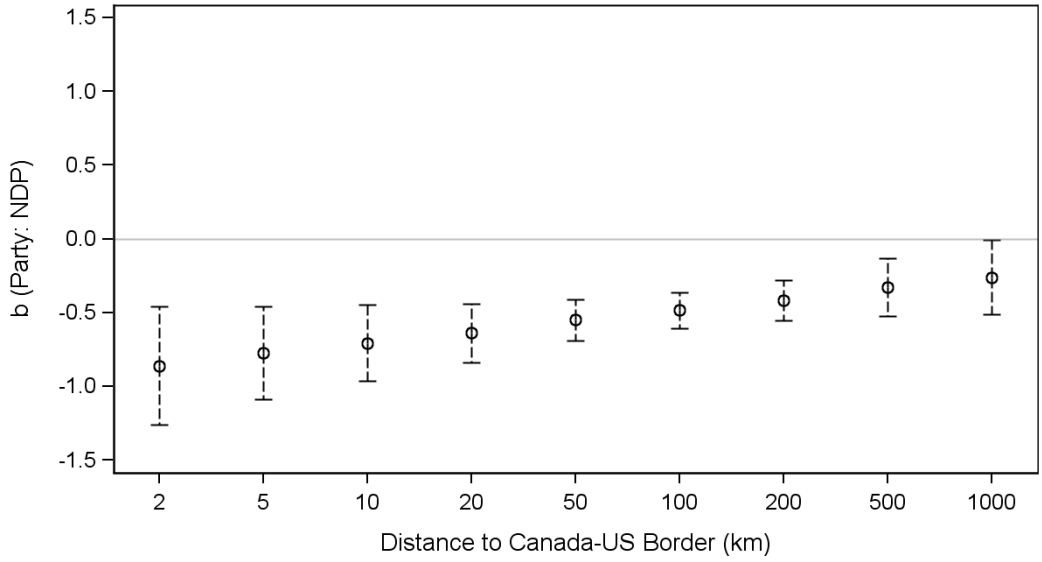
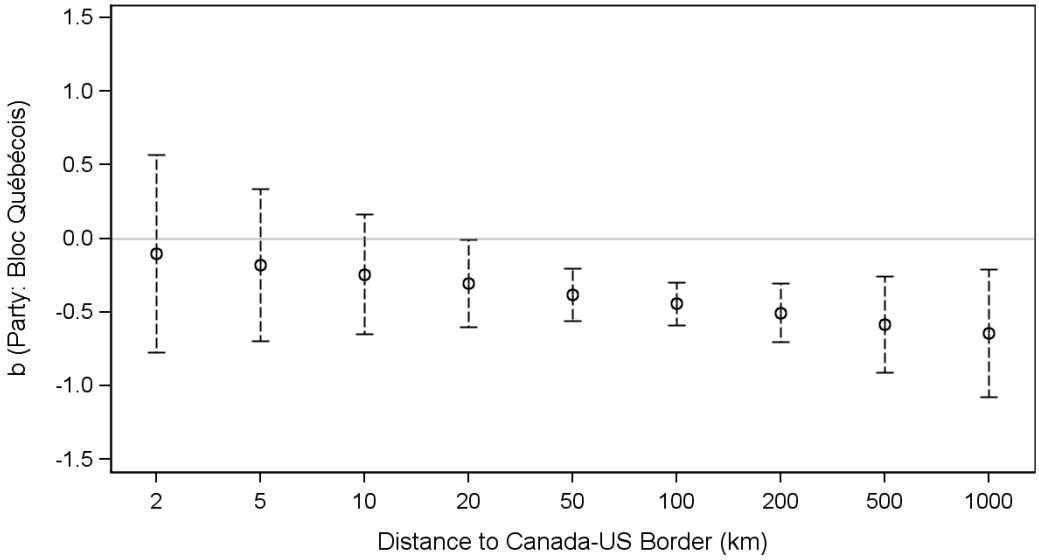


Figure 3.5: Coefficient Plot, Effect of Bloc Québécois Identification



Note: Figures 3.3–3.5 show the party coefficients (and 95% confidence intervals) from model 3.3 with distance to the Canada–US border centred at different values.

3.8 Appendix 3A: Data Coding

Canada–US Ties: "Do you think Canada's ties with the United States should be much closer (4), somewhat closer (3), about the same as now (2), somewhat more distant (1), or much more distant (1)?"

Year: Dummy variables using indicator coding for election years 2000, 2004, 2006, 2008 and 2011 (1997 is the reference category).

Male: Male (1), female (0).

ln Age (Years): Age in years; logged ($\log_e$), rescaled 0 to 1 and mean-centred.

Education: Dummy variables using indicator coding for University and College/CEGEP (meaning community college and Québec junior college; high school or less is the reference category).

Employment: "Are you currently self-employed, working for pay, retired, unemployed or looking for work, a student, caring for a family, or something else?" Dummy variables using indicator coding for Unemployed/Looking for Work and Not in Labour Force (Retired, Student, Caring for a Family, Disabled) (Employed (Self-Employed, Working for Pay) is the reference category).

HH Income: Dummy variables using indicator coding for household income less than $30,000, $30,000 to $59,999, and $90,000+ ($60,000 to $89,999 is the reference category).

Province: Dummy variables using indicator coding for province of residence (Ontario is the reference category).

Interest in Politics: "How interested are you in politics GENERALLY? Use a scale from 0 to 10, where zero means no interest at all, and ten means a great deal of

interest." No Interest at All (0), Great Deal of Interest (10); rescaled 0 to 1 and mean centred.

International Trade Creates Jobs: "International trade creates more jobs in Canada than it destroys." Strongly Agree (5), Agree, (4), Not Sure (3), Disagree (2), Strongly Disagree (1); rescaled 0 to 1 and mean centred.

Identify with Canada: "How much do you identify with each of the following? Canada." A Great Deal (4), Quite a Lot (3), Not Very Much (2), None at All (1); rescaled 0 to 1 and mean centred.

Economy Getting Better/Worse: "Over the past year, has Canada's economy gotten better, gotten worse, or stayed about the same?" Dummy variables using indicator coding for Getting Better and Getting Worse (Stayed about the Same is the reference category).

Personal Financial Situation Getting Better/Worse: "Over the past year, has your financial situation gotten better, gotten worse, or stayed about the same?" Dummy variables using indicator coding for Getting Better and Getting Worse (Stayed about the Same is the reference category).

Party: "In federal politics, do you usually think of yourself as a Liberal, Conservative, NDP, [in Québec: Bloc Québécois], Green Party, or none of these?" [If "none of these":] "Do you generally think of yourself as being a little closer to one of the federal parties than to the others?" [If yes:] "Which party is that?" Dummy variables using indicator coding for Conservative, NDP, Bloc Québécois, Other Party and No Party (Liberal is the reference category).

Left vs. Right: "In politics people sometimes talk of left and right. Where would you place yourself?" Left (0), Right (10), rescaled 0 to 1 and mean centred.

ln Distance Canada–US Border (km): Distance to the Canada–US border in kilometres; logged ($\log_e$) and mean centred.

Area Unemployment rate (%): Three-month moving average unadjusted unemployment rate at the Census Metropolitan Area (CMA) (where available) or province level for the month of the election; mean centred. Source: Statistics Canada, CANSIM II table 282-0135.

Area Median Family Income ($000): Median total income for all family types at the Census Metropolitan Area (CMA) (where available) or province level in constant 2011 dollars (thousands) for the year of the election; mean centred. Source: Statistics Canada, CANSIM II table 202-0411.

3.9 *Appendix 3B: Descriptive Statistics*

	Mean	*Min*	*Max*	*SD*	*N*	*Missing*
Canada-US Ties: Much Closer	0.11	0	1	0.31	16,556	525
Canada-US Ties: Somewhat Closer	0.19	0	1	0.39	16,556	525
Canada-US Ties: Same as Now	0.50	0	1	0.50	16,556	525
Canada-US Ties: Much/Somewhat More Distant	0.20	0	1	0.40	16,556	525
Year: 2011	0.15	0	1	0.36	17,081	0
Year: 2008	0.14	0	1	0.35	17,081	0
Year: 2006	0.12	0	1	0.32	17,081	0
Year: 2004	0.25	0	1	0.43	17,081	0
Year: 2000	0.16	0	1	0.37	17,081	0
Year: 1997	0.18	0	1	0.38	17,081	0
Male	0.48	0	1	0.50	17,081	0
Age (years)	47.02	18	102	16.42	16,913	168
ln Age (years)	3.78	2.89	4.62	0.38	16,913	168
Education: University	0.28	0	1	0.45	16,940	141
Education: College	0.19	0	1	0.39	16,940	141
Education: High school or less	0.53	0	1	0.50	16,940	141
Income: < $30,000	0.20	0	1	0.40	14,707	2,374
Income: $30,000 to <$60,000	0.32	0	1	0.46	14,707	2,374
Income: $60,000 to <$90,000	0.23	0	1	0.42	14,707	2,374
Income: $90,000+	0.25	0	1	0.43	14,707	2,374
Employed	0.62	0	1	0.48	16,928	153
Unemployed	0.04	0	1	0.20	16,928	153
Not in labour force	0.34	0	1	0.47	16,928	153
Province: Newfoundland and Labrador	0.02	0	1	0.14	17,081	0
Province: Nova Scotia	0.01	0	1	0.10	17,081	0
Province: Prince Edward Island	0.03	0	1	0.18	17,081	0
Province: New Brunswick	0.03	0	1	0.16	17,081	0
Province: Quebec	0.26	0	1	0.43	17,081	0
Province: Ontario	0.36	0	1	0.48	17,081	0
Province: Manitoba	0.04	0	1	0.20	17,081	0
Province: Saskatchewan	0.04	0	1	0.19	17,081	0
Province: Alberta	0.08	0	1	0.28	17,081	0
Province: British Columbia	0.13	0	1	0.33	17,081	0
Interest in politics	5.67	0	10	2.77	16,945	136
International trade creates jobs	3.29	1	5	1.05	7,156	9,925
Identify with Canada	3.21	1	4	0.76	1,046	16,035

	Mean	*Min*	*Max*	*SD*	*N*	*Missing*
Economy: Getting better	0.31	0	1	0.46	16,477	604
Economy: Same	0.44	0	1	0.49	16,477	604
Economy: Getting worse	0.24	0	1	0.42	16,477	604
Personal financial situation: Getting better	0.21	0	1	0.41	16,925	156
Personal financial situation: Same	0.55	0	1	0.49	16,925	156
Personal financial situation: Getting worse	0.23	0	1	0.42	16,925	156
Party: Liberal	0.31	0	1	0.46	14,795	2,286
Party: Conservative	0.26	0	1	0.44	14,795	2,286
Party: NDP	0.11	0	1	0.32	14,795	2,286
Party: Bloc Québécois	0.08	0	1	0.27	14,795	2,286
Party: Other party	0.02	0	1	0.15	14,795	2,286
Party: No party	0.21	0	1	0.40	14,795	2,286
Left vs. right	5.21	0	10	1.89	4,803	12,278
Distance to Canada–US border (km)	174.01	0.33	2,379.61	204.38	16,840	241
ln Distance to Canada–US border (km)	4.66	-1.10	7.77	1.01	16,840	241
Area unemployment rate (%)	7.34	3.20	20.80	2.35	17,081	0
Area median family income ($000)	55.77	34.00	82.40	7.97	17,081	0

4. Politics, Proximity and the Pipeline: Mapping Public Attitudes toward Keystone XL[1]

4.1 *Abstract*

The politics of oil pipelines have become increasingly salient in American politics in recent years. In particular, debates about economic benefits, energy security and environmental impact have been provoked by the proposed Keystone XL pipeline expansion intended to take bitumen from northern Alberta in Canada to refineries on the Gulf Coast in Texas. Drawing on data from recent surveys conducted by the Pew Research Center, this article asks a series of questions. What levels of support for (and opposition to) the pipeline exist among the American public? What are the roles of political factors (such as party identification and ideology), economic attitudes, environmental attitudes and proximity to the proposed pipeline route in shaping attitudes toward the pipeline? And how do political factors and proximity to the pipeline interact? We find that partisanship and ideology drive attitudes toward the Keystone XL pipeline, and that the effect of ideology is attenuated by proximity to the proposed route. The policy implications of these findings for energy infrastructure siting controversies are discussed.

4.2 *Introduction*

The United States is covered in an extensive and complex network of energy pipeline infrastructure. The US Department of Transportation (2014) estimates there currently exists over 4 million kilometres of pipelines crisscrossing the country, or enough to circle the world 100 times. While existing energy pipelines usually go without notice, a series of high-profile events – including accidents, spills, and diplomatic lobbying efforts by the Canadian government – have garnered national

1. Originally published as Gravelle and Lachapelle (2015).

and international headlines, making the proposed Keystone XL pipeline a lightning rod for controversy. On the one hand, proponents with an economic stake in pipeline projects argue these expanded networks are not only safe, but also essential for creating new jobs, ensuring economic growth and increasing North American energy security. On the other hand, a growing chorus of environmentalists joined by an interested public staunchly oppose these new projects, questioning the claims of proponents of the economic benefits while highlighting environmental costs related to sensitive environmental areas and global climate change.

At present, the proposal for the northern section of the pipeline crossing the Canada–US border, which was already modified to re-route the pipeline away from the environmentally sensitive Sand Hills area of Nebraska, is still awaiting final review from the State Department. Faced with opposition from many Democrats and environmental groups (on one side) and concerted diplomatic efforts by the Canadian government, pressure to approve the pipeline from Republicans along with a contingent of Democrats in Congress (on the other side), the Obama administration has repeatedly deferred its decision on issuing the Presidential permit required for the pipeline to cross into the US from Canada. With several Democrat-held seats in the Senate from Keystone-friendly states vulnerable in the 2014 mid-term elections, the Obama administration again deferred its final decision until after the elections. The subsequent return of Republican control of Congress has since ushered in a new commitment from the Republican leadership to press forward with Keystone XL in spite of threats from President Obama to veto any such attempt. These dynamics speak clearly to the importance of mass public opinion and policy attitudes in American electoral politics, as well as in Presidential decision-making on contested issues. Indeed, the siting of infrastructure, including energy generation and distribution infrastructure, but also other projects such dams

and airports, have become a major point of contestation between state agents and civil society in contemporary politics (D. P. Aldrich 2008).

But what are the factors that shape Americans' attitudes toward Keystone XL? Given that this controversy is relatively new, few studies specifically examine the politics of oil pipelines. What research does exist only implicitly acknowledges the role of public opinion in shaping the political landscape. For instance, in an analysis of the politics around five pipeline proposals, Hoberg (2013) argues that government actors are sensitive to public opposition to pipelines without presenting survey data on the strength or extent of such opposition. Other studies providing a more detailed account of mass attitudes toward particular pipeline proposals still fall short of identifying the factors shaping these opinions (e.g., Nanos 2013). Moreover, this work tends to ignore the role of geographic context in the formation of opinions. To the extent that public opinion helps shape the preferences of key government actors on controversial issues, and to the extent that attitudes may be formed differently in different places, attention to location in a more thorough analysis of public attitudes can shed light on the politics of the Keystone XL pipeline and other energy siting decisions more generally.

In this article, we seek to explain patterns of support and opposition to the Keystone XL pipeline. To our knowledge, this is the first study that focuses on the politics of this specific pipeline proposal. As evidenced by the attention devoted to Keystone XL by the news media, this issue is highly salient. Moreover, pressure to find new ways of accessing markets for energy surpluses in North America is likely to remain an issue for as long as demand for fossil fuels exists. In this context, we set out to answer the following questions. To what extent are socio-political variables relevant in shaping public attitudes toward the construction of Keystone XL? To what extent does proximity to the proposed pipeline route drive support for the

pipeline? Which factors are most important, and how might proximity and politics interact?

To answer these questions, we draw on the large literature that exists on the formation of mass public attitudes toward policy issues. Scholars interested in various types of policy attitudes have long gravitated toward a common set of predictors, including partisan and ideological predispositions, economic values, and in the case of energy and the environment, proximity to pollution or technology source (Smith 2002; Michaud, Carlisle and Smith 2008; Aldrich 2013). Our study deals with the effects of these and other factors on attitudes toward the Keystone XL pipeline. We are interested in the relative magnitude of these different effects, but also how they interact. For instance, we are interested in the role of ideological predispositions in shaping attitudes toward pipelines, but unlike previous studies, go further and seek to explore whether the impact of ideology is conditioned by proximity to a particular site. The empirical bases for our study are recent surveys conducted by the Pew Research Center seeking to gauge American public opinion on the Keystone XL pipeline.

We begin with an outline of the political context surrounding Keystone XL. We then review previous research from the political behaviour and environmental attitudes literatures that bear on the topic before outlining our theoretical expectations. Next, we describe our data and methods before discussing our key findings. We conclude by reflecting on the implications of our findings for long-standing debates on public opinion on energy and environmental issues in the US and elsewhere (van der Horst 2007; Lachapelle, Borick, and Rabe 2012). The implications of these findings for energy infrastructure siting controversies are also discussed.

4.3 The Politics of Pipelines in the United States

At present, six major crude oil pipeline projects are now being considered to transport oil from Alberta's oil sands to various ports and refineries across North America. These end points include refineries on the US Gulf Coast and ports in the province of British Columbia. Of the six major crude oil pipeline projects that have been proposed, the TransCanada Keystone XL pipeline intended to ship an additional 830,000 barrels of Alberta bitumen per day to refineries on the Gulf Coast is likely the most controversial and well-known. Originally proposed in 2008, the Keystone XL proposal became an important electoral issue in 2012. Supported by a large portion of Republicans in Congress, arguments in favour of the proposal centre on job creation (Huber and Bowe 2014). These arguments have been buttressed by those who have argued that Keystone XL is good policy from an energy security perspective: as a stable democracy and US ally, importing Canadian oil is preferable to relying on imports from less stable and less friendly governments in Venezuela and the Persian Gulf. On the other hand, most – though not all – Democrats oppose the proposal, aligning themselves with a number of environmental groups who have mobilized around the issue – including the No Tar Sands Oil Coalition, Greenpeace, Sierra Club, National Wildlife Federation, and Friends of the Earth – who argue that Keystone XL would increase greenhouse gas emissions while placing local communities and aquifers at risk of contamination from pipeline spills (Parfomak et al. 2013).

This issue framing is key. Like public policy, policy issues can either be framed as relevant for a particular group or location, or widely diffused (Hoberg 2013). Depending on the distribution and concentration of costs and benefits, issues will take on different political and geographic characteristics. Political issues that promise geographically concentrated benefits to the local workforce, for instance,

will have different effects than issues that impose diffuse risks to a broader community.

4.4 Theory and Hypotheses

Given this political context, what factors explain attitudes toward Keystone XL at the level of the mass public? Scholarship in political psychology and public opinion has repeatedly found that the average voter has little interest in or information about politics (Converse 1964; Delli Carpini and Keeter 1993). Given the cost of acquiring and processing new information, citizens will remain rationally uninformed on issues that fail to affect them directly (Downs 1957). For non-pocket book issues, most citizens are 'satisficers' or 'cognitive misers' who lack the incentives to form sophisticated opinions on the issues of the day, relying instead on a range of heuristic devices and mental shortcuts to process new information, form attitudes, and make decisions (Sniderman, Brody, and Tetlock 1991; Popkin 1991).

Partisan cues provide one type of heuristic allowing individuals to form policy attitudes with minimal cognitive effort and while remaining relatively uninformed. This idea dates back to the seminal work of Campbell and colleagues (1960) who argued that party identification could act as a perceptual filter through which individuals perceive issues. According to this view, people will adopt positions on issues that they see as being more favourable to their partisan orientation. This idea has inspired decades of public opinion research, which has provided substantial evidence that partisan and ideological attachments help shape voting intentions as well as opinions on a range of policy issues (Jacoby 1991; Bartels 2002). As Zaller has shown, mass public opinion across a range of policy issues tends to follow elite opinion. Further, there is "no particular need for members of the general public to know the technical details of the expert debate […] or to know

why a given set of policies is conservative or liberal, in order to take positions that are consistent with their ideological predispositions; they need only be able to recognize which elites share their predispositions and take cues from them" (Zaller 1992, 328). Evidence of partisan cleavages has been found in various policy areas, including the issues of offshore oil drilling and nuclear power, with Republicans more likely to be in favour than Democrats (E. R. A. N. Smith 2002).

This type of partisan sorting is particularly evident in the area of climate change. Indeed, on this issue, numerous studies document increasingly divergent elite discourses on whether average global temperatures are increasing, and a corresponding polarization in perceptions of climate change among partisans (Dunlap and McCright 2008; McCright and Dunlap 2011a; Borick and Rabe 2010). To the extent that different parties have taken a clear stand on the building of new energy pipelines we might expect individuals to adopt the same position as that of the political party with which they identify. We may thus express our first hypothesis as follows.

> H_1: Self-identified Republicans are more likely than self-identified Democrats to support the Keystone XL pipeline.

Another heuristic device commonly known to affect decision-making, the formation of attitudes and information processing more generally is ideology. As is the case with partisanship, deeply held value orientations can serve as a cognitive shortcut, helping to form opinions in the absence of detailed knowledge or deliberation. Such effects have been found in the processing of new information, as well as in the formation of attitudes toward new technologies (Ho, Brossard, and Scheufele 2008; Lachapelle, Montpetit, and Gauvin 2014). Faced with a new issue, various mechanisms may trigger values to play such a role. For instance, following the system-justification mechanism known to be at work among political

conservatives (Jost, Nosek, and Gosling 2008; McCright and Dunlap 2011b), we might expect more right-leaning and conservative members of the public to support pipelines because they represent individual rights, free enterprise, and the promise of jobs, or things conservatives value most. Similarly, liberal values for collective goods (such as clean air and water) and equality might make them less likely to support pipeline projects that may concentrate benefits in the hands of large corporations while imposing the bulk of risks on local communities and the environment (E. R. A. N. Smith 2002).

In addition, individuals may rationally form opinions via identity-protective cognition. That is to say, citizens with strong ideological views may be inclined to align their policy preferences with like-minded others in order to avoid dissonance and protect their status in social groups (Jost et al. 2003; Kahan et al. 2007; Kahan, Jenkins-Smith, and Braman 2011). Both processes may lead individuals to seek a position that is consistent with their deep beliefs about who they are and what they value. Such motivated reasoning has been found to reinforce deep political commitments and increase attitude polarization (Taber and Lodge 2006). To the extent that liberal and conservative predispositions toward politics differ, we should expect to see differences in attitudes toward new oil pipelines among members holding these value orientations.[2] For example, Franchino (2014) finds anti-nuclear energy attitudes are associated with the political left, and pro-nuclear attitudes associated with the political right in Europe. Our second hypothesis is therefore:

> H_2: Conservative members of the public are more likely to support the Keystone XL pipeline than those with liberal views.

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2. Though we hypothesize that conservatives are more likely to favour the Keystone XL pipeline, it stands to reason that libertarians may opposite it on account of the infringement of landowner rights implied by the use of eminent domain laws to push forward pipeline construction. The data from the Pew Research Center, however, capture only party identification and liberal-conservative ideology, and not adherence to libertarianism as such.

In addition to the effects of socio-political factors on support for the pipeline, there are good reasons to expect public opinion toward Keystone XL to exhibit spatial dynamics. Indeed, spatial proximity serves as a useful proxy for a range of social and political processes (cf. Eagles 2002). These include differences in media coverage, perceptions of localized environmental risks and perceptions of economic benefits. Conceptualized as such, spatial dynamics have been observed across a range of policy attitudes, including immigration attitudes in the US (Branton et al. 2007) and attitudes toward continental integration in Europe (Berezin and Díez Medrano 2008; Kuhn 2011) and in North America (Gravelle 2014a).

Though detailed mass media research relating specifically to the Keystone XL case does not as yet exist, research has repeatedly demonstrated the relationship between spatial proximity to events and increased news coverage (S. R. Martin 1988; Bendix and Liebler 2010; Molotch and Lester 1975). This literature has found that media organizations have economic incentives to emphasize local events and issues in their coverage. Events that are proximate receive more attention than those further away − a consequence of the geographically defined nature of the demand for news (Branton and Dunaway 2009a). The volume of media coverage in turn shapes the informational context of local residents, increasing the level of awareness and salience of particular issues (Dunaway, Branton, and Abrajano 2010). In light of this, it is reasonable to expect that proximity to the Keystone XL pipeline route serves to increase local media coverage of the pipeline, thereby increasing awareness of both the environmental risks posed by and economic benefits resulting from the pipeline.

It is simple to surmise that proximity to energy sites ought to heighten perceptions of risk to the local environment and increase opposition. As

Ansolabehere and Konisky have argued, the American public devotes attention to energy issues "when the issues hit home, when they become localized and personalized. […] Americans are pragmatic and think about local, immediate consequences" (2014, 15). Proximity to energy infrastructure increases the likelihood of having contact with its negative aspects (such as sights or sounds) or its health or environmental hazards (D. P. Aldrich 2013). Indeed, some literature points to so-called NIMBY (not-in-my-backyard) effects where proximity to particular sites reduces support (Kraft and Clary 1991) or raises the level of concern for environmental contamination (Weiner, MacKinnon, and Greenberg 2013). On balance, however, the literature on public opinion and controversial siting more frequently finds that public opinion is more nuanced (Ansolabehere and Konisky 2009), or even that there is an "inverse NIMBY" dynamic at work (Greenberg 2009; E. R. A. N. Smith 2002; Michaud, Carlisle, and Smith 2008; D. P. Aldrich 2013; Warren et al. 2005). Such mixed evidence suggests that the NIMBY phenomenon is more complex than is sometimes assumed (van der Horst 2007).

When theorizing the role of proximity in energy siting controversies, the geographic distribution of costs and benefits is a crucial element to consider.[3] These benefits and costs can either be broad and diffuse or local and concentrated. We propose that the most plausible account of NIMBY reactions is the result of local populations engaging in a weighing of economic benefits and environmental risks.

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3. These perceived benefits and costs might in turn be affected by levels of media and campaign spending by both project proponents and opponents in communities living near the proposed pipeline route (and also at the national level). Preliminary investigations, however, have shown that such data are limited. For instance, data from the Center for Responsive Politics provides data on spending by different lobbies at the state level, which is at a coarser spatial scale than spatially-referenced public opinion data such as ours. The data are also incomplete, documenting spending levels by one type of proponent – the fossil fuel lobby – while comparable data for pipeline opponents, including environmental groups, are not available. Future research in this area might develop more complete and refined measures for spending at the local and national levels by major proponents and project opponents.

Depending on the distribution of benefits and risks, local populations may come to support or oppose a new energy project at the proposal phase.

In the case of the Keystone XL pipeline proposal, nearly all of the potential benefits accrue at the local community level, where the pipeline is expected to generate an estimated 2,500 to 4,650 construction jobs (Skinner and Sweeney 2012). Since the risk of pipeline spills is likely to affect a relatively small number of people who live unusually close to the proposed route, or who are acutely familiar with the local landscape and its vulnerabilities, such risks are unlikely to fundamentally alter the balance of opinion at the community level. Conversely, the opposite is true at the national level, where the proposed pipeline offers few economic benefits for the nation as a whole. Indeed, the Keystone XL energy pipeline is primarily intended to move Canadian oil sands bitumen closer to export markets offshore, where it can fetch a higher price. Meanwhile, this new infrastructure will allow the continued expansion of oil sands production, thereby contributing to an increase in greenhouse gas emissions and global climate change. This latter risk has made Keystone XL a salient issue in national politics, as environmental groups have largely framed the Keystone XL pipeline as a symbol of America's inability to act on the problem of global climate change. On balance, the Keystone XL pipeline proposal thus presents economic benefits that are locally concentrated and environmental risks that are largely diffuse. We therefore expect to find an inverse NIMBY dynamic where support for the Keystone XL energy pipeline is higher among residents living closer to the proposed route, relative to Americans living further away. Our third hypothesis is thus:

> H_3: As proximity to the proposed route of the Keystone XL pipeline increases, support for the pipeline should also increase.

In hypothesizing an effect of proximity, care ought to be taken to, first, distinguish the effect of proximity from differences in regional (or state-level) political context, and second, to parameterize the effect of proximity in such a way that acknowledges such an effect is likely to be highly localized and non-linear. With respect to the first consideration, we include regional (Census region) controls as part of the regression modelling in order to estimate the effect of spatial proximity to the pipeline net of regional context. With respect to the second consideration, we take explicit account of the "distance decay function" (Taylor 1971; Gimpel et al. 2008) in measuring distance to the Keystone XL pipeline. Our expectation is in line with Smith's conjecture that proximity "may make a difference, but perhaps only when the proposed development is – as the NIMBY acronym implies – literally in one's backyard" (2002, 161). Simply put, our expectation is that there should be a diminishing effect as distance increases: the effect of moving from 10 kilometres to 20 is not the same as moving from 100 to 110; 10 to 20 implies a larger increase in distance. Further, this expectation is supported by recent research that has repeatedly found a logarithmic relationship – not a linear one – between distance and policy attitudes in a variety of domains (Berezin and Díez Medrano 2008; Branton et al. 2007; Gravelle 2014a). We therefore follow this practice and use logged distance to the pipeline in kilometres as our distance measure. We further deem this approach preferable to alternative measures of proximity such as a categorical indicator of residing within specific distance to a site in question, or residing within a county containing a site (Michaud, Carlisle, and Smith 2008; Greenberg 2009; Weiner, MacKinnon, and Greenberg 2013; E. R. A. N. Smith 2002). While such measures are simple to implement, the distance limits or geographic units (such as counties) chosen to distinguish "close" from "far" are often arbitrary. They also imply a significant loss of information in reducing spatial distance, which

is by definition continuous, to a far coarser categorical measure. The sum of these considerations points to operationalizing distance as a continuous measure while acknowledging that the effect of proximity decays as distance increases.

The relationship between proximity and support for pipelines, however, is likely to be more complex than such a straightforward additive effect such as this. It is reasonable to assume that residents living closer to a proposed energy project are more likely to be attentive to the issue, and aware of the potentially significant economic benefits accruing at the local level (E. R. A. N. Smith 2002, 145), thus diminishing the need for cognitive shortcuts. To the extent that proximity to the pipeline increases the awareness one has of net economic gains for the local community, we might expect such considerations to crowd out the role of ideology in shaping opinions on this issue. This is especially true in the case of Keystone XL, where the discourse around its risks are primarily framed as being global and diffuse, while its benefits are concentrated at the local level. Further support for this expectation is offered by Franchino (2014), who finds that proximity to nuclear power stations reduces the marginal effect of ideology on attitudes toward nuclear power in Britain, the Netherlands, Spain and Sweden. Our fourth hypothesis may therefore be expressed as:

> H_4: Ideological polarization decreases (is attenuated) with proximity to the proposed Keystone XL pipeline route; ideological polarization increases (is amplified) with distance to the proposed route.

In addition to these hypotheses, and consistent with the existing literature, we also include a number of controls that are commonly employed in studies of public opinion toward energy and environmental issues. Previous studies have found that environmental attitudes tend to be stronger among women, youth and more

educated individuals (Zelezny, Chua, and Aldrich 2000; Jones and Dunlap 1992). We thus include such sociodemographic variables in our models as age, sex, and education. In addition, work by Ansolabehere and Konisky (2012; 2014) identifies an essential mental trade-off between the economic implications of an energy source and its environmental externalities. Following this work, we expect support for Keystone XL to increase with materialist values and perceptions of economic insecurity, and decrease with environmental values and concern. Finally, and consistent with the argument that attitudes are shaped by particular regional contexts, we also control for region of the US (using Census Bureau regional definitions).

4.5 Data and Methods

Our data are comprised of probability-based, representative survey samples of the American population. Specifically, they come from three separate surveys conducted by the Pew Research Center between March 13–17, 2013 (n = 1,501), September 4–8, 2013 (n = 1,506), and February 27–March 16, 2014 (n = 3,335). The response rates (AAPOR RR3 definition) for the three surveys were 8.7%, 6.8% and 9.7%, respectively. We limit our analysis to data from the lower 48 continental states (excluding respondents from Alaska and Hawaii, since these states are not contiguous with the rest of US territory, which is where the Keystone XL pipeline is located). This brings our samples to 1,488, 1,494 and 3,304, respectively. The sample design for each wave was a dual-frame sample comprising landline and cellular telephone samples. Interviewing was conducted in both English and Spanish. While the three Pew Research Center surveys did not employ a common questionnaire, they nevertheless included common questions relating to political party identification, self-rated ideology, and attitudes toward the Keystone XL pipeline. We also take advantage of survey data capturing perceptions of the national

economy (asked in the March and September 2013 waves) and on attitudes toward global warming (asked in the March 2013 wave).

Our key measure of Americans' views of the Keystone XL pipeline is a dichotomous survey item asking: "Do you favour or oppose building the Keystone XL pipeline that would transport oil from Canada's oil sands region through the Midwest to refineries in Texas?" The marginal distribution of this survey item indicates that roughly three-fifths of the American public favour building the Keystone XL pipeline – 66 percent in March 2013, 65 percent in September 2013, and 61 percent in February-March 2014. At the same time, approximately one-quarter of the public (between 23 and 30 percent) opposes the pipeline. Results from the three surveys point to broad stability in American public opinion toward Keystone XL with a majority consistently in favour but a substantial proportion of the public opposed (see Table 4.1).

These levels of support are broadly in line with those found in other surveys. For example, in a poll from March–April 2013, Nanos (2013, 25) finds that 74 percent of the American public supports the Keystone XL project while 21 percent oppose it. A USA TODAY/Stanford University/Resources for the Future poll conducted in November–December 2013 found support at 56 percent and opposition at 41% when respondents were presented with the dual prospects of reducing the amount of oil the US imports from the Middle East but with the consequence of creating higher greenhouse gas emissions from the Canadian oil sands (Koch 2014). In a February–March 2014 Washington Post–ABC News poll, 65 percent of Americans said the US government should approve the pipeline, with 22 percent saying it should not (Eilperin and Clement 2014), representing an increase in support from March 2012 when a Gallup poll found that 57 percent of Americans wanted the pipeline approved while 29 percent did not (Mendes 2012). Presented with competing

arguments about US energy security and the environmental risk posed by the pipeline, a December 2013 Bloomberg News poll found that 56 percent of Americans viewed Keystone XL more as an opportunity to improve US energy security while 35 percent viewed it more as a potential threat to the environment from oil spills or greenhouse gas emissions (Snyder 2013). In sum, while individual polls have varied in the specific ways they have measured American public opinion toward the Keystone XL pipeline, taken together, they paint the picture of a public positively inclined toward the pipeline, though a substantial segment of the public remains opposed.

While the Pew survey data contain items capturing most of the relevant concepts, additional work is needed to create measures of proximity to the Keystone XL pipeline. To do so, we rely on the geographic indicators contained in the survey data to geocode (append latitude-longitude coordinates to) individual survey respondents. In the Pew survey instruments, respondents were asked to provide their ZIP codes; ZIP codes were also retained from the telephone sample files, allowing for a high match rate. Fully 98 percent of respondents were geocoded based on ZIP code.[4] The remaining 2 percent of respondents were geocoded based on county FIPS codes (originating from the telephone sample files) and matched to county centroids created from the 2013 US Census Bureau TIGER/Line county shapefile.

To calculate the distance to the pipeline, we use detailed geodetic data compiled and made publicly available by the Keystone Mapping Project (keystone.steamingmules.com), a civil society organization that has assumed the mandate to inform the American public by publicizing the proposed pipeline route

4. ZIP code Geocoding was conducted using the GEOCODE procedure in the SAS statistical package and the October 2013 ZIP code lookup dataset provided by the SAS Institute.

through maps created using Google Earth (earth.google.com). While this organization is not neutral in its stance toward Keystone XL, its mapping work is strictly factual and endeavours to apply the best practices of cartographic science. Specifically, we use the northern section of the proposed pipeline route from the its point of entry into the US from Canada in Phillips County, Montana, proceeding southeasterly through South Dakota and terminating at Steele City, Nebraska; the section of the original Keystone pipeline connecting Steele City to Cushing, Oklahoma by a southerly route through Kansas; the now-built southern section of Keystone XL originating in Cushing, Oklahoma and proceeding southerly to Nederland, Texas on the Gulf Coast; and the proposed extension to Houston, Texas also on the Gulf Coast (see Figure 4.1). Given these two sets of spatially located data (the survey data and the pipeline route data), calculating individual survey respondents' distance to the pipeline is easily done by joining the two sets of data and finding the minimum distance to the pipeline (see Figures 4.2–4.3).

To assess the contribution of attitudes toward the economy, the environment and political factors to explaining American attitudes toward the Keystone XL pipeline we use binary logistic regression models. Binary logit is indicated given the dichotomous favour/oppose survey item employed in the Pew surveys.[5] The survey data contain items capturing overall attitudes toward the national economy (using

5. Some readers might consider a multilevel (or hierarchical, or mixed) model most appropriate given our data and hypotheses in light of the contextual nature of proximity to the Keystone XL pipeline. Such a strategy would conceive of respondents as nested within larger contextual units (such as counties or ZIP codes). Multilevel analysis, as a theoretical matter, assumes a multi-stage sample design, e.g., random sampling of clusters (counties or ZIP codes) and random sampling within each cluster. As a practical matter, it also assumes a minimum sample size within each cluster for acceptable statistical power (Hox 2010; West, Welch, and Galecki 2014). Neither assumption is met with the Pew data analyzed here, which were collected as a national random sample without clustering or stratification, and a substantial number of respondents being the sole respondent from their respective counties or ZIP codes. Our analyses are therefore appropriately undertaken as "single-level," contextual analyses (as described by Books and Prysby 1991) and not multilevel or hierarchical analyses.

an excellent-good-fair-poor scale), views of the seriousness of global warming (in general, and not specifically relating to the Keystone XL pipeline or its effects),[6] and standard measures of political party identification and political ideology (using a five-point very conservative-very liberal scale). The models also include controls for sex, age (in years logged), education and region. Full details of the coding of these variables appear in the appendix.

In order to retain all cases in the regression analysis, and to avoid introducing bias or reducing statistical power by using only complete cases, missing survey item responses were imputed 10 separate times using multiple imputation (MI) routines (Allison 2001; Little and Rubin 2002). Given that the national economy and global warming survey questions were not asked in all three surveys, our implementation is thus an application of "cross-survey MI" and is undertaken using the procedures advanced by Rendall et al. (2013) for conducting MI in such instances. These include conducting the imputations using only jointly-observed variables and increasing the number of imputations performed to compensate for the larger fraction of missing data – in our case, 10 imputations, more than the standard 3 to 5. Binary logit models of the multiply-imputed data were then fit using procedures that account for the complex sample design used for the survey data collection, with these results then combined using procedures articulated by Rubin (1987) to produce the final results reported here.[7] This process produces

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6. As a measure of environmentalism, concern over global warming covers only part of the conceptual terrain. It is, however, the best measure available in the Pew data, even though it may not be the most relevant measure in the context of attitudes toward energy (Ansolabehere and Konisky 2012). Still, it is interesting to ask whether those rating high on concern over global warming further object to the Keystone XL pipeline due to concern for localized environmental risks or an objection to American dependence on fossil fuels (attitudes which are likely correlated with one another).

7. The multiple imputations were conducted using the IVEware 0.1 add-in program for SAS (Raghunathan et al. 2001). The logit models were fit using SAS PROC SURVEYLOGISTIC, with results then submitted to SAS PROC MIANALYZE to combine the imputations.

parameter estimates and standard errors that account for both the complex sample designs employed to collect the Pew survey data as well as the statistical uncertainty associated with imputing missing data. With the survey data having been collected in three distinct time periods, controls for time are included in the model through dummy variables for the September 2013 and February-March 2014 time periods (with the March 2013 time period serving as the reference category). The data are thus analysed as independently-pooled repeated cross-sections (Wooldridge 2009, 444–445).

4.6 Results and Discussion

Several important findings emerge from the logit models. First, men are more likely to favour building the pipeline, as are older Americans, while college educated Americans are less likely to support it. These results arguably speak to higher levels of concern for the environmental impact of the pipeline among women and younger Americans, as well as the reduced importance of the job opportunities implied by pipeline construction among the college educated. Looking at results across the Census regions of the US, the only significant result is a difference between the West and the Northeast (the reference category) with the West region less likely to favour the Keystone XL pipeline. The Midwest and South regions (which include the six states through which the proposed pipeline route passes) are statistically indistinguishable from the Northeast. Further, it is notable that the effect of residing in the West census region remains significant even when distance to the pipeline is included in the model (see Table 4.2).

Turning to attitudes toward the economy and the environment, in line with our expectations, we find a significant effect of rating the national economy either fair or poor on favouring the Keystone XL pipeline. Thus, those parts of the

American public viewing national economic conditions as remaining in a fragile state exhibit a higher propensity for endorsing the construction of the pipeline. At the same time, environmental attitudes exert a negative effect. Viewing global warming as a problem serves to decrease support for building the pipeline. This result stands in contrast with other work that finds that concern about global warming is only weakly correlated with attitudes toward particular fuels (Ansolabehere and Konisky 2012, 69). It suggests that efforts of opponents to link the Keystone XL pipeline proposal to increased greenhouse gas emissions have been at least partly successful in doing so.

Examining the effects of party identification and political ideology in model 4.1, we see that the results confirm our expectations: Consistent with our first hypothesis, Republicans are more likely to favour the construction of the Keystone XL pipeline than Democrats (the reference category). Similarly, moderates and conservatives are, in turn, significantly more likely to favour the pipeline than liberals (the reference category), confirming our second hypothesis. At the same time, the effect of distance to the pipeline is significant and negative. This implies that proximity to the pipeline leads to a greater likelihood of favouring the pipeline. Conversely, greater distance from the proposed route implies a lower likelihood of favouring the pipeline. We thus find evidence of an inverse NIMBY effect similar to that found in the cases of energy siting controversies (Michaud, Carlisle, and Smith 2008; Greenberg 2009; Warren et al. 2005; E. R. A. N. Smith 2002) and confirm our third hypothesis.

It may still be the case, as expected, that the effects of political factors vary depending on proximity (or distance) to the pipeline. This is to say that party identification and political ideology (on the one hand) and proximity to the pipeline (on the other) may interact. We test this in models 4.2 and 4.3 with separate

interactions between party identification and pipeline proximity, and ideology and pipeline proximity. Model 4.2 fails to find any interaction between party identification and proximity to the pipeline. The finding, then, is that proximity to (and distance from) the pipeline affects Republicans and Democrats in the same manner. However, model 4.3 identifies an interactive relationship between proximity to the pipeline and political ideology, as indicated by a significant coefficient for the distance to pipeline × conservative interaction term. More to the point, a likelihood ratio chi-square test of the interaction comparing model 4.1 to model 4.3 indicates a significant interaction ($p = 0.004$). To explain further, the lower-order coefficient for logged distance to the Keystone XL pipeline (–0.28) is the estimate of the effect of distance to the pipeline for liberals (the reference category for political ideology). Thus, among liberals, distance to the Keystone XL pipeline acts to decrease support for the pipeline; conversely, proximity to the pipeline acts to increase support. By contrast, the effect of proximity to the Keystone XL pipeline among conservatives is obtained by adding the lower-order coefficient for logged distance to the pipeline and the higher-order coefficient for distance to the pipeline × conservative interaction term: –0.28 + 0.30 = 0.02. This value is nearly zero, indicating little effect. A direct test of this value is obtained by respecifying model 4.3 with conservatives set as the reference category for political ideology; this confirms that the effect of logged distance to the Keystone XL pipeline is not statistically significant among conservatives (see Table 4.4). The results of this respecified model indicate a significant coefficient for the logged distance to the Keystone XL pipeline × liberal interaction term as expected. Adding the lower-order coefficient for logged distance to the pipeline and the higher-order coefficient for distance to the pipeline × liberal interaction term yields: 0.02 + (–0.30) = –0.28, which reconfirms the result previously obtained from the originally specified model with

liberals as the reference category (see Table 4.2). Again respecifying model with political moderates as the reference category (see Table 4.3) yields a negatively-signed but insignificant effect of logged distance to the Keystone XL pipeline among this segment of the American public. The results thus indicate that the spatial patterns for moderates and conservatives, are not significantly different from one another. At the same time, there is weak evidence of a difference between liberals and moderates, with the higher-order logged distance to the Keystone XL pipeline × liberal coefficient approaching conventional levels of statistical significance (p = 0.084). The main conclusion remains a highly significant difference in the effect of proximity to the Keystone XL pipeline between liberals and conservatives. This result is congruent with those from the European context, where proximity to nuclear power plants moderated the effect of ideology on attitudes toward nuclear energy (Franchino 2014). In sum, we can conclude that the effect of political ideology on attitudes toward the Keystone XL pipeline is contingent upon (moderated by) proximity to the pipeline.

To visualize this pattern of contingent effects, we examine graphical displays of the interaction (Brambor, Clark, and Golder 2006; Fox 2008). As Figure 4.4 makes clear, conservatives are nearly equally likely to favour the pipeline regardless of proximity or distance to the pipeline. As was previously shown in discussing the regression results, the attitudes of American conservatives do not exhibit a spatial dynamic in this respect. By contrast, among American liberals, the likelihood of favouring the pipeline decreases as distance to the pipeline increases. As a result, there is no ideological divide as it relates to the Keystone XL near the proposed

route; it is only at a substantial distance from the pipeline that differences between liberals and conservatives emerge (see Figure 4.4).[8]

Given that the attitudes of liberals and conservatives toward the Keystone XL pipeline converge with greater proximity to the pipeline, further probing of this moderated relationship is useful to determine the range over which ideology continues to exert an effect. This involves re-centring distance to the pipeline at different values, re-running the model and examining how the ideology coefficients change (Cohen et al. 2003; Braumoeller 2004). Performing this analysis reveals that the ideological cleavage exists at distances of 158 kilometres or greater. At distances less than 158 kilometres, liberals and conservatives are statistically indistinguishable from one another. Further, liberals and moderates are indistinguishable from one another at distances of less than 371 kilometres (see Figures 4.5–4.6).[9]

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8. One should also note that the key results from model 4.3 are robust to the inclusion of numerous other variables that potentially influence attitudes toward support for the Keystone XL pipeline, including perceptions of the direction of the national economy, perceptions of one's personal financial situation, perceptions of change in one's family's financial situation, employment status, attitudes toward environmental laws, county unemployment rate, and county median family income. Including these variables in the model have no appreciable effects on the parameter estimates for political ideology, logged distance to the Keystone XL pipeline, and the ideology × pipeline distance interaction. See Table 4.5.

In further examining the ideology × distance interaction effect by conducting separate analyses for the three waves of survey data, we find that the interaction is non-significant in the first (March 2013) wave (though the conservative × distance coefficient is correctly signed) and significant in the second (September 2013) and third (February-March 2014) waves. The reasons for this are not entirely clear, though it is worth pointing out that President Obama made a highly-publicized statement in June 2013 (his clearest up to that time) that approval of Keystone XL would only be granted if it did not increase net greenhouse gas emissions. In providing such an "elite cue" (Zaller 1992), Obama may have altered the political and spatial dynamics of opinion formation on Keystone XL.

9. In order to build confidence in our results, we tested to see whether liberals living in both Keystone XL and non-Keystone states XL are similar with respect to another important environmental issue, climate change. A t-test confirms that liberals living in Keystone XL states are no different from liberals living outside Keystone XL states on the question of how serious a problem they perceive global warming to be. Thus, our results are not driven by the possibility that liberals living in Keystone XL states are somehow different from liberals living elsewhere on questions pertaining to the environment.

Overall, our results support our theoretical expectations. Consistent with what has been found in the literature, we find that individuals tend to adopt policy attitudes consistent with their ideological predispositions and fellow partisans. We also find support for the effect of proximity, and equally compelling evidence for our interactive hypotheses. The simple additive effect of distance to the pipeline is negative, and such an inverse NIMBY effect suggests that the promise of local jobs and other economic benefits work against environmental considerations of local spills and global risks related to climate change (cf. D. P. Aldrich 2013). Equally interesting is the finding that ideological differences increase with distance from the pipeline, or conversely, that such differences decrease (and disappear altogether) with ever greater proximity to the pipeline. This fits partially with the heuristic model of ideology, whereby individuals rely on underlying political predispositions to inform their policy preferences in the absence of being fully informed on potential benefits and risks. In the case of pipelines, distance increases the probability of liberals opposing Keystone XL, while proximity appears to increase the relevance of economic considerations among liberals, crowding out the effect of ideology. In this light, liberals living in closer proximity to the proposed pipeline are faced with a tradeoff not faced by liberals living further away. In contrast, approval among political conservatives is consistently high regardless of distance, suggesting that such an economy-environment tradeoff is not part of the calculus among this ideological group.

This conditional effect of political ideology thus points to the importance of issue characteristics and local context in determining the effect of proximity and distance. Depending on the distribution and concentration of risks and benefits, we might expect a different interactive dynamic. When risks are framed as global and diffuse, and when benefits are concentrated locally, proximity may attenuate the

role of ideology, as we find to be the case with Keystone XL. However, where risks and benefits are both locally concentrated and highly contested, we might expect proximity to play a more polarizing role, as individuals react to these risks and benefits differently as a function of their ideology. Future work should build on this finding regarding the way in which distance to risks and benefits may moderate the role of ideology in the formation of opinions.

4.7 Conclusion

Given the economic and environmental stakes involved, the issue of building new energy pipelines is likely to remain on the American political agenda for some time. Indeed, the expected increase in American domestic production of oil and natural gas will contribute to the need for new energy infrastructure to be built in the US, both for domestic consumption and export (United States Energy Information Administration 2014). That environmental groups recognize the strategic importance of pipelines for climate change further suggests that pipelines will remain controversial and will remain an issue of public concern for the foreseeable future.

In this article, we have identified a number of factors that are predictive of public support for (and opposition to) the Keystone XL pipeline. We find that public attitudes are shaped by political factors as well as attitudes toward the economy and the environment. A further key finding relates to the role of proximity, which we find conditions the effect of ideological predispositions toward proposed oil pipeline infrastructure. Thus, spatial context matters, but in different ways for different segments of the American public. This finding has important implications for debates surrounding patterns of locally concentrated support and opposition (van der Horst 2007), as it points to the need to evaluate how individual-level

political beliefs and contextual factors interact to affect policy attitudes (Books and Prysby 1991).

Several policy-relevant implications also flow directly from these findings. First, as highlighted by the broad mobilization against Keystone XL in the US, policy actors have been able to link localized energy transportation infrastructure projects to national-level debates on broader risks and benefits like that over climate change. This move broadens the level of public discussion to include input from a wider array of societal interests and concerns, making it difficult for decision makers to find solutions that appease everyone. The Obama administration's decision to extend the political half-life of the issue by repeatedly deferring a final decision on Keystone XL is consistent with this interpretation, as the President was caught between liberal pipeline supporters in the heartland, and liberal pipeline opponents on the coasts. In the aftermath of the election, the rejection of the Keystone XL energy pipeline project by President Obama likely proved less costly, providing the President with a potential bargaining chip in a Republican-dominated Congress.

At the same time, our findings have additional implications for the framing strategies employed by policy actors, and suggest that environmental groups may have had more success had they put more emphasis on such local concerns as water safety and land rights in an effort to mobilize opinion locally. Instead, project proponents successfully appealed to the local population in terms of economic benefits, which appears to have successfully countered the environmental movement's primary concern regarding Keystone XL's impact on greenhouse gas emissions, at least for individuals living in close proximity to the pipeline. Thus, at least in the case of Keystone XL, local framing of economic benefits appears to have outweighed counter-frames regarding risks.

More generally, our results speak to broader considerations on the siting and scale of public opposition to energy infrastructure projects. While the case of Keystone XL provides some evidence of an inverse NIMBY dynamic, we suggest that the spatial distribution of support and opposition will vary according to the spatial distribution of risks and benefits for a particular project. Because these risks and benefits can be framed in different ways (e.g. as being primarily local or primarily global), whether or not governments should expect to deal with concentrated local opposition or support will in part be influenced by the framing contest between project proponents and opponents in a given energy project siting controversy. Spatial and contextual considerations therefore have an important place in the study of mass policy attitudes on energy siting decisions, and future research in this policy domain ought to pay close attention to the interaction between politics and space.

Table 4.1: American Public Opinion toward the Keystone XL Pipeline

"Do you favour or oppose building the Keystone XL pipeline that would transport oil from Canada's oil sands region through the Midwest to refineries in Texas?"

	March 2013	September 2013	February–March 2014
Favour	66%	65%	61%
Oppose	23%	30%	27%
Don't Know/Refused	11%	5%	12%

Source: Pew Research Center, 2013–2014

Table 4.2: Explaining American Attitudes toward the Keystone XL Pipeline (Binary Logit)

	Model 4.1			Model 4.2			Model 4.3		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	0.38	(0.17)	*	0.38	(0.17)	*	0.41	(0.17)	*
Wave (ref = March 2013)									
September 2013	-0.38	(0.13)	**	-0.38	(0.13)	**	-0.39	(0.13)	**
February–March 2014	-0.23	(0.10)	*	-0.23	(0.10)	*	-0.24	(0.10)	*
Male	0.19	(0.08)	*	0.20	(0.08)	*	0.20	(0.08)	*
ln Age (Years)	0.37	(0.09)	***	0.37	(0.09)	***	0.37	(0.09)	***
Education: College	-0.29	(0.08)	***	-0.29	(0.08)	***	-0.28	(0.08)	***
Region (ref = Northeast)									
Midwest	-0.18	(0.13)		-0.18	(0.13)		-0.19	(0.13)	
South	-0.06	(0.11)		-0.06	(0.11)		-0.08	(0.11)	
West	-0.33	(0.12)	**	-0.34	(0.12)	**	-0.35	(0.12)	**
Economy is fair/poor	0.21	(0.10)	*	0.21	(0.10)	*	0.21	(0.10)	*
Global warming is serious problem	-0.37	(0.09)	***	-0.36	(0.09)	***	-0.37	(0.09)	***
Party (ref = Democrat)									
Independent	0.36	(0.12)	**	0.36	(0.12)	**	0.36	(0.12)	**
Republican	1.53	(0.10)	***	1.53	(0.10)	***	1.54	(0.10)	***
Ideology (ref = Liberal)									
Moderate	0.45	(0.09)	***	0.44	(0.09)	***	0.43	(0.09)	***
Conservative	0.95	(0.11)	***	0.95	(0.11)	***	0.94	(0.11)	***
Distance to Pipeline (km logged)	-0.12	(0.05)	*	-0.13	(0.06)	*	-0.28	(0.08)	***
Distance to Pipeline × Independent		—		-0.07	(0.14)			—	
Distance to Pipeline × Republican		—		0.08	(0.10)			—	
Distance to Pipeline × Moderate		—			—		0.18	(0.10)	
Distance to Pipeline × Conservative		—			—		0.30	(0.11)	**
N	6,286			6,286			6,286		
Model χ^2	1,157.47	***		1,159.43	***		1,168.62	***	
Likelihood Ratio χ^2 Test	—			1.96			11.15	**	
Nagelkerke R^2	0.24			0.24			0.24		

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Source: Pew Research Center, 2013–2014

Table 4.3: Explaining American Attitudes toward the Keystone XL Pipeline (Binary Logit), Political Moderates as Reference Category

	Model 4.3-M		
	b	(SE)	
Intercept	0.84	(0.18)	***
Wave (ref = March 2013)			
September 2013	-0.39	(0.13)	**
February–March 2014	-0.24	(0.10)	*
Male	0.20	(0.08)	*
ln Age (Years)	0.37	(0.09)	***
Education: College	-0.28	(0.08)	***
Region (ref = Northeast)			
Midwest	-0.19	(0.13)	
South	-0.08	(0.11)	
West	-0.35	(0.12)	**
Economy is fair/poor	0.21	(0.10)	*
Global warming is serious problem	-0.37	(0.09)	***
Party (ref = Democrat)			
Independent	0.36	(0.12)	**
Republican	1.54	(0.10)	***
Ideology (ref = Moderate)			
Liberal	-0.43	(0.09)	***
Conservative	0.51	(0.10)	***
Distance to Pipeline (km logged)	-0.10	(0.08)	
Distance to Pipeline × Independent		—	
Distance to Pipeline × Republican		—	
Distance to Pipeline × Liberal	-0.18	(0.10)	†
Distance to Pipeline × Conservative	0.12	(0.11)	
N	6,286		
Model χ^2	1,168.62	***	
Likelihood Ratio χ^2 Test	11.15	**	
Nagelkerke R^2	0.24		

† $p \leq .084$; * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Source: Pew Research Center, 2013–2014

Table 4.4: Explaining American Attitudes toward the Keystone XL Pipeline (Binary Logit), Political Conservatives as Reference Category

	Model 4.3-C		
	b	(SE)	
Intercept	1.35	(0.18)	***
Wave (ref = March 2013)			
September 2013	-0.39	(0.13)	**
February–March 2014	-0.24	(0.10)	*
Male	0.20	(0.08)	*
ln Age (Years)	0.37	(0.09)	***
Education: College	-0.28	(0.08)	***
Region (ref = Northeast)			
Midwest	-0.19	(0.13)	
South	-0.08	(0.11)	
West	-0.35	(0.12)	**
Economy is fair/poor	0.21	(0.10)	*
Global warming is serious problem	-0.37	(0.09)	***
Party (ref = Democrat)			
Independent	0.36	(0.12)	**
Republican	1.54	(0.10)	***
Ideology (ref = Conservative)			
Liberal	-0.94	(0.11)	***
Moderate	-0.51	(0.10)	***
Distance to Pipeline (km logged)	0.02	(0.08)	
Distance to Pipeline × Independent		—	
Distance to Pipeline × Republican		—	
Distance to Pipeline × Liberal	-0.30	(0.11)	**
Distance to Pipeline × Moderate	-0.12	(0.11)	
N	6,286		
Model χ^2	1,168.62	***	
Likelihood Ratio χ^2 Test	11.15	**	
Nagelkerke R^2	0.24		

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Source: Pew Research Center, 2013–2014

Table 4.5: Explaining American Attitudes toward the Keystone XL Pipeline (Binary Logit), Expanded Model

	Model 4.4		
	b	(SE)	
Intercept	0.65	(0.27)	*
Wave (ref = March 2013)			
September 2013	-0.40	(0.14)	**
February–March 2014	-0.24	(0.10)	*
Male	0.19	(0.08)	*
ln Age (Years)	0.41	(0.11)	***
Education: College	-0.23	(0.09)	*
Region (ref = Northeast)			
Midwest	-0.19	(0.13)	
South	-0.09	(0.12)	
West	-0.38	(0.12)	**
Employment status (ref = Employed)			
Unemployed	-0.16	(0.16)	
Not in Labour Force	-0.05	(0.11)	
Economy is fair/poor	0.17	(0.11)	
Economy (ref = stay about the same)			
Getting Better	-0.12	(0.13)	
Getting Worse	0.15	(0.13)	
Personal Fin. Situation (ref = Fair)			
Excellent/Good	0.05	(0.10)	
Poor	-0.04	(0.14)	
Family Fin. Situation (ref = Stay the same)			
Improving	0.08	(0.19)	
Getting Worse	0.05	(0.17)	
Global warming is serious problem	-0.33	(0.10)	**
Environmental Laws Worth the Cost	-0.30	(0.10)	**
Party (ref = Democrat)			
Independent	0.30	(0.13)	*
Republican	1.45	(0.11)	***
Ideology (ref = Liberal)			
Moderate	0.39	(0.09)	***
Conservative	0.85	(0.11)	***
Distance to Pipeline (km logged)	-0.30	(0.08)	***
Distance to Pipeline × Independent		—	
Distance to Pipeline × Republican		—	
Distance to Pipeline × Moderate	0.18	(0.10)	†
Distance to Pipeline × Conservative	0.30	(0.11)	**
County Unemployment Rate (%)	0.036	(0.024)	
County Median Family Income ($000)	-0.001	(0.003)	
N	6,286		
Model χ^2	1,216.39	***	
Likelihood Ratio χ^2 Test	47.77	***	
Nagelkerke R^2	0.25		

† $p \leq .088$; * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Sources: Pew Research Center, 2013–2014; Bureau of Labor Statistics, Local Area Unemployment Statistics, 2013; United States Census Bureau, American Community Survey, 2013 5-year estimates, Table DP03.

Notes: Results are binary logistic regression coefficients with standard errors (in parentheses) adjusted for the complex sample design (stratification and weighting) and multiple imputation. Continuous independent variables (age, and distance to the Keystone XL pipeline) are mean-centred.

Figure 4.1: Map, Keystone XL Pipeline Route

Sources: Keystone Mapping Project; United States Census Bureau, Cartographic Boundary Shapefile – States (2013)

Figure 4.2: Histogram, Distance to Keystone XL Pipeline Route

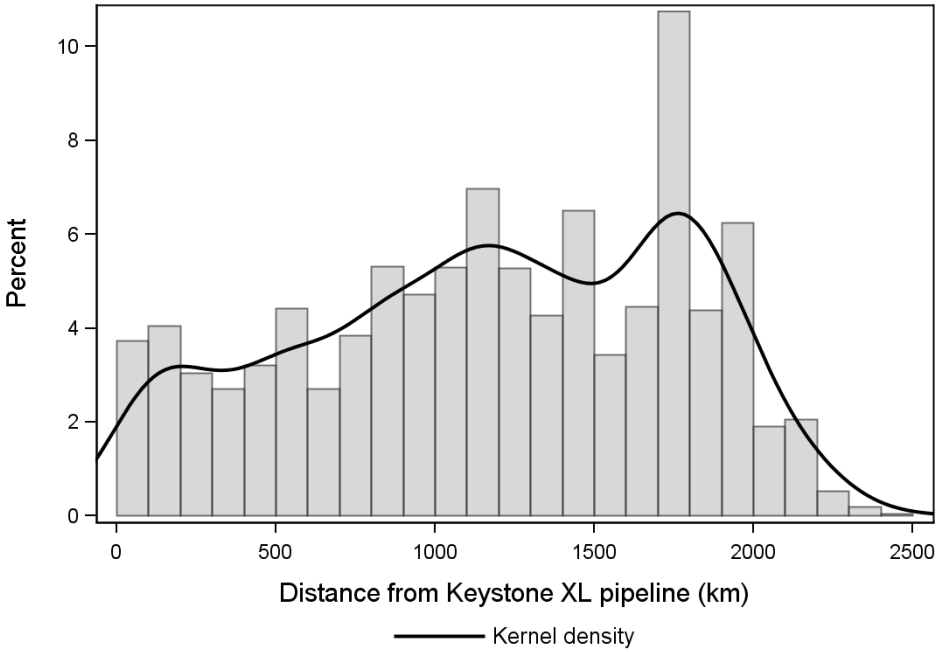


Figure 4.3: Histogram, Distance to Keystone XL Pipeline Route, logged

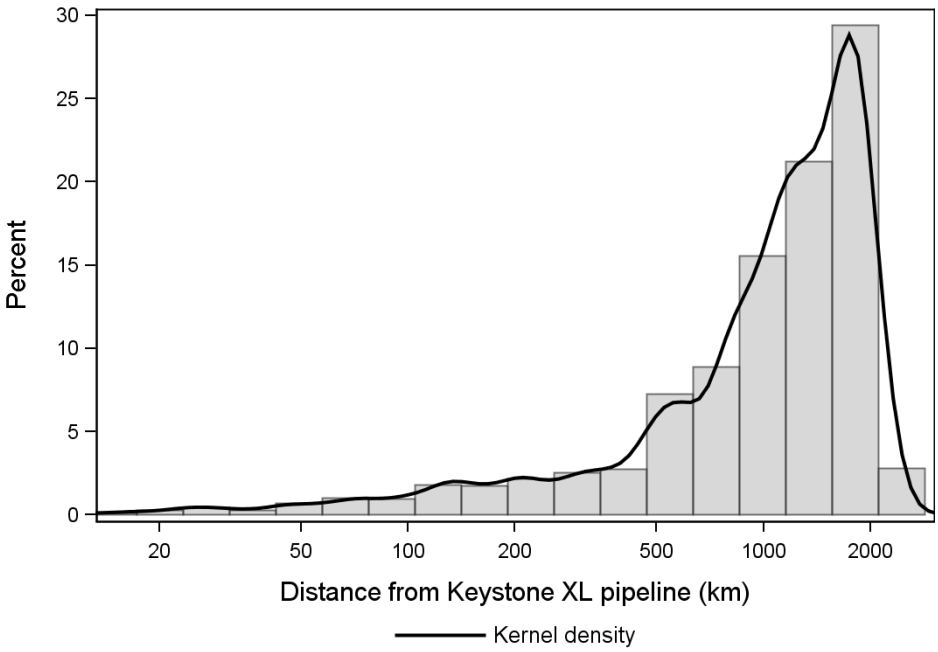


Figure 4.4: Effect Plot, Ideology and Proximity to the Keystone XL Pipeline Route

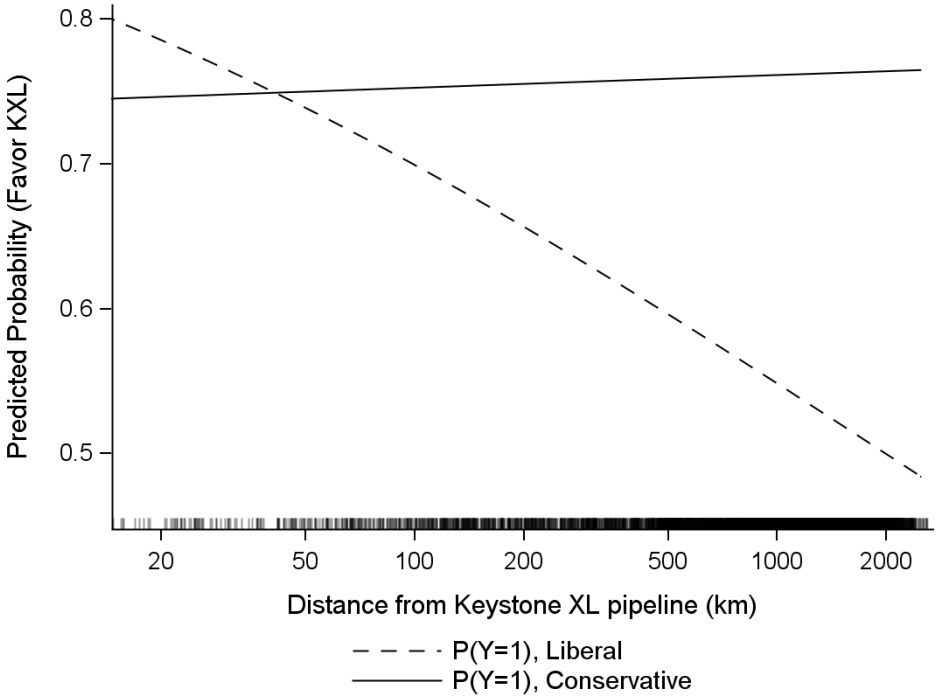


Figure 4.5: Coefficient Plot: Effect of Ideology (Conservative)

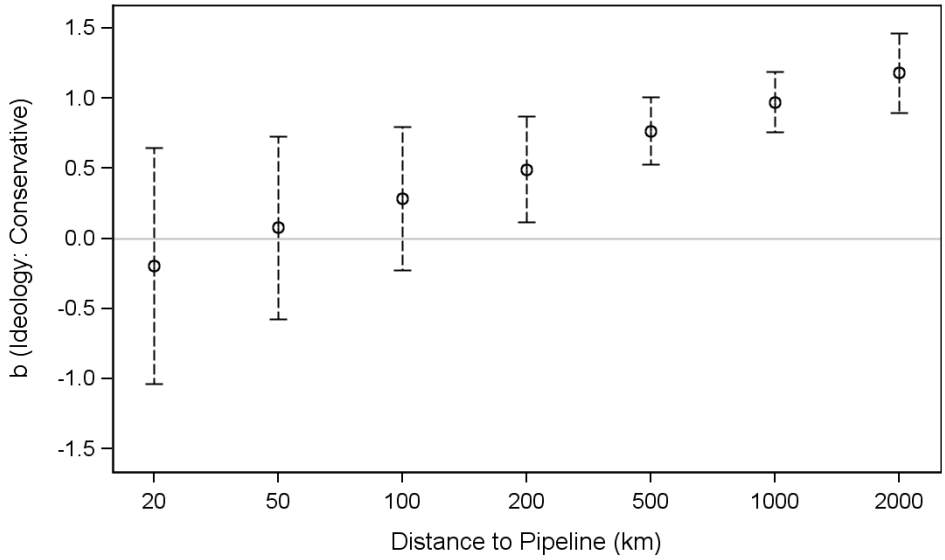
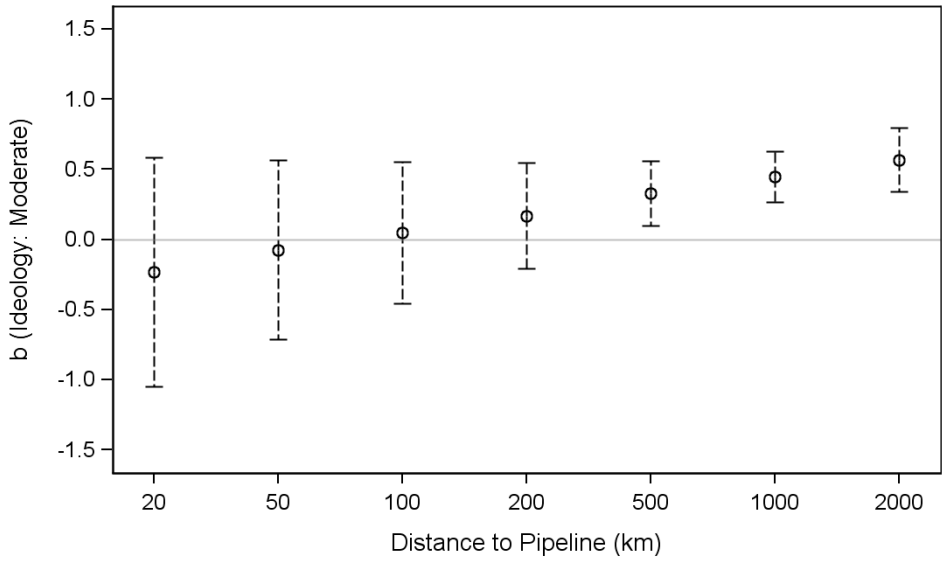


Figure 4.6: Coefficient Plot: Effect of Ideology (Moderate)



Note: Figures 4.5–4.6 show the ideology coefficients (and 95% confidence intervals) from model 4.3 with distance to the Keystone XL pipeline centred at different values.

4.8 Appendix 4A: Data Coding

Favour KXL: "Do you favour or oppose: building the Keystone XL pipeline that would transport oil from Canada's oil sands region through the Midwest to refineries in Texas?" Favour (1), oppose (0).

Wave: Dummy variables using indicator coding for the September 2013 and February–March 2014 waves (March 2013 wave is the reference category).

Male: Male (1); Female (0).

ln Age (Years): Age in years; logged (base *e*); mean centred.

Education: Dummy variable using indicator coding for college education (some college or less is the reference category).

Census Region: Dummy variables using indicator coding for Census Region of residence (the Northeast Census Region is the reference category).

Employment: "Are you now employed full-time, part-time, retired or are you not employed for pay? [If not employed for pay:] Are you currently looking for work, or not?" Dummy variables using indicator coding for Unemployed and Looking for Work and Not in Labour Force (Retired, Unemployed and Not Looking for Work, Disabled, Student, Other) (Employed Full-Time/Employed Part-Time/Self-Employed) is the reference category).

Economy is Fair/Poor: "Thinking about the nation's economy, how would you rate economic conditions in this country today... as excellent (0), good (0), only fair (1), or poor (1)?"

Economy Better/Worse: "a year from now, do you expect that economic conditions in the country as a whole will be better than they are at present, or worse, or just

about the same as now?" Dummy variables using indicator coding for "Better" and "Worse" ("About the Same as Now" is the reference category).

Personal Financial Situation: "How would you rate your own personal financial situation? Would you say you are in excellent shape (0), good shape (0), only fair shape (1) or poor shape financially (1)?"

Family Financial Situation Improving/Worse: "Over the course of the next year, do you think the financial situation of you and your family will improve a lot, improve some, get a little worse or get a lot worse?" Dummy-coded with indicators for "Improve a lot" and "Improve some" (combined "Improving") and "Get a little worse" and "Get a lot worse" (combined "Getting Worse"); "Stay the Same" (volunteered response) is the reference category).

Global Warning is Serious Problem: "In your view, is global warming a very serious problem (1), somewhat serious (1), not too serious (0), or not a problem (0)?"

Environmental Laws Worth the Cost: "Which statement comes closer to your views, even if neither is exactly right? Stricter environmental laws and regulations cost too many jobs and hurt the economy (0), [or] Stricter environmental laws and regulations are worth the cost (1)."

Party: "In politics today, do you consider yourself a Republican, a Democrat, or Independent?" [If Independent, don't know or refused:] "As of today do you lean more to the Republican Party or the Democratic Party?" Dummy variables using indicator coding for Republican and Independent (Democrat is the reference category).

Ideology: "In general, would you describe your political views as… Very conservative, Conservative, Moderate, Liberal, Very liberal." Dummy variables using indicator coding for Very conservative/Conservative (combined

"Conservative") and Moderate. Very liberal/Liberal (combined "Liberal") is the reference category.

Distance to Pipeline (km logged): Distance to the Keystone XL pipeline in kilometres; logged (base *e*).

County Unemployment Rate (%): Annual average unadjusted unemployment rate at the county level; mean centred. Source: Bureau of Labor Statistics, Local Area Unemployment Statistics, 2013.

County Median Family Income ($000): Median family income at the county level in inflation-adjusted dollars (thousands); mean centred. Sources: United States Census Bureau, American Community Survey, 2013 5-year estimates, Table DP03 (Selected Economic Characteristics).

4.9 *Appendix 4B: Descriptive Statistics*

	Mean	Min	Max	SD	N	Missing
Favour KXL	0.70	0	1	0.46	5,671	615
Wave: March 2013	0.24	0	1	0.43	6,286	0
Wave: September 2013	0.24	0	1	0.43	6,286	0
Wave: February-March 2014	0.53	0	1	0.50	6,286	0
Male	0.49	0	1	0.50	6,286	0
Age (Years)	46.61	18	96	17.88	6,199	87
ln Age (Years)	3.76	2.89	4.56	0.42	6,199	87
Education: College	0.27	0	1	0.45	6,253	33
Region: Northeast	0.19	0	1	0.39	6,286	0
Region: Midwest	0.22	0	1	0.41	6,286	0
Region: South	0.37	0	1	0.48	6,286	0
Region: West	0.22	0	1	0.41	6,286	0
Employed	0.56	0	1	0.50	1,481	4,805
Unemployed	0.09	0	1	0.29	1,481	4,805
Not in labour force	0.34	0	1	0.47	1,481	4,805
Economy: Excellent/Good	0.18	0	1	0.38	2,968	3,318
Economy: Fair/Poor	0.82	0	1	0.38	2,968	3,318
Economy: Getting Better	0.28	0	1	0.45	2,212	4,074
Economy: Same	0.45	0	1	0.50	2,212	4,074
Economy: Getting Worse	0.27	0	1	0.45	2,212	4,074
Personal Financial Situation: Excellent/Good	0.38	0	1	0.49	1,477	4,809
Personal Financial Situation: Fair/Poor	0.62	0	1	0.49	1,477	4,809
Personal Financial Situation: Getting Worse	0.29	0	1	0.45	1,455	4,831
Personal Financial Situation: Same	0.08	0	1	0.28	1,455	4,831
Personal Financial Situation: Improving	0.63	0	1	0.48	1,455	4,831
Global Warming is Serious Problem	0.67	0	1	0.47	1,459	4,827
Global Warming is Not Serious Problem	0.33	0	1	0.47	1,459	4,827
Environmental Laws Cost Jobs	0.43	0	1	0.50	3,120	3,166
Environmental Laws Are Worth the Cost	0.57	0	1	0.50	3,120	3,166
Party: Democrat	0.49	0	1	0.50	6,174	112
Party: Republican	0.10	0	1	0.30	6,174	112
Party: Independent	0.40	0	1	0.49	6,174	112
Ideology: Liberal	0.24	0	1	0.43	6,028	258
Ideology: Moderate	0.36	0	1	0.48	6,028	258
Ideology: Conservative	0.39	0	1	0.49	6,028	258

	Mean	Min	Max	SD	N	Missing
Distance to Keystone XL Pipeline (km)	1,178.43	1.65	2,456.13	594.33	6,286	0
ln Distance to Keystone XL Pipeline (km)	6.82	0.50	7.81	0.91	6,286	0
County Unemployment Rate (%)	7.48	1.50	25.70	2.05	6,286	0
County Median Family Income ($000)	66.52	26.74	139.24	17.00	6,286	0

5. Party Identification, Contact, Contexts, and Public Attitudes toward Illegal Immigration[1]

5.1 *Abstract*

Illegal immigration is a contentious issue on the American policy agenda. To understand the sources of public attitudes toward immigration, social scientists have focused attention on political factors such as party identification; they have also drawn on theories of intergroup contact to argue that contact with immigrants shapes immigration attitudes. Absent direct measures, contextual measures such as respondents' ethnic milieu or proximity to salient geographic features (such as borders) have been used as proxies of contact. Such a research strategy still leaves the question unanswered – is it *contact* or *context* that really matters? Further, *which* context, and *for whom*? This article evaluates the effects of both personal contact with undocumented immigrants and contextual measures (county Hispanic population and proximity to the US–Mexico border) on American attitudes toward illegal immigration. It finds that these contextual and spatial factors moderate the effects of political party identification on attitudes toward illegal immigration; personal contact has no effect. These findings challenge the assumption that contextual measures proxy interpersonal contact.

5.2 *Introduction*

Current estimates now place the number of undocumented immigrants in the United States at over 11 million (Baker and Rytina 2013; Passel et al. 2014), making the challenge of illegal immigration one of the most pressing issues on the American policy agenda. In recent years, deadlock between the House of Representatives and the Senate on reforms to immigration and naturalization

1. Forthcoming as Gravelle (2016).

policy, state-level initiatives targeting undocumented immigrants, President Barack Obama's executive action staying the enforcement of deportation for millions of undocumented immigrants, and provocative statements by candidates for the Republican presidential nomination in 2016 have all contributed to raising the political temperature on immigration issues in the US. The manner in which the debate around illegal immigration plays out highlights the diversity of opinion among the American public (Segovia and Defever 2010; Muste 2013), and public opinion will remain an important consideration in any new policy proposals.

What, then, are the factors that account for Americans' policy preferences regarding illegal immigration? In endeavouring to explain mass public opinion toward illegal immigration (and immigration attitudes more generally), social scientists point to political predispositions, perceptions of competition for jobs between native-born and immigrant workers, and perceptions of cultural threat. In addition to these individual-level factors, numerous studies borrow from the long tradition of research on racial attitudes in the US in developing explanations of immigration attitudes grounded in intergroup contact (Berg 2009; Harrison 2006; McLaren 2003; Newman 2013). A different approach is pursued by those seeking a contextual explanation of immigration attitudes in the demographic composition of individuals' local areas, though results are mixed (A. L. Campbell, Wong, and Citrin 2006; Hood and Morris 1997; Hood and Morris 2000). A similarly contextually- and spatially-oriented approach analyzes immigration attitudes as function of proximity to the US–Mexico border (Branton et al. 2007). Work on the effects of racial/ethnic context and spatial proximity often assumes that such contextual measures serve as a proxy for personal contact (e.g., Branton and Jones 2005; Dunaway, Branton, and Abrajano 2010; Fetzer 2000). This assumption often is due to the fact that measures

of personal contact with (unauthorized) immigrants are rare in social surveys while contextual data are often available.

The current state of research on public opinion toward immigration, then, is one of disparate results relating to the effects of both intergroup contact and ethnic and spatial context, which typically are not evaluated in tandem (but see Harrison 2006; McLaren 2003). This leaves the question unanswered – does context serve as a proxy for personal contact, or does it capture other psychological or social processes? Put more plainly, is it *contact* or *context* that ultimately matters for immigration policy attitudes? Further, *which* context (or contexts) matter, and *for whom*?

In this article, I take up these questions. I contend that the contexts individuals occupy are characterized by a variety of concurrently-operating dynamics, and so it makes sense to measure and model the effects of context in multiple ways. Further, I demonstrate that how individuals experience a given context is contingent upon their pre-existing political characteristics. To advance these arguments, I draw on nationally representative survey data to evaluate the effects of party identification, personal contact with undocumented immigrants, and contextual measures on attitudes toward illegal immigration. To preview my key findings, larger Hispanic populations at the local level, larger increases in the local Hispanic population over time, and increasing proximity to the US–Mexico border all amplify the partisan cleavage in attitudes toward illegal immigration between Democrats and Republicans. At the same time, reported personal contact with undocumented immigrants has no significant effect. These findings challenge the assumption that contextual measures proxy interpersonal contact.

The remainder of the article is structured as follows. First, I review the current immigration policy attitudes literature, paying particular attention to

research dealing with party identification, contact and contextual influences. Next, I advance my hypotheses relating to: party identification, contact with undocumented immigrants, and the interaction of party identification with contact and contextual measures. I then discuss my survey data and methods before presenting the results of my analyses. Lastly, I discuss the implications of my findings for existing explanations of attitudes toward illegal immigration and directions for future inquiry.

5.3 The Sources of (Illegal) Immigration Attitudes

In seeking to explain why individuals are alternatively open and accommodating or strict and restrictionist in their views toward illegal immigration (or immigration more broadly), the social science literature offers a range of hypotheses (see Hainmueller and Hopkins 2014 for a recent review). Research in a political economy tradition focuses on economic self-interest in the form of labour market competition between native-born and foreign-born workers, with native-born workers more likely to experience competition for jobs expressing more restrictionist attitudes (Citrin et al. 1997; Espenshade and Calhoun 1993; Malhotra, Margalit, and Mo 2013; Scheve and Slaughter 2001). Other work has focused on concern over the fiscal burden posed by spending on social services for immigrants (Mayda 2006). Research testing the sociotropic effects of national economic conditions on immigration attitudes generally finds that area unemployment levels exert little effect on immigration attitudes (A. L. Campbell, Wong, and Citrin 2006), though changes in unemployment over time or a downturn in the national economy increase restrictionist sentiment (Goldstein and Peters 2014; Hopkins 2010). Other explanations emphasize the "symbolic" threat posed by immigrants to core national values or national culture in engendering restrictionist attitudes (Hainmueller and Hopkins 2014; Newman, Hartman, and Taber 2012; Schildkraut 2011) or the

liberalizing effect of higher education (Hainmueller and Hiscox 2007; Haubert and Fussell 2006).

In the American context, policy responses to the challenge of illegal immigration ranging from Propositions 187 and 227 in California in the mid-1990s to SB-1070 in Arizona in 2011 take on a partisan cast at the level of political elites and among the mass public. Research testing the effect of party identification on immigration attitudes finds that Republicans tend to favour restrictionist immigration policies more frequently than Democrats (Hainmueller and Hopkins 2014; G. Hawley 2011; Schildkraut 2011).

Some authors draw on strands of inquiry first developed in the study of racial attitudes in the US to understand immigration policy attitudes. One such strand is intergroup contact theory (Allport 1954; Pettigrew 1998; Pettigrew and Tropp 2006; Pettigrew et al. 2011). Its core argument is that contact between members of different groups holds the potential to decrease out-group prejudice. For this to occur, contact requires close acquaintance, equal status, and common goals (Allport 1954; Amir 1969). Conversely, in situations involving competition for scarce resources, contact serves to increase out-group prejudice (Blalock 1966). In transferring the concepts and hypotheses of intergroup contact theory from racial attitudes to immigration attitudes, research finds that some forms of close contact decrease restrictionist immigration attitudes (Berg 2009; Harrison 2006; McLaren 2003). On the other hand, incidental contact increases restrictionist attitudes through increased perceptions of cultural threat (Enos 2014; Newman 2015).

Another strand of inquiry originating in the racial attitudes literature focuses on the effects of local demographic context. In classic work focusing on the southern US by Key (1949) and Blalock (1956; 1957), the proportion of African Americans is shown to be positively associated with more racially conservative attitudes among

whites – findings that have been reconfirmed and extended (Glaser 1994). Similar contextual approaches are applied to analyses of immigration attitudes, but with mixed results. Some studies find that increases in the proportion of foreign born residents or Hispanics in the local area increases the likelihood of expressing restrictionist immigration attitudes (A. L. Campbell, Wong, and Citrin 2006; Hero and Tolbert 1996; Tolbert and Hero 1996), while others find the opposite – larger proportions of foreign born residents or Hispanics decrease restrictionist attitudes toward immigration (Hood and Morris 1997; Hood and Morris 1998). Still others report inconsistent or null results (Citrin, Reingold, and Green 1990; Fetzer 2000; Hood and Morris 2000). Others argue that it is not the ethnic context per se that influences attitudes toward immigration policy; rather, it is change in the context over time – for example, local areas experiencing rapid growth in the Hispanic population exhibit higher levels of restrictionist immigration attitudes (Hopkins 2010; Newman and Velez 2014).

A final line of research emphasizes proximity to (or conversely distance from) the US–Mexico border, as Mexico serves as the country providing the largest number of immigrants to the US. This work finds that individuals residing closer to the US–Mexico border are more likely to support nativist policy initiatives such as restricting undocumented immigrants' access to social services (Branton et al. 2007).

5.4 Theory and Hypotheses

Given the multiplicity of both theoretical explanations for individual-level immigration policy attitudes and empirical findings, I elect to focus on the hypothesized effects of party identification, ethnic and spatial contextual factors, and their interactions. I readily acknowledge other competing explanations (as discussed above) and account for them by including controls in my analysis.

In the American case, the theoretical basis for partisan or ideological differences in immigration attitudes are not readily apparent. Consider that the long history of American immigration policy has seen incongruous left–right coalitions: both free-market conservatives and liberal cosmopolitans have favored more open immigration while conservative cultural exclusionists and liberal economic protectionists have favored more restrictionist policies (Tichenor 2002, 8, 35). Nevertheless, recent attempts at immigration reform at the federal level and state-level political developments such as Propositions 187 and 227 in California and SB-1070 in Arizona produced a partisan and ideological sort among political elites. Partisan polarization translates into greater cue-taking among the mass public and thus sharpens partisan cleavages in mass opinion on immigration issues (cf. Zaller 1992).

Moreover, research on different conceptions of American national identity finds that the ethno-cultural aspect of American identity, where belonging is defined in terms of particular ascribed characteristics – being white, Protestant, of northern European descent and English speaking – resonates most strongly with conservatives and Republicans (Schildkraut 2005; Schildkraut 2011). Manifestations of this are seen in conservative talk radio, where one hears the argument that Latinos have made insufficient efforts to "Americanize" – to learn English and to identify with the US as opposed to their country of origin. Conservative cable news has also had an anti-immigrant tone. It is therefore unsurprising that Republicans exhibit higher levels of immigrant resentment (akin to symbolic racism) than Democrats. Republicans are also more likely to support official-English legislation and to favor English-only election ballots (Schildkraut 2011). By contrast, Democrats and liberals are more likely to endorse "incorporationism" – a set of beliefs about American identity that acknowledges the role of immigration in shaping the

country, and that values pluralism and tolerance of difference (Hajnal and Rivera 2014; Schildkraut 2007). My hypothesis linking party identification to attitudes toward undocumented immigrants is thus:

> H_1: Democrats are more likely to favour allowing undocumented immigrants to remain in the US; Republicans are more likely to favour requiring undocumented immigrants to leave.

As for the expected effects of contact and contextual factors on attitudes toward illegal immigration, it is useful to distinguish between the expected effects of interaction (that is, direct, personal contact), proximity (that is, to a given outgroup), and proportions (of an outgroup within an area), since each implies different processes (Forbes 1997). With respect to the hypothesized effects of contact, expectations are straightforward. There is now large literature on intergroup contact, which has shown a robust, generalizable relationship between personal contact and the reduction of prejudice toward a wide range of racial and ethnic outgroups (Pettigrew and Tropp 2006; Pettigrew et al. 2011). In line with the literature dealing specifically with intergroup contact and immigration attitudes, my hypothesis is:

> H_2: Individuals having personal contact with undocumented immigrants are more likely to favour allowing them to stay in the US; those not having experienced such contact are more likely to favour requiring undocumented immigrants to leave.

As for contextual factors, the milieu inhabited by individuals can be characterized in multiple ways. Both the proportions of and proximity to particular outgroups are potentially relevant (Forbes 1997). It is therefore reasonable to examine the effects of ethnic (Hispanic) context, change in ethnic context, and

proximity to the US–Mexico border on attitudes toward illegal immigration. All of these measures may bear on attitudes toward illegal immigration as "people develop subjective understandings of the places they live in based on objective local characteristics, particularly the social composition" (Cutler 2007, 579). The focus on Hispanics and proximity to Mexico in the context of American immigration issues is warranted not only by Mexico's position as the first-ranked source of immigrants to the US, but also because the issue of illegal immigration is repeatedly tied to Mexicans in public debate (A. L. Campbell, Wong, and Citrin 2006). Non-Hispanic whites' attitudes toward immigration and specifically Latino immigration are found to be highly correlated (Ayers et al. 2009). Survey-based experiments have also found that support for restrictionist immigration policies is in part grounded in anti-Hispanic prejudice (Hartman, Newman, and Bell 2013).

It is also plausible to claim that these contextual factors will not exert the same effects on all segments of the American public. Indeed, recent research on contextual effects suggests that demographic and spatial contexts are more relevant for their moderating effects on individual-level partisanship than as predictors of policy attitudes in their own right. In this formulation, party identification is the "focal" independent variable and contextual factors are the moderator variables (Jaccard and Dodge 2004). Recent work shows that Democrats and Republicans are influenced by context (variously measured) in different ways. Generally, those on the political right are more likely to react defensively to perceived local threats (Fischhoff et al. 2003). For example, Hopkins (2014) finds that high-density Republican-registration Census block groups in California exhibit stronger support for Proposition 227 when English–Spanish bilingual ballots are employed in their

county than comparable block groups with English-only ballots. Branton and colleagues (2007) find that support for Propositions 187 and 227 among California Democrats increases as the US–Mexico border becomes more proximate while again remaining consistently high among Republicans. Drawing on national data, Hawley (2011) finds a somewhat different pattern: Republicans are consistent in their support of more restrictionist immigration policies regardless of spatial or demographic context, but Democrats become less (not more) restrictionist as the county-level proportion of foreign born increases. Research finds that providing an explicit ethnic (Mexican) cue in survey item wording elicits a stronger restrictionist response among Iowa Republicans (Knoll, Redlawsk, and Sanborn 2010, 449). Taken in sum, these spatially and contextually contingent results point toward the following hypotheses:

> H_3: With increasing Hispanic concentration in the local area, partisans' attitudes will further diverge, with Republicans becoming less likely to favour allowing undocumented immigrants to stay in the US, and Democrats becoming comparatively more likely to favour such a policy.
>
> H_4: With increasingly large changes in the Hispanic population in the local area over time, partisans' attitudes will similarly further diverge, with Republicans becoming less likely to favour allowing undocumented immigrants to stay in the US, and Democrats becoming comparatively more likely to do so.
>
> H_5: With increasing proximity to the US–Mexico border, partisans' attitudes will again further diverge, with Republicans becoming less likely to favour allowing undocumented immigrants to stay in the US and Democrats becoming more likely to favour such a policy.

Does it make sense, though, to advance hypotheses relating to (and to model simultaneously) reported contact and contextual factors? One view might characterize this as a form of double counting at the level of theory and an invitation to collinearity at the level of empirical analysis. Empirical measures such as Hispanic density, Hispanic change and US–Mexico border proximity are, in this view, simply proxies of personal, face-to-face contact, and serve as a second-best solution when more direct measures of contact are not available (Hopkins, Tran, and Williamson 2014; Newman 2015). What matters at the level of theory, then, is still contact, not context. Some research makes this proxy admission explicit, arguing that this is reasonable given that "geographic proximity increases the likelihood of contact" (Ayers et al. 2009, 596). Other work exhibits ambiguity on this point, for example when intergroup contact theory is described as "point[ing] to an explanation based on ethnic context" (Dunaway, Branton, and Abrajano 2010, 363), or the percentage of foreign-born residents or Hispanics at the county level is described as a measure of "interaction" or "contact" with immigrants (Berg 2009, 21; Fetzer 2000, 17; Hood and Morris 1997, 315). Still, if it follows as a matter of theory that contextual measures serve only as proxies for direct intergroup contact, then as an empirical matter one should not find effects of contextual measures on immigration attitudes when controlling for contact.

There is some doubt, though, that ethnic context proxies intergroup contact: "local intergroup contact may be limited by language barriers and may be overwhelmed by the real or perceived threat that immigrants pose" (Hainmueller and Hopkins 2014, 236). Indeed, those few studies that parse out the effects of contact and context "highlight the importance of distinguishing context from contact in theory and measurement and suggest strong caution in relying upon the former as an indicator of the latter" (Newman, Hartman, and Taber 2012, 641). In

light of this, if contextual measures are not mere proxies for contact, then what do they capture? Recent literature points to two alternative social processes: passive exposure to the Spanish language and media exposure.

In a field experiment involving the random assignment of native Spanish speakers to commuter trains, Enos finds that passive exposure to Spanish shifts attitudes in the direction of tighter restrictions on immigration: "Treated subjects were far more likely to advocate a reduction in immigration from Mexico and were far less likely to indicate that illegal immigrants should be allowed to remain in this country" (2014, 3701). More restrictionist immigration attitudes are also observed in survey-based experiments when test subjects are exposed to Spanish-language text (Hopkins, Tran, and Williamson 2014; Newman, Hartman, and Taber 2012). It is a reasonable expectation that such passive exposure to Spanish will occur more frequently in areas with larger proportions of Hispanics or with rapidly growing Hispanic populations. The reason for observing such effects is that "the Spanish language operates as a potent cue on immigration-related issues," increasing the salience of immigration (Hopkins, Tran, and Williamson 2014, 37). Exposure to Spanish within one's own local milieu may also engender a sense of cultural threat, which in turn leads to more restrictionist immigration attitudes (Enos 2014; Newman, Hartman, and Taber 2012).

While proximity to the US–Mexico border provides cues through border checkpoints, fences and warning signs and thus heightens perceptions of threat, border proximity also influences the media environment in which individuals reside. Media content analysis has shown that newspapers closer to the US–Mexico border publish negative stories about immigration (both authorized and unauthorized) more frequently than those further away (Branton and Dunaway 2009a; Branton and Dunaway 2009b). Dunaway and colleagues (2010) find that

media coverage of immigration in turn raises both the salience of the issue among the public and engenders more restrictionist immigration attitudes, though Lawlor (2015) finds that the effects of contextual factors (such as the proportion of foreign-born residents) on media framing of immigration are inconsistent.

5.5 Data and Methods

The data for this study are a representative survey of the American public conducted by the Pew Research Center between June 12–16, 2013 using a dual-frame sample design comprising landline and cellular telephone samples (n = 1,512). The response rates (AAPOR RR3 definition) for the survey were 8.7 percent and 5.8 percent for the landline and cell phone samples, respectively. In keeping with both the substantive focus and methodological practice of much of the literature on American immigration attitudes, I limit my analysis to the sub-sample of non-Hispanic white respondents. I further limit my analysis to data from the lower 48 continental states (since Alaska and Hawaii do not share a border with Mexico), bringing my final sample to 1,086.

The key measure of Americans' attitudes toward illegal immigration is a dichotomous survey item that asks: "Which comes closer to your view about how to handle undocumented immigrants who are now living in the US? They should not be allowed to stay in the country legally, [or] there should be a way for them to stay in the country legally, if certain requirements are met." The first response category thus expresses a restrictionist sentiment in that it proposes to continue to exclude undocumented immigrants from legal residence and citizenship in the US, while the second response category expresses greater openness to immigration and greater willingness to extend the rights of citizenship. The first response is a form of moral parochialism, in that the right to reside in the US ought to be restricted largely to

those having acquired that right by birth, or those having become naturalized citizens or having other legal status (cf. Wong 2010). The second response speaks to the liberal (or Tocquevillian) tradition in American national identity that stresses openness, freedom and egalitarianism (R. M. Smith 1993) as well as incorporationist notions of pluralism and tolerance (Schildkraut 2007). In the statistical analyses that follow, the second response category ("there should be a way for them to stay in the country legally") serves as the modelled outcome.

The Pew data indicate that 32 percent of non-Hispanic white Americans would exclude undocumented immigrants from residence and citizenship, while 66 percent are prepared to allow them to regularize their status in the US given a set of requirements. These results are consistent with those of other research organizations from the mid-2000s to the present, with opposition to allowing undocumented immigrants to stay typically in the range of 26 to 32 percent, and support for allowing them to say (whether as temporary workers or as citizens) in the range of 64 to 70 percent (Muste 2013, 407–409).

The Pew survey data contain the individual attitudinal and behavioural variables of interest, including measures of party identification, contact with undocumented immigrants, as well as relevant demographic and attitudinal controls. (Full details of the data coding appear in Appendix 5A.) To measure of respondents' ethnic context, I use the percentage of Hispanics at the county level taken from the 2010 US Census of Population (www.census.gov/popest/). I also calculate the percentage point change in Hispanic population between the 2000 and 2010 decennial censes (see Figures 5.1–5.2 and 5.5–5.6). While counties are not the most granular measure of local context, the only indicators available in the Pew data are county FIPS codes and ZIP codes. Still, it is important to stress that counties are politically consequential "containers" in the American context: elections and the

provision of certain public goods take place at the county level (Branton and Jones 2005; Glaser 1994). Counties also approximate media markets (cf. Branton and Dunaway 2009a; Branton and Dunaway 2009b).[2]

Obtaining a measure of spatial proximity to the US–Mexico border is more involved. To calculate this, I first geocode (append latitude-longitude coordinates to) individual survey respondents based on reported ZIP codes and ZIP codes retained from the telephone sample files. Nearly all respondents (1,076, or 99 percent) were geocoded using ZIP codes, with the remaining 10 respondents geocoded based on county FIPS codes. Next, I perform a join between the survey data and a digitized map (shapefile) of the US–Mexico border to calculate the distance between each respondent and the border (see Figures 5.3–5.4).[3]

Since missing data can introduce bias into the model parameter estimates and also reduce statistical power, missing survey data were imputed 10 times in order to retain all cases in the regression analysis (Allison 2001; Little and Rubin 2002). The binary logit models of the multiply-imputed data were then fit using procedures that account for the complex sample design used in collecting the survey

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2. A comment is warranted on how contextual variables ought to be scaled. Most research simply uses the percentage of a racial or ethnic group within a particular area (see e.g., Branton et al. 2007; Citrin, Reingold, and Green 1990; Hood and Morris 1997; Schildkraut 2011), or the percentage point change in area ethnic composition over time (Hopkins 2010; Hopkins 2011; Newman 2013; Newman and Velez 2014). This reflects the assumption that the relationship between the percentage (or percentage point change) of a group in a given area and individual attitudes is linear. By contrast, classic work in the psychology of sensory perception (psychophysics) points to a logarithmic relationship. "Fechner's law" states that the perceived magnitude of a stimulus is a logarithmic function of its physical magnitude (Laming 2011; Leshner and Pfaff 2011). Modelling a logarithmic relationship has the further intuitive appeal that an increase in the local Hispanic population from, say, 5 percent to 10 percent registers as a larger increase than a nominally identical increase from 40 percent to 45 percent.

3. As with ethnic context, a similar argument can be made in favour of a logarithmic transformation of geodetic distances (such as distance to the US–Mexico border). The idea of a "distance decay function" has a long lineage in geography (Taylor 1971). Further, research on policy attitudes in several substantive domains finds that the effect of distance to salient geographic features follows a logarithmic (and not a linear) trend (Berezin and Díez Medrano 2008; Gravelle 2014a; Gravelle 2014b).

data. These results were then combined according to procedures detailed by Rubin (1987) to produce the final reported results.[4]

5.6 Results and Discussion

The models reported in Table 5.1 yield several findings of note. Looking at the main effects of the independent variables in Model 5.1, there is only a marginally significant negative effect (p = 0.070) of Republican Party identification (after controlling for demographics, contact, and contextual factors) on allowing authorized immigrants to stay, suggesting that the partisan cleavage between Democrats and Republicans is neither large nor robust. The data thus fail to confirm H_1. This contrasts with previous findings of a partisan cleavage in immigration policy attitudes (e.g., Hajnal and Rivera 2014).

Also, while the coefficient for contact with undocumented immigrants is positively signed (and thus in the theoretically expected direction), it does not approach conventional levels of statistical significance. This finding of no significant effect of contact with undocumented immigrants is in line with the null results for different forms of "impersonal contact" (such as contact with recent immigrants in service establishment settings) reported by Harrison (2006). It contrasts, however, with the results reported by Ellison and colleagues (2011) and McLaren (2003) where contact reduces restrictionist sentiment. The critical distinction appears to be in the *quality* of contact. The Pew questionnaire prompts respondents to think about contact with known or suspected undocumented immigrants in one's daily life, while the data relied upon by Ellison and colleagues and McLaren ask specifically about Latino or immigrant friends. This arguably speaks to the distinction between

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4. The multiple imputations were conducted using the IVEware 0.1 add-in program for SAS (Raghunathan et al. 2001). The logit models were fit using SAS PROC SURVEYLOGISTIC, with results then submitted to SAS PROC MIANALYZE to combine the imputations.

"casual contact" and more meaningful "acquaintance" in Allport's (1954) original articulation of contact theory. The measure of contact provided by the Pew data thus may not tap the kinds of contact necessary to influence immigration policy attitudes.[5]

The effects of the contextual variables (county Hispanic percentage, Hispanic percentage-point change and proximity to the US–Mexico border) in Model 5.1 appear even more disappointing, as none yield significant results, though it is important to recall that no specific expectations about their simple main effects were advanced. Still, it appears that the significant effects of being college educated and holding a positive view of the direction of the national economy point to the merit of the liberalizing education and labour market competition hypotheses.

It may still be case, however, that the effect of partisanship is conditional upon ethnic or spatial context. Models 5.2 to 5.4 test the expectation that different contexts influence Democrats and Republicans differently by testing separate interactions between party identification and each of county-level Hispanic population percentage, Hispanic population percentage point change, and proximity to the US–Mexico border (corresponding to H_3, H_4, and H_5, respectively). The results confirm that an interaction is present in each instance. Each of the interaction effects is statistically significant (using a likelihood ratio chi-square test comparing each of Models 5.2 to 5.4 to the main effects-only Model 5.1). Further, the statistically significant coefficients for the product terms between Republican Party identification and Hispanic percentage (Model 5.2), Hispanic percentage point change (Model 5.3), and distance to the US–Mexico border (Model 5.4) imply that

5. It is worth noting that these results are not due to collinearity between self-reported contact and the contextual measures. The bivariate (Pearson) correlations between contact and county-level Hispanic percentage (r = 0.17), county-level Hispanic percentage point change (r = 0.13), and logged distance to the US–Mexico border (r = –0.16) are weak.

the attitudes of Republican Party identifiers toward illegal immigration are influenced by ethnic and spatial context differently than Democrats. The results therefore confirm each of H_3, H_4, and H_5. They also reconfirm the finding of heterogeneous effects of context on Democrats' and Republicans' immigration policy attitudes (G. Hawley 2011; Hopkins 2014).

To gain a better substantive understanding of these interactions, predicted probabilities for the "stay in the country legally" response can be plotted for the separate categories of party identification (the focal independent variable) while varying the values of the moderator variables, county Hispanic percentage, county Hispanic percentage point change, and distance to the US–Mexico border. Given a categorical focal independent variable and a continuous moderator variable, this is the strategy recommended by Jaccard and Dodge (2004, 245–246). How these predicted probabilities vary when values of the moderator variables range from low values to high values gives us insight into the interaction effects. I thus generate predicted probabilities for Democrats and Republicans separately, setting all other variables at their means (or reference categories), setting the Census Region to the West, and then varying the values of the contextual and spatial factors in Models 5.2 to 5.4. (The Y axes in the figures plot the predicted probabilities of providing a "stay in the country legally" response.) These plots provide visual confirmation that the effects of ethnic (Hispanic) context on non-Hispanic white Democrats and Republicans differ markedly. As Figure 5.7 (based on Model 5.2) indicates, a Democrat in a county with a 5 percent Hispanic population has a predicted probability of supporting undocumented immigrants staying in the US of 0.79 while a Republican has a predicted probability of 0.73. In a county with a 10 percent Hispanic population, the predicted probabilities for Democrats and Republicans are 0.83 and 0.73, respectively. Further increasing the county Hispanic population to 20

or even 50 percent puts the predicted probabilities for Democrats and Republicans at 0.87 and 0.72, and 0.91 and 0.72, respectively. The substantive conclusions, then, are that while increasing Hispanic concentration at the county level leads to more accommodationist immigration attitudes among Democrats, there is no effect among Republicans. Further, increasing prevalence of Hispanics at the county level creates more polarized opinions about illegal immigration among non-Hispanic white partisans.

Looking at the interaction between party identification and Hispanic population percentage point change in Model 5.3 (and plotted in Figure 5.8), it is clear that there is a similar dynamic in that progressively larger changes in the county-level ethnic context produces ever greater partisan cleavages. A Democrat in a county that experienced a 2 percentage point increase in the Hispanic population between 2000 and 2010 has a predicted probability of supporting undocumented immigrants staying in the US of 0.79 while a Republican has a predicted probability of 0.75. Considering a county that experienced a 4 percentage point increase in the Hispanic population the respective predicted probabilities for Democrats and Republicans are 0.83 and 0.71. Considering counties that experienced either a 6 or 8 percentage point increase, the predicted probabilities for Democrats and Republicans are 0.86 and 0.69, and 0.87 and 0.65, respectively. These results suggest that change in ethnic context – and the fear associated with change – has a greater moderating effect than ethnic context as such.

In the case of spatial context in Model 5.4 (plotted in Figure 5.9), proximity to the US–Mexico border similarly acts to amplify partisan differences (or conversely, distance acts to mute partisan differences). To illustrate, a Democrat 50 kilometres from the US-Mexico border has a predicted probability of supporting undocumented immigrants staying in the US of 0.95 while a Republican has a

predicted probability of 0.54. Moving to 200 kilometres, the predicted probabilities for Democrats and Republicans are 0.91 and 0.63. Moving further still to 1,000 or even 2,000 kilometres from the border, the predicted probabilities for Democrats and Republicans are 0.83 and 0.72, and 0.79 and 0.75, respectively.

Further insight into these interactive relationships can be gained by repeating the regression analysis and re-centring the contextual variables at different values to see how the coefficients for party identification (and their confidence intervals) change. These methods reveal the range of values of the moderator variables over which the effect of party identification holds (Brambor, Clark, and Golder 2006; Braumoeller 2004; Jaccard 2001). Probing the party identification × county Hispanic percentage interaction in this way reveals that the effect of Republican Party identification is only significant in counties with a Hispanic population of 6.3 percent or greater (see Figure 5.10). This is to say that in counties where the Hispanic population is a relatively small proportion – roughly one in 16 people or fewer – party identification plays no role in attitudes toward permitting undocumented immigrants to remain in the US. It is only in areas with proportionately larger Hispanic populations that party identification becomes activated, producing an effect on policy preference, where Republicans are less likely to favour allowing undocumented immigrants to stay in the country.

Probing the party identification × county Hispanic percentage point change interaction reveals that the effect of Republican identification is significant only in counties where the percentage point change in the Hispanic population is a 2.8 percentage point increase or greater (see Figure 5.12). Increases of this magnitude were observed in 801 of 3,143 (or 25.5 percent) of the counties in the US between the 2000 and 2010 decennial censes. Thus, it is only in counties where there is marked growth in the proportion of Hispanics that Republicans exhibit more restrictionist

attitudes than Democrats. In those areas where the relative size of the Hispanic population is unchanged over time (or is growing only slowly), all else equal, Republicans and Democrats are statistically indistinguishable from one another.[6]

As for the party identification × US–Mexico border proximity interaction, probing reveals that the partisan difference between Democrats and Republicans is significant for distances less than or equal to 1,481 kilometers – somewhat less than the weighted sample mean of 1,660 kilometers, and roughly the distance from northern California to Tijuana, Mexico, or Missouri to Nuevo Laredo, Mexico (see Figure 5.14). What this implies, then, is that proximity to the US–Mexico border widens the differences in opinions between non-Hispanic white partisans over a large expanse of the US, but not among those in the densely-populated (and evidently far-removed) Northeast. Nevertheless, ethnic context (and change in ethnic context) may still be pertinent in these parts of the US.

Though there is little theoretical basis for expecting self-reported contact to exert different effects on Democrats and Republicans, one may still test an interaction between reported contact with undocumented immigrants and party identification as an empirical exercise. Such an interaction, however, turns out to be

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6. The results also indicate that Republicans are more (not less) likely to favour a policy of allowing undocumented immigrants to remain in the US when the percentage point change is –2.3 or less. This result, however, is very likely a statistical artefact, as such a decrease describes only 9 of 3,143 (or 0.3 percent) of counties in the US, and only a single county contained in the Pew data – Arlington County, Virginia.

One should also note that the key results from Models 5.2–5.4 are robust to the addition of numerous other variables that may also influence attitudes toward undocumented immigrants, including views of undocumented immigrants taking jobs, the importance of immigration legislation, perceptions of change in one's family's financial situation, employment status, county unemployment rate, and county median family income. Including these additional individual-level and contextual variables in the model do yield some additional significant effects (specifically for the variables measuring views of undocumented immigrants taking jobs and the importance of immigration legislation – variables that are closely related conceptually to the dependent variable), but their inclusion in the model has no appreciable effects on the parameter estimates for the interactions between party identification, county Hispanic percentage, county Hispanic percentage point change, and distance to the US–Mexico border tested in Models 5.2–5.4. See Models 5.6–5.8 in Table 5.4.

non-significant. Consequently, there is neither a simple main effect of contact nor a more nuanced moderated effect involving party identification. (These results are reported as Model 5.5 in Table 5.1)

Given the focus on contact, demographic and spatial contexts, and partisan identification in these analyses, a comment is warranted on self-selection bias. It may be the case that individuals select into (or out of) specific demographic contexts or situations where particular types of contact are expected based on their political (or other) characteristics (Pettigrew and Tropp 2006). A scenario in line with this argument is that Republicans select out of ethno-racially diverse areas, and conversely, Democrats select into such areas. Similarly, Republicans may be more likely than Democrats to view any Hispanic they encounter as a possible undocumented immigrant. While outwardly plausible, tests of such residential selection processes in previous research on racial and immigration attitudes find little support. For example, Ha (2008, 37–39) finds that racial prejudice fails to predict whites' proximity to minority groups. Oliver and Wong (2003, 578–579) similarly find that the effect of demographic context on anti-Latino affect remains robust to the inclusion of a variable capturing preferences for living in a majority-white neighbourhood in the model. Prejudice thus fails explain away the relationship between area demographic composition and anti-Latino affect. Most convincingly, Hopkins (2010) uses panel data to address the limitations of cross-sectional data and similarly concludes that the direction of the relationship is from local context to individual immigration attitudes, and not the reverse.

As further confirmation of this point, supplementary analyses regress contact with undocumented immigrants and the contextual variables on party identification, ideology and demographic controls (see Tables 5.3 and 5.4). For the residential self-selection argument to have support, party identification (and

possibly also ideology) ought to have significant effects on these measures of contact and context. The results fail to demonstrate any consistent relationships between the political variables and measures of contact and context. The effect of party identification is not significant in any of these models, and only modest effects for conservative ideological self-placement occur in the models for county-level Hispanic percent and distance to the US–Mexico border. Underwhelming results such as these cast further doubt on the residential self-selection argument.

5.7 Conclusion

This article began by asking whether contact or context mattered more in shaping Americans' attitudes toward illegal immigration. The results I present here point in favour of context over contact. Having contact with known or suspected undocumented immigrants did not have a significant effect on attitudes toward illegal immigration. One should not be too quick, though, to take this as a finding contrary to intergroup contact theory, as the measure of contact employed here may not adequately capture the kinds of close personal contact and friendship that the proponents of intergroup contact theory stipulate are required to reduce out-group prejudice (Allport 1954; Amir 1969; Pettigrew 1998). Further research should endeavour to test the effects of more refined measures of intergroup contact on immigration policy attitudes while simultaneously testing the effects of racial/ethnic and spatial context.

The findings of this article do make a compelling case for the relevance of context – or rather, contexts – and also for conceptualizing context as more than a mere proxy or substitute measure of contact. Individual-level preferences over whether undocumented immigrants should be permitted to remain in the US or compelled to leave bear the imprint of local ethnic context and the change in this

context that occurs over time. They also bear the imprint of spatial context, namely proximity to Mexico, the primary source of immigrants to the US. Further, I show that different contexts have important roles in amplifying (or muting) the effect of party identification. The varied results of previous research in testing the effects of different contextual measures may be due to the failure to consider that not all individuals experience a given context in the same way. A Democrat and a Republican in a high-density Hispanic area, or an area experiencing rapid demographic change with an influx of Hispanics, or in a locale close to the US–Mexico border will perceive their milieu differently, and their attitudes about how the US ought to deal with the challenges posed by undocumented immigrants will differ as a consequence.

While this article presents evidence that a number of spatial and contextual factors moderate the effect of party identification on attitudes toward illegal immigration, there is a need for further research clarifying the mechanisms through which these factors operate. Local ethnic context, change in ethnic context and proximity to the US–Mexico border may be linked to attitudes toward illegal immigration through other factors, such as passive language exposure (Enos 2014; Hopkins, Tran, and Williamson 2014), exposure to negative media content on illegal immigration (Dunaway, Branton, and Abrajano 2010), and feelings of cultural threat (Newman, Hartman, and Taber 2012). Other possible paths through which spatial and contextual variables might influence immigration attitudes are local discussion networks (Huckfeldt and Sprague 1995) and perceptions of local group interests (Cutler 2007). Designing survey instruments to test such possible mediated relationships will further advance our understanding of Americans' attitudes toward immigration issues.

Finally, it is important to note that my analyses do not exhaust the ways in which context might be conceptualized and measured. Specifically, in testing the effects of demographic context at the county level, it is important to remain open to the possibility of other, perhaps countervailing dynamics operating at an even more local level (Baybeck 2008). In short, numerous avenues of inquiry relating to the politics of immigration in the US and the interactive dynamics of individual political characteristics, spatial context, and proximity remain to be explored.

Table 5.1: Explaining American Attitudes toward Illegal Immigration (Binary Logit)

	Model 5.1			Model 5.2			Model 5.3		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	0.63	(0.33)	†	0.76	(0.33)	*	0.71	(0.33)	*
Male	-0.03	(0.17)		-0.03	(0.17)		-0.02	(0.17)	
Age (ln years)	-0.14	(0.20)		-0.14	(0.21)		-0.13	(0.21)	
Education: College	0.60	(0.17)	***	0.57	(0.17)	**	0.59	(0.17)	***
Region (ref = Northeast)									
Midwest	0.15	(0.26)		0.09	(0.26)		0.12	(0.26)	
South	0.40	(0.27)		0.34	(0.27)		0.38	(0.27)	
West	0.77	(0.34)	*	0.71	(0.35)	*	0.75	(0.34)	
Economy (ref = About the same)									
Getting worse	-0.73	(0.19)	***	-0.75	(0.19)	***	-0.74	(0.19)	***
Getting better	0.75	(0.23)	***	0.73	(0.23)	**	0.74	(0.23)	**
Party identification (ref = Democrat)									
Independent	-0.35	(0.31)		-0.46	(0.31)		-0.42	(0.32)	
Republican	-0.39	(0.22)	†	-0.47	(0.22)	*	-0.45	(0.22)	*
Ideology (ref = Liberal)									
Moderate	0.04	(0.27)		0.05	(0.27)		0.06	(0.27)	
Conservative	-0.39	(0.30)		-0.38	(0.30)		-0.39	(0.30)	
Contact with Unauthorized Immigrants	0.25	(0.19)		0.26	(0.19)		0.25	(0.19)	
ln County Hispanic %	0.13	(0.16)		0.41	(0.21)	*	0.13	(0.16)	
ln County Hispanic % point change	-0.12	(0.51)		-0.08	(0.52)		0.94	(0.63)	
ln Distance to US-Mexico border (km)	0.21	(0.16)		0.14	(0.16)		0.18	(0.16)	
Independent × ln County Hispanic %		—		-0.53	(0.30)	†		—	
Republican × ln County Hispanic %		—		-0.45	(0.18)	*		—	
Independent × ln County Hispanic % point change		—			—		-0.94	(1.07)	
Republican × ln County Hispanic % point change		—			—		-1.71	(0.64)	**
Independent × ln Distance to US-Mexico border		—			—			—	
Republican × ln Distance to US-Mexico border		—			—			—	
Independent × Contact w/ Unauth. Immig.		—			—			—	
Republican × Contact w/ Unauth. Immig.		—			—			—	
N	1,086			1,086			1,086		
Model χ^2	135.82		***	146.72		***	145.26		***
Likelihood Ratio χ^2	—			10.90		**	9.44		**
Nagelkerke pseudo-R^2	0.16			0.18			0.17		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Table 5.1: Explaining American Attitudes toward Illegal Immigration (Binary Logit), cont'd.

	Model 5.4			Model 5.5		
	b	(SE)		b	(SE)	
Intercept	0.83	(0.35)	*	0.55	(0.34)	
Male	-0.08	(0.17)		-0.02	(0.17)	
Age (ln years)	-0.16	(0.20)		-0.22	(0.34)	
Education: College	0.61	(0.17)	***	0.6	(0.17)	***
Region (ref = Northeast)						
Midwest	0.06	(0.26)		0.14	(0.26)	
South	0.29	(0.28)		0.42	(0.27)	
West	0.66	(0.35)	†	0.76	(0.34)	*
Economy (ref = About the same)						
Getting worse	-0.73	(0.19)	***	-0.74	(0.19)	***
Getting better	0.76	(0.23)	***	0.75	(0.23)	***
Party identification (ref = Democrat)						
Independent	-0.44	(0.31)		-0.43	(0.34)	
Republican	-0.48	(0.22)	*	-0.25	(0.24)	
Ideology (ref = Liberal)						
Moderate	0.04	(0.27)		0.05	(0.27)	
Conservative	-0.38	(0.30)		-0.39	(0.30)	
Contact with Unauthorized Immigrants	0.25	(0.19)		0.56	(0.37)	
ln County Hispanic %	0.17	(0.16)		0.13	(0.16)	
ln County Hispanic % point change	-0.27	(0.51)		-0.13	(0.52)	
ln Distance to US-Mexico border (km)	-0.41	(0.34)		0.21	(0.16)	
Independent × ln County Hispanic %		—			—	
Republican × ln County Hispanic %		—			—	
Independent × ln County Hispanic % point change		—			—	
Republican × ln County Hispanic % point change		—			—	
Independent × ln Distance to US-Mexico border	1.23	(0.46)	**		—	
Republican × ln Distance to US-Mexico border	0.67	(0.33)	*		—	
Independent × Contact w/ Unauth. Immig.		—		0.22	(0.79)	
Republican × Contact w/ Unauth. Immig.		—		-0.54	(0.43)	
N	1,086			1,086		
Model χ^2	147.79	***		139.46	***	
Likelihood Ratio χ^2	11.98	**		3.64		
Nagelkerke pseudo-R^2	0.18			0.17		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Table 5.2: Explaining American Attitudes toward Illegal Immigration (Binary Logit), Republican as Reference Category

	Model 5.2-R			Model 5.3-R			Model 5.4-R		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	0.29	(0.37)		0.71	(0.33)	*	0.35	(0.37)	
Male	-0.03	(0.17)		-0.02	(0.17)		-0.08	(0.17)	
Age (ln years)	-0.23	(0.35)		-0.13	(0.21)		-0.27	(0.34)	
Education: College	0.57	(0.17)	**	0.59	(0.17)	***	0.61	(0.17)	***
Region (ref = Northeast)									
Midwest	0.09	(0.26)		0.12	(0.26)		0.06	(0.26)	
South	0.34	(0.27)		0.38	(0.27)		0.29	(0.28)	
West	0.71	(0.35)	*	0.75	(0.34)		0.66	(0.35)	†
Economy (ref = About the same)									
Getting worse	-0.75	(0.19)	***	-0.74	(0.19)	***	-0.73	(0.19)	***
Getting better	0.73	(0.23)	**	0.74	(0.23)	**	0.76	(0.23)	***
Party identification (ref = Republican)									
Democrat	0.47	(0.22)	*	-0.42	(0.32)		0.48	(0.22)	*
Independent	0.01	(0.30)		-0.45	(0.22)	*	0.05	(0.29)	
Ideology (ref = Liberal)									
Moderate	0.05	(0.27)		0.06	(0.27)		0.04	(0.27)	
Conservative	-0.38	(0.30)		-0.39	(0.30)		-0.38	(0.30)	
Contact with Unauthorized Immigrants	0.26	(0.19)		0.25	(0.19)		0.25	(0.19)	
ln County Hispanic %	-0.04	(0.17)		0.13	(0.16)		0.17	(0.16)	
ln County Hispanic % point change	-0.08	(0.52)		-0.77	(0.58)		-0.27	(0.51)	
ln Distance to US-Mexico border (km)	0.14	(0.16)		0.18	(0.16)		0.25	(0.17)	
Democrat × ln County Hispanic %	0.45	(0.18)	*		—			—	
Independent × ln County Hispanic %	-0.08	(0.28)			—			—	
Democrat × ln County Hispanic % point change		—		1.71	(0.64)	**		—	
Independent × ln County Hispanic % point change		—		0.77	(1.01)			—	
Democrat × ln Distance to US-Mexico border		—			—		-0.67	(0.33)	*
Independent × ln Distance to US-Mexico border		—			—		0.57	(0.36)	
N	1,086			1,086			1,086		
Model χ^2	146.72	***		145.26	***		145.26	***	
Likelihood Ratio χ^2	10.90	**		9.44	**		9.44	**	
Nagelkerke pseudo-R^2	0.18			0.17			0.17		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Table 5.3: Explaining American Attitudes toward Illegal Immigration (Binary Logit), Independent as Reference Category

	Model 5.2-I			Model 5.3-I			Model 5.4-I		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	0.30	(0.42)		0.30	(0.43)	*	0.40	(0.42)	
Male	-0.03	(0.17)		-0.02	(0.17)		-0.08	(0.17)	
Age (ln years)	-0.23	(0.35)		-0.22	(0.35)		-0.27	(0.34)	
Education: College	0.57	(0.17)	**	0.59	(0.17)	***	0.61	(0.17)	***
Region (ref = Northeast)									
Midwest	0.09	(0.26)		0.12	(0.26)		0.06	(0.26)	
South	0.34	(0.27)		0.38	(0.27)		0.29	(0.28)	
West	0.71	(0.35)	*	0.75	(0.34)		0.66	(0.35)	†
Economy (ref = About the same)									
Getting worse	-0.75	(0.19)	***	-0.74	(0.19)	***	-0.73	(0.19)	***
Getting better	0.73	(0.23)	**	0.74	(0.23)	**	0.76	(0.23)	***
Party identification (ref = Independent)									
Democrat	0.46	(0.31)		0.42	(0.32)		0.44	(0.31)	
Republican	-0.01	(0.30)		-0.04	(0.31)	*	-0.05	(0.29)	
Ideology (ref = Liberal)									
Moderate	0.05	(0.27)		0.06	(0.27)		0.04	(0.27)	
Conservative	-0.38	(0.30)		-0.39	(0.30)		-0.38	(0.30)	
Contact with Unauthorized Immigrants	0.26	(0.19)		0.25	(0.19)		0.25	(0.19)	
ln County Hispanic %	-0.12	(0.30)		0.13	(0.16)		0.17	(0.16)	
ln County Hispanic % point change	-0.08	(0.52)		0.00	(1.02)		-0.27	(0.51)	
ln Distance to US-Mexico border (km)	0.14	(0.16)		0.18	(0.16)		0.82	(0.36)	*
Democrat × ln County Hispanic %	0.53	(0.30)	†		—		-1.23	(0.46)	**
Republican × ln County Hispanic %	0.08	(0.28)			—		-0.57	(0.36)	
Democrat × ln County Hispanic % point change		—		0.94	(1.07)			—	
Republican × ln County Hispanic % point change		—		-0.77	(1.01)			—	
Democrat × ln Distance to US-Mexico border		—			—		-0.67	(0.33)	*
Republican × ln Distance to US-Mexico border		—			—		0.57	(0.36)	
N	1,086			1,086			1,086		
Model χ^2	146.72	***		145.26	***		145.26	***	
Likelihood Ratio χ^2	10.90	**		9.44	**		9.44	**	
Nagelkerke pseudo-R^2	0.18			0.17			0.17		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Table 5.4: Explaining American Attitudes toward Illegal Immigration (Binary Logit), Expanded Models

	Model 5.6			Model 5.7		
	b	(SE)		b	(SE)	
Intercept	0.37	(0.56)		0.56	(0.56)	
Male	0.06	(0.18)		0.05	(0.18)	
Age (ln years)	-0.38	(0.37)		-0.39	(0.37)	
Education: College	0.26	(0.19)		0.22	(0.19)	
Region (ref = Northeast)						
Midwest	0.16	(0.29)		0.12	(0.29)	
South	0.30	(0.31)		0.25	(0.31)	
West	0.86	(0.36)	*	0.80	(0.36)	*
Economy (ref = About the same)						
Getting Worse	-0.39	(0.21)	†	-0.41	(0.21)	†
Getting Better	0.63	(0.25)	*	0.62	(0.25)	*
Family Fin. Situation (ref = Stay the same)						
Getting Worse	-0.15	(0.43)		-0.19	(0.43)	
Improving	-0.04	(0.40)		-0.07	(0.40)	
Undocumented Immigrants Take Jobs	-2.61	(0.32)	***	-2.64	(0.32)	***
Importance of Immigration Legislation	0.68	(0.30)	*	0.64	(0.30)	*
Party identification (ref = Democrat)						
Independent	-0.02	(0.35)		-0.15	(0.35)	
Republican	-0.17	(0.24)		-0.25	(0.24)	
Ideology (ref = Liberal)						
Moderate	0.03	(0.30)		0.02	(0.31)	
Conservative	-0.37	(0.33)		-0.36	(0.33)	
Contact with Unauthorized Immigrants	0.14	(0.21)		0.16	(0.21)	
ln County Hispanic %	0.11	(0.19)	†	0.39	(0.23)	
ln County Hispanic % point change	-0.19	(0.60)		-0.13	(0.62)	
ln Distance to US-Mexico border (km)	0.18	(0.17)		0.10	(0.17)	
Independent × ln County Hispanic %		—		-0.67	(0.34)	*
Republican × ln County Hispanic %		—		-0.43	(0.19)	*
Independent × ln County Hispanic % point change		—			—	
Republican × ln County Hispanic % point change		—			—	
Independent × ln Distance to US-Mexico border		—			—	
Republican × ln Distance to US-Mexico border		—			—	
County Unemployment Rate (%)	-0.014	(0.053)		-0.005	(0.055)	
County Median Family Income ($000)	-0.003	(0.007)		-0.002	(0.007)	
N	1,086			1,086		
Model χ^2	278.89		***	289.23		***
Likelihood Ratio χ^2	—		***	10.34		**
Nagelkerke pseudo-R^2	0.32			0.33		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Table 5.4: Explaining American Attitudes toward Illegal Immigration (Binary Logit), Expanded Models, cont'd.

	Model 5.8			Model 5.9		
	b	(SE)		b	(SE)	
Intercept	0.55	(0.56)		0.60	(0.57)	
Male	0.06	(0.18)		0.02	(0.18)	
Age (ln years)	-0.38	(0.37)		-0.42	(0.37)	
Education: College	0.24	(0.19)		0.27	(0.20)	
Region (ref = Northeast)						
Midwest	0.14	(0.29)		0.08	(0.29)	
South	0.28	(0.31)		0.20	(0.31)	
West	0.81	(0.36)	*	0.75	(0.37)	*
Economy (ref = About the same)						
Getting Worse	-0.40	(0.21)	†	-0.39	(0.21)	†
Getting Better	0.64	(0.25)	*	0.63	(0.25)	*
Family Fin. Situation (ref = Stay the same)						
Getting Worse	-0.18	(0.43)		-0.20	(0.44)	
Improving	-0.09	(0.41)		-0.09	(0.41)	
Undocumented Immigrants Take Jobs	-2.62	(0.32)	***	-2.65	(0.32)	***
Importance of Immigration Legislation	0.62	(0.30)	*	0.74	(0.31)	*
Party identification (ref = Democrat)						
Independent	-0.12	(0.36)		-0.12	(0.34)	
Republican	-0.24	(0.24)		-0.28	(0.25)	
Ideology (ref = Liberal)						
Moderate	0.02	(0.31)		0.03	(0.30)	
Conservative	-0.38	(0.33)		-0.36	(0.33)	
Contact with Unauthorized Immigrants	0.15	(0.21)		0.14	(0.21)	
ln County Hispanic %	0.11	(0.18)		0.15	(0.19)	
ln County Hispanic % point change	0.93	(0.74)		-0.40	(0.62)	
ln Distance to US-Mexico border (km)	0.15	(0.17)		-0.51	(0.37)	
Independent × ln County Hispanic %		—			—	
Republican × ln County Hispanic %		—			—	
Independent × ln County Hispanic % point change	-1.61	(1.31)			—	
Republican × ln County Hispanic % point change	-1.69	(0.73)	*		—	
Independent × ln Distance to US-Mexico border		—		1.49	(0.51)	**
Republican × ln Distance to US-Mexico border		—		0.72	(0.36)	*
County Unemployment Rate (%)	-0.010	(0.054)		-0.002	(0.053)	
County Median Family Income ($000)	-0.003	(0.007)		-0.002	(0.007)	
N	1,086			1,086		
Model χ^2	286.79	***		292.62	***	
Likelihood Ratio χ^2	7.90	*		13.73	**	
Nagelkerke pseudo-R^2	0.32			0.33		

Sources: Pew Research Center, 2013; Bureau of Labor Statistics, Local Area Unemployment Statistics, 2013; United States Census Bureau, American Community Survey, 2013 5-year estimates, Table DP03.

Table 5.5: Checks for Residential Self-Selection

	Contact with Unauthorized Immigrants (Binary Logit)		
	b	(SE)	
Intercept	-1.21	(0.29)	***
Male	0.36	(0.16)	*
Age (ln years)	-0.71	(0.33)	*
Education: College	0.31	(0.16)	†
Region (ref = Northeast)			
Midwest	-0.21	(0.26)	
South	0.09	(0.24)	
West	0.63	(0.26)	*
Economy (ref = About the same)			
Getting worse	0.12	(0.20)	
Getting better	-0.17	(0.21)	
Party identification (ref = Democrat)			
Independent	0.04	(0.30)	
Republican	0.18	(0.22)	
Ideology (ref = Liberal)			
Moderate	-0.30	(0.25)	
Conservative	-0.03	(0.27)	
N	1,086		
Model χ^2	47.16	***	
Likelihood Ratio χ^2	—		
Nagelkerke pseudo-R^2	0.06		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Table 5.6: Checks for Residential Self-Selection, cont'd.

	County Hispanic % (logged) (OLS)			County Hispanic % point change (2000-2010) (+5, logged) (OLS)			Distance to US–Mexico Border (km logged) (OLS)		
	b	(SE)		b	(SE)		b	(SE)	
Intercept	0.16	(0.13)		-0.01	(0.03)		0.51	(0.06)	***
Male	0.03	(0.07)		0.01	(0.02)		-0.03	(0.04)	
Age (ln years)	0.07	(0.13)		0.03	(0.03)		0.00	(0.08)	
Education: College	-0.04	(0.01)	***	-0.01	(0.00)	**	0.02	(0.01)	***
Region (ref = Northeast)									
Midwest	-0.36	(0.10)	***	-0.08	(0.03)	**	-0.43	(0.02)	***
South	0.18	(0.11)	†	0.11	(0.03)	***	-0.77	(0.04)	***
West	1.15	(0.10)	***	0.22	(0.03)	***	-1.54	(0.08)	***
Economy (ref = About the same)									
Getting worse	-0.05	(0.09)		0.01	(0.02)		0.03	(0.05)	
Getting better	0.05	(0.09)		0.02	(0.03)		0.01	(0.05)	
Party identification (ref = Democrat)									
Independent	-0.09	(0.12)		-0.02	(0.03)		-0.01	(0.07)	
Republican	0.09	(0.09)		0.02	(0.02)		-0.09	(0.05)	†
Ideology (ref = Liberal)									
Moderate	-0.14	(0.10)		-0.02	(0.03)		0.09	(0.06)	
Conservative	-0.22	(0.11)	*	-0.05	(0.03)		0.14	(0.07)	*
N	1,086			1,086			1,086		
R^2	0.26			0.16			0.45		

† $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Source: Pew Research Center, 2013

Figure 5.1: Histogram, County Hispanic Percentage, 2010

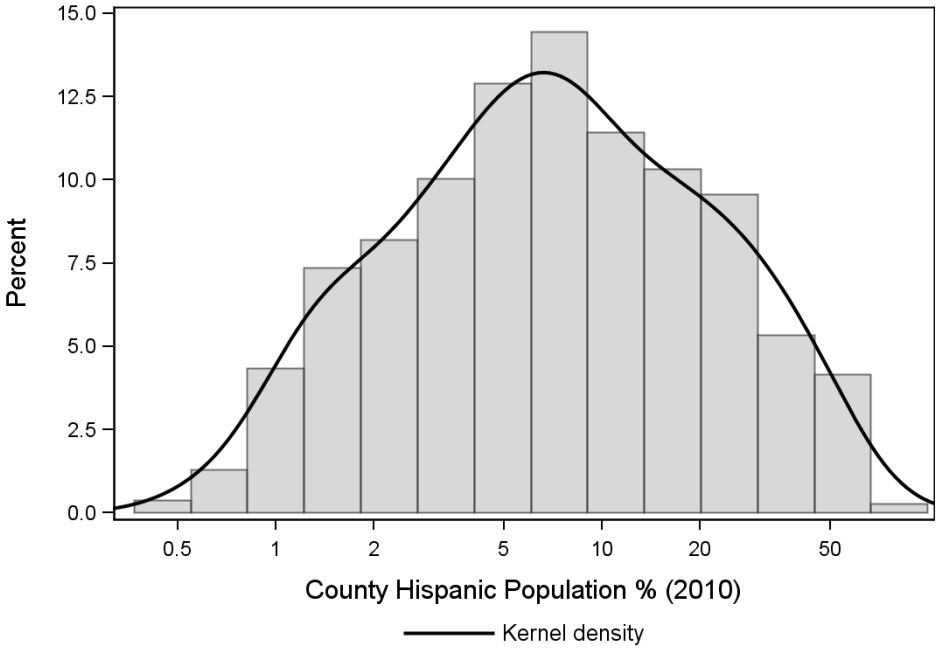


Figure 5.2: Histogram, County Hispanic Percentage Point Change, 2000–2010

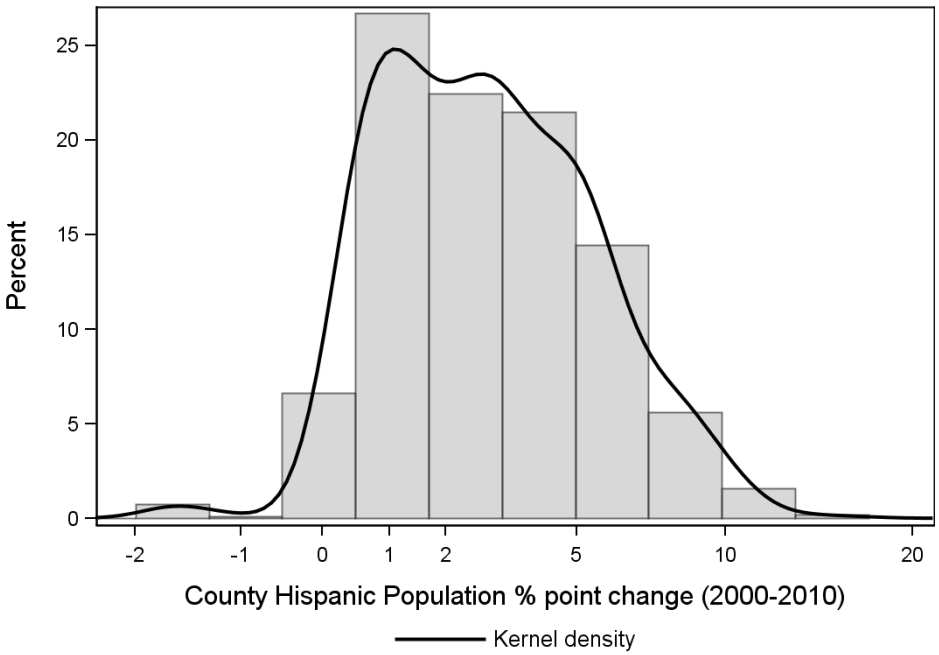


Figure 5.3: Histogram, Distance to US–Mexico Border

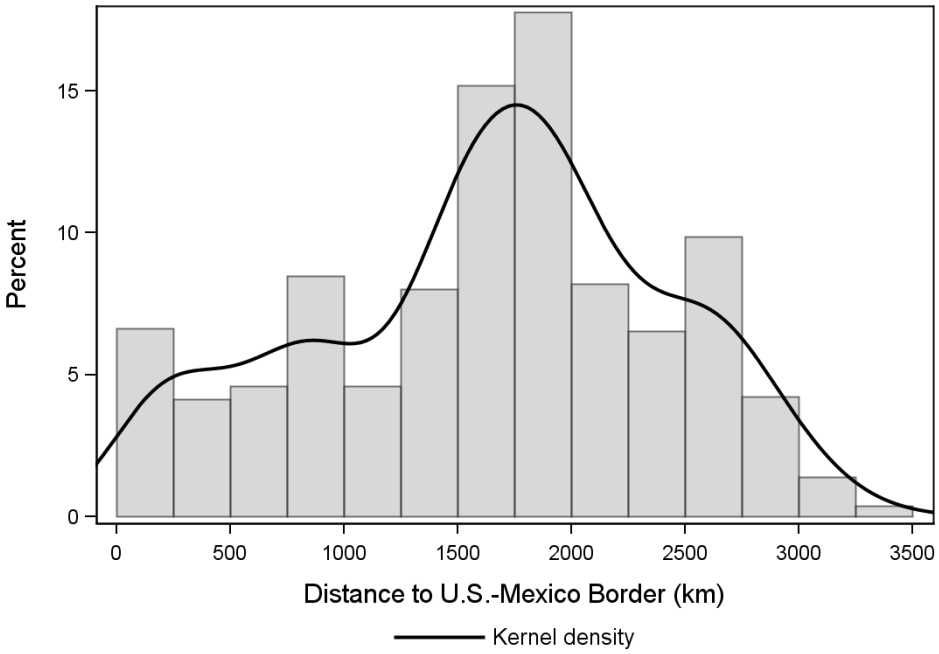


Figure 5.4: Histogram, Distance to US–Mexico Border, Logged

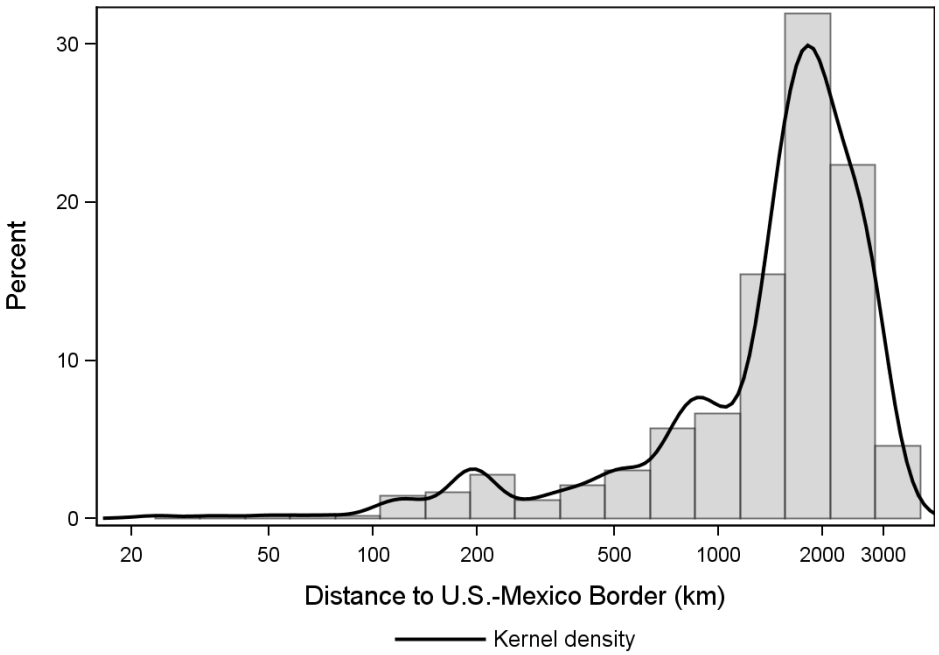
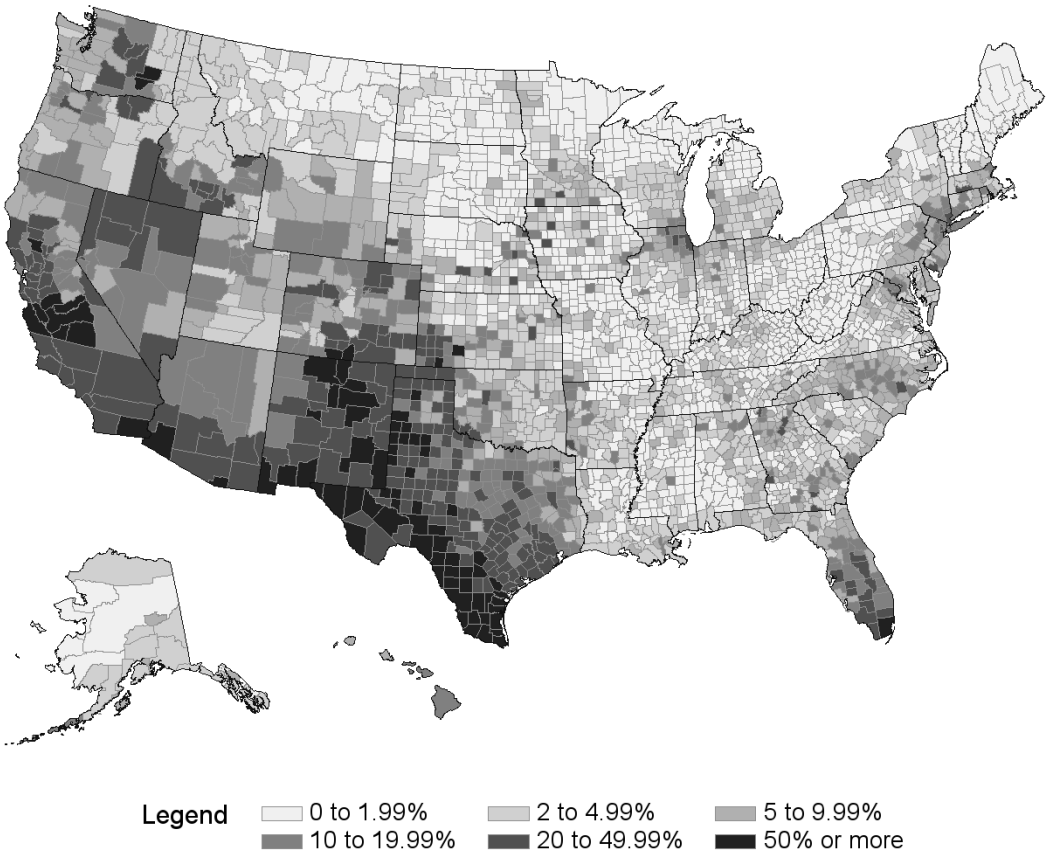
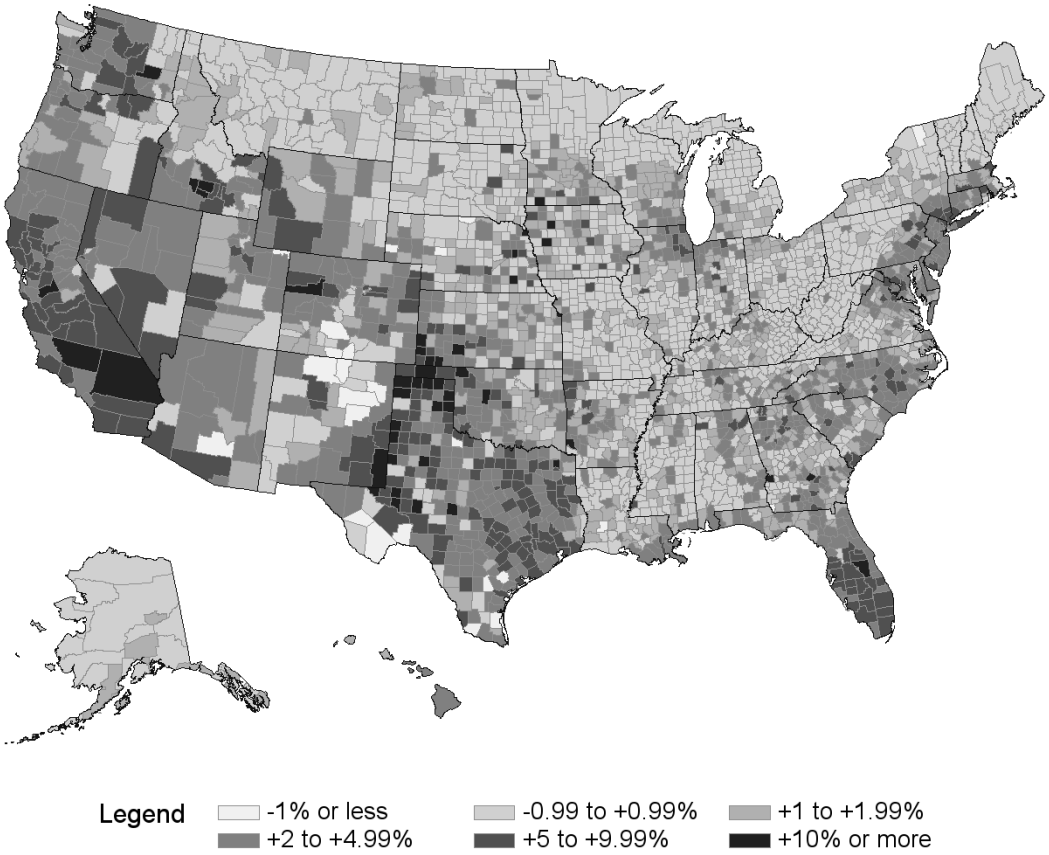


Figure 5.5: Map, County Hispanic Population, 2010



Sources: United States Census Bureau, Population Estimates, Intercensal Estimates (2000–2010) – Counties; United States Census Bureau, Cartographic Boundary Shapefile – Counties (2013).

Figure 5.6: Map, County Hispanic Population Percentage Point Change, 2000–2010



Sources: United States Census Bureau, Population Estimates, Intercensal Estimates (2000–2010) – Counties; United States Census Bureau, Cartographic Boundary Shapefile – Counties (2013).

Figure 5.7: Effect Plot, Party Identification and County Hispanic Percentage

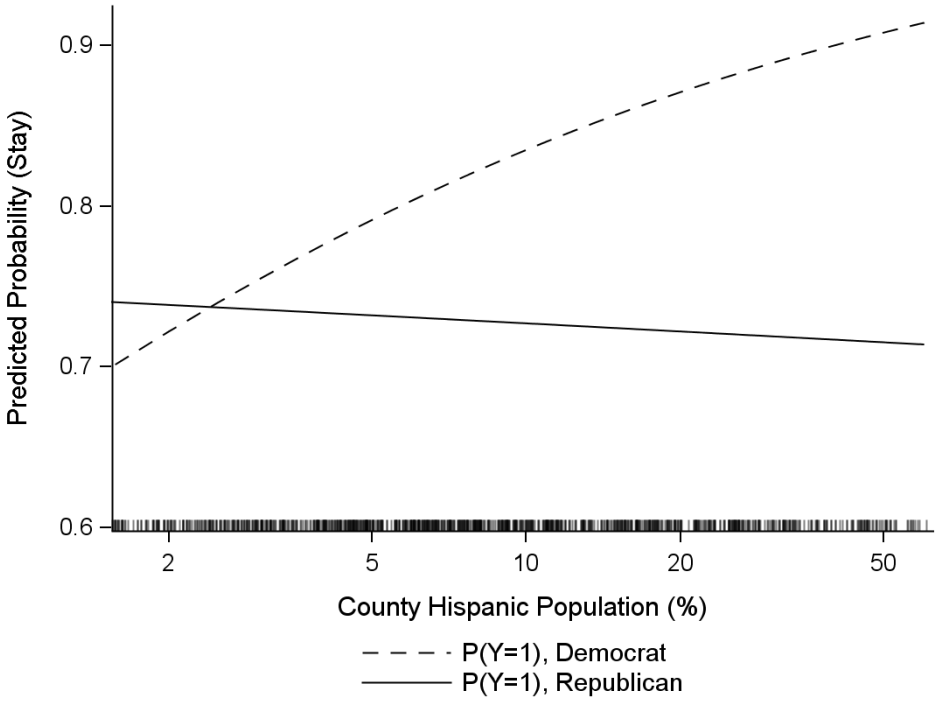


Figure 5.8: Effect Plot, Party Identification and County Hispanic Percentage Point Change, 2000–2010

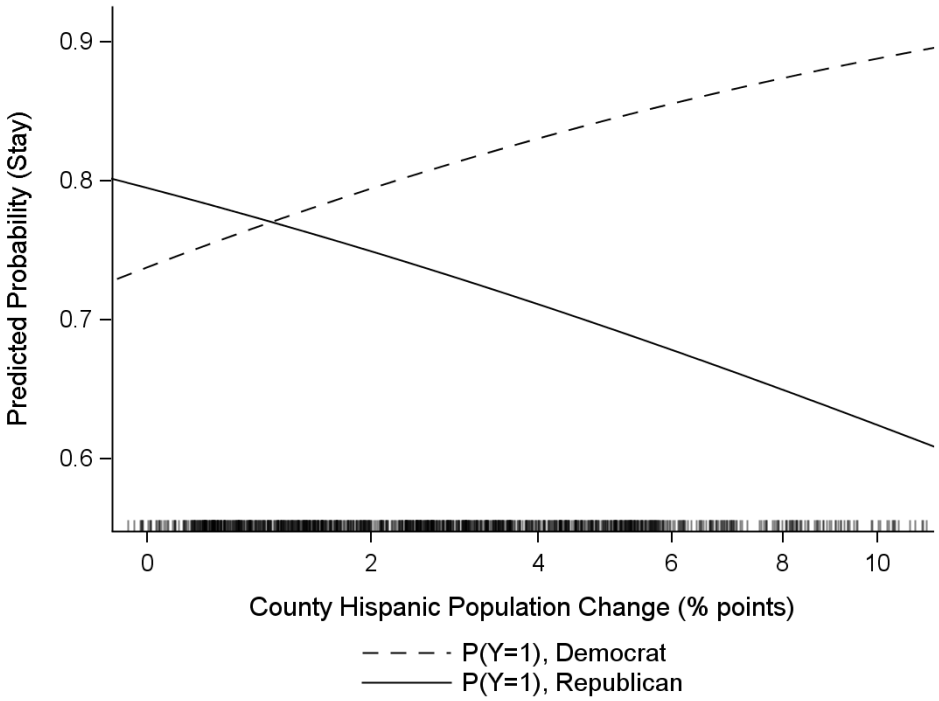


Figure 5.9: Effect Plot, Party Identification and US–Mexico Border Proximity

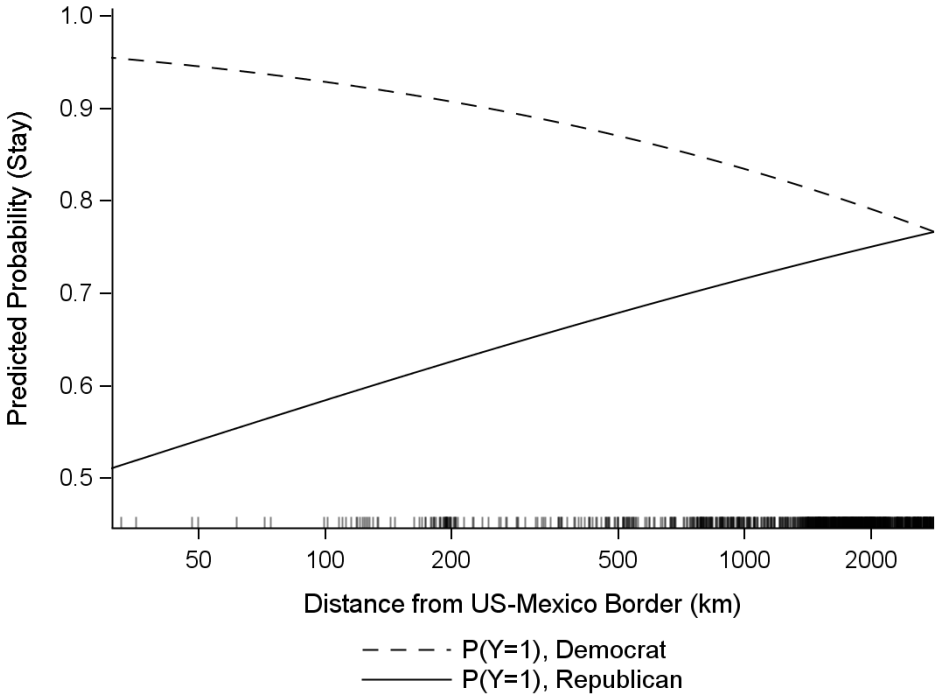


Figure 5.10: Coefficient Plot, Effect of Republican Party Identification by County Hispanic Percent, 2010

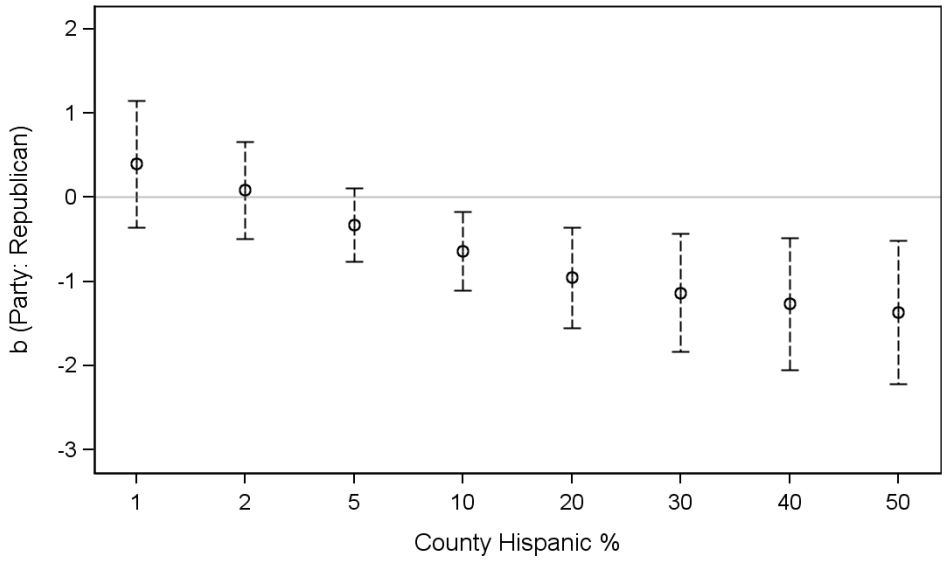


Figure 5.11: Coefficient Plot, Effect of Independent Identification by County Hispanic Percent, 2010

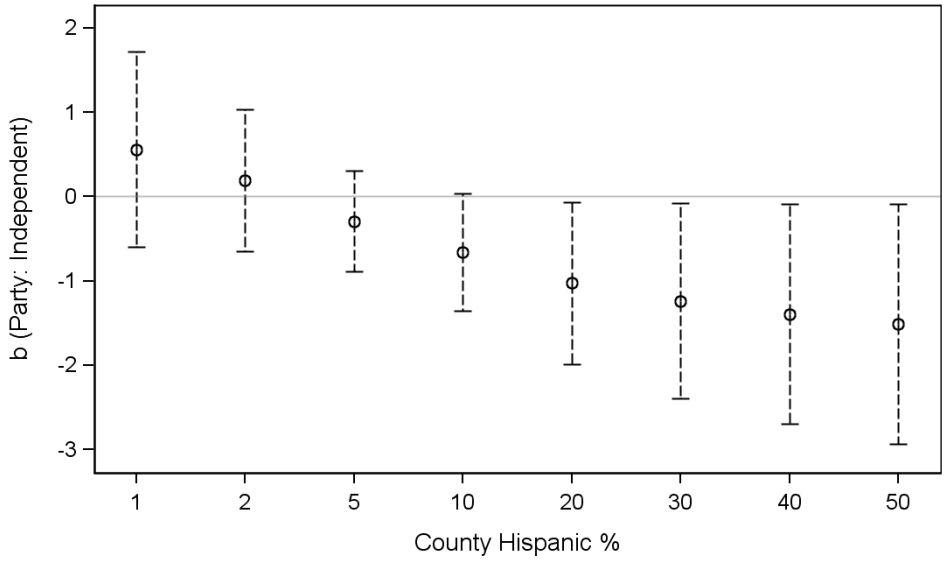


Figure 5.12: Coefficient Plot, Effect of Republican Party Identification by County Hispanic Percentage Point Change, 2000–2010

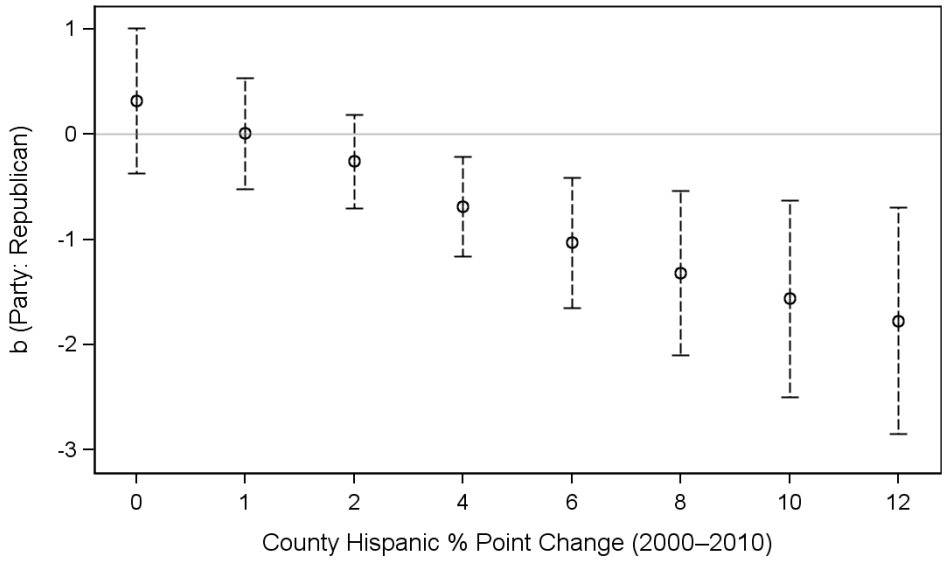


Figure 5.13: Coefficient Plot, Effect of Independent Identification by County Hispanic Percentage Point Change, 2000–2010

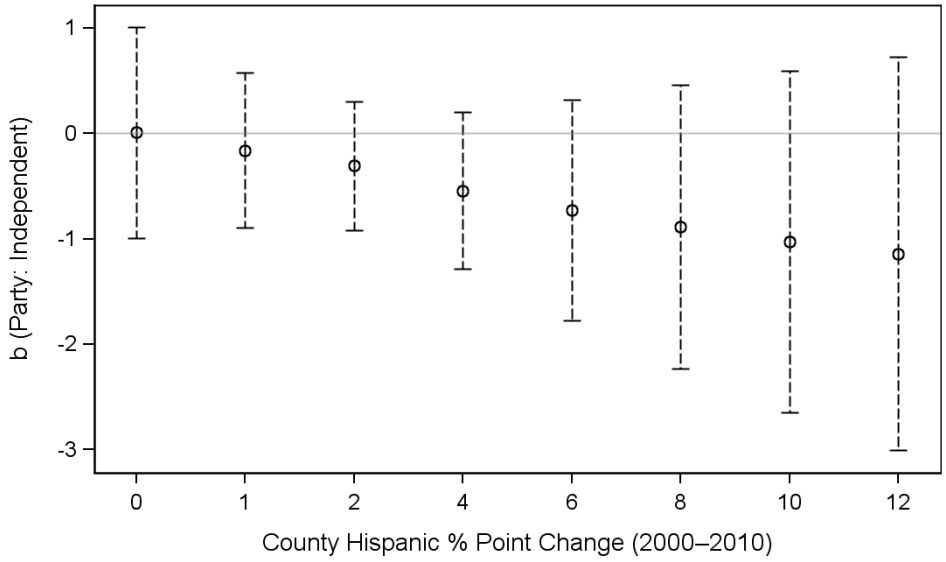


Figure 5.14: Coefficient Plot, Effect of Republican Party Identification by US–Mexico Border Proximity

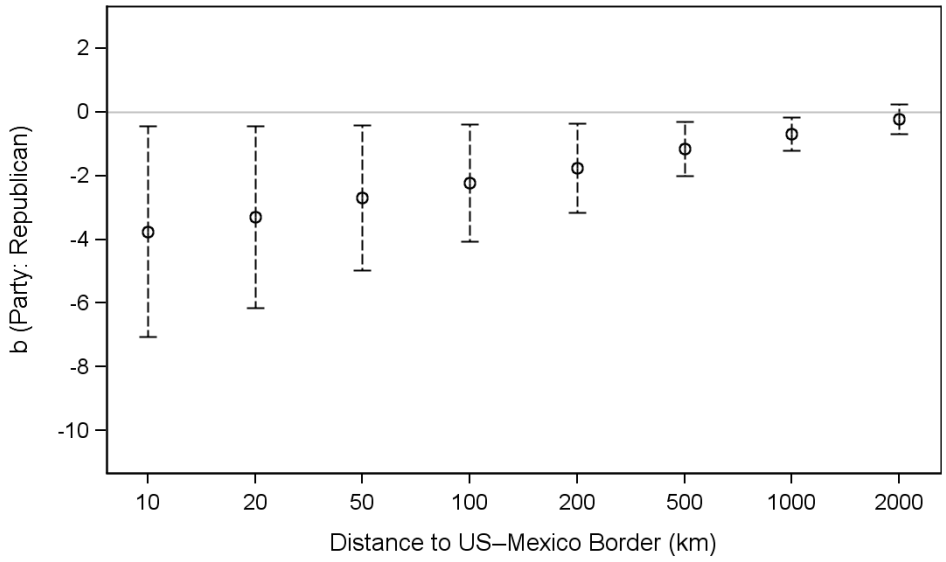
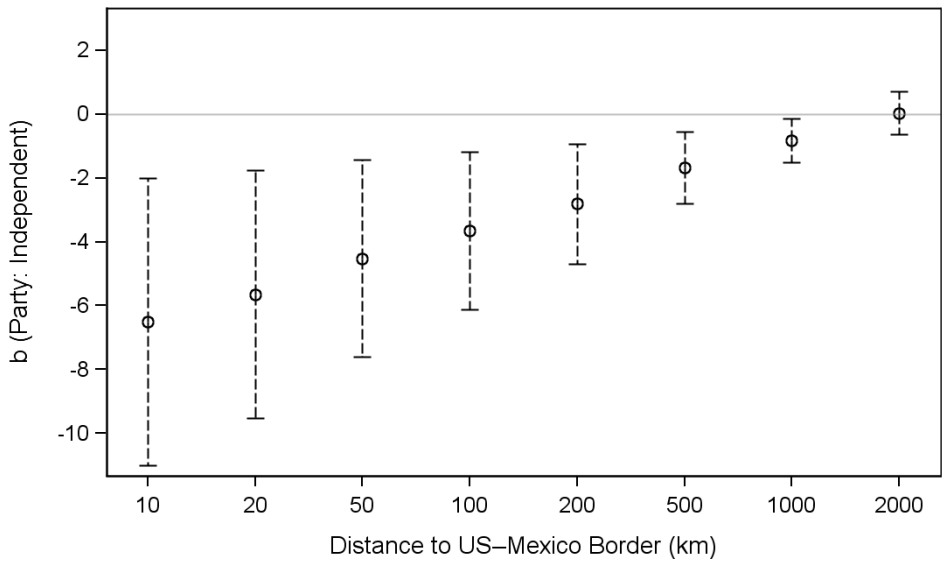


Figure 5.15: Coefficient Plot, Effect of Independent Identification by US–Mexico Border Proximity



5.8 Appendix 5A: Data Coding

Stay: "Which comes closer to your view about how to handle undocumented immigrants who are now living in the US? They should not be allowed to stay in the country legally (0), [or] there should be a way for them to stay in the country legally, if certain requirements are met (1)."

Sex: male (1), female (0).

Age: years logged ($\log_e$), rescaled 0 to 1 and mean centred.

Education: College (1), less than college (0).

Region: Dummy variables using indicator coding for Census Region of residence (the Northeast Census Region is the reference category).

Economy Better/Worse: "a year from now, do you expect that economic conditions in the country as a whole will be better than they are at present, or worse, or just about the same as now?" Dummy variables using indicator coding for "Better" and "Worse" ("About the Same as Now" is the reference category).

Personal Financial Situation Improving/Worse: "Over the course of the next year, do you think the financial situation of you and your family will improve a lot, improve some, get a little worse or get a lot worse?" dummy-coded with indicators for "Improve a lot" and "Improve some" (combined "Improving") and "Get a little worse" and "Get a lot worse" (combined "Getting Worse"); "Stay the Same" (volunteered response) is the reference category).

Undocumented Immigrants Take Jobs: "Next, I'm going to read you some statements about undocumented immigrants currently in the U.S. Please tell me whether you agree or disagree with each statement. First, [randomize]: do you strongly agree (5), somewhat agree (4), somewhat disagree (2) or strongly disagree

(1)? How about [next item]? Granting undocumented immigrants legal status would take jobs from U.S. citizens." Rescaled 0 to 1 and mean-centred.

Importance of Immigration Legislation: "How important is it to you that the President and Congress pass significant new immigration legislation this year – extremely important (5), very important (4), somewhat important (3), not too important (2), or not important at all (1)?" Rescaled 0 to 1 and mean-centred.

Party: "In politics today, do you consider yourself a Republican, a Democrat, or Independent?" [If Independent, don't know or refused:] "As of today do you lean more to the Republican Party or the Democratic Party?" Dummy variables using indicator coding for Republican and Independent (Democrat is the reference category).

Ideology: "In general, would you describe your political views as... Very conservative, Conservative, Moderate, Liberal, Very liberal." Dummy variables using indicator coding for Very conservative/Conservative (combined "Conservative") and Moderate. Very liberal/Liberal (combined "Liberal") is the reference category.

Contact with Unauthorized Immigrants: "Thinking about your daily life, do you have personal contact with any recent immigrants who you know for a fact (1), or who you suspect (1), are in the United States illegally, or not? (0)."

ln County Hispanic %: County-level percentage of the population that is Hispanic (2010 Census) logged ($\log_e$), mean centred.

ln County Hispanic % point change: County-level percentage point change in the Hispanic population (2010 Census – 2000 Census) logged ($\log_e$), mean centred.

ln Distance to US–Mexico Border: kilometres logged ($\log_e$), mean centred.

County Unemployment Rate (%): Annual average unadjusted unemployment rate at the county level; mean centred. Source: Bureau of Labor Statistics, Local Area Unemployment Statistics, 2013.

County Median Family Income ($000): Median family income at the county level in inflation-adjusted dollars (thousands); mean centred. Sources: United States Census Bureau, American Community Survey, 2013 5-year estimates, Table DP03 (Selected Economic Characteristics).

Note on geocoding and distance calculations:

ZIP code geocoding was conducted using the GEOCODE procedure in the SAS statistical package and the July 2013 ZIP code lookup dataset provided by the SAS Institute (2014b). County FIPS code-based geocoding was performed by matching county codes from the telephone sample files to county centroids created from the 2013 US Census Bureau TIGER/Line county shapefile.

For the frontier line, I use the line segment of the US–Mexico border subsetted from the Large Scale International Boundaries (LSIB), Africa and Americas shapefile obtained from the US Department of State, Humanitarian Information Unit (hiu.state.gov/data/). I then perform a Cartesian join between the survey data and the border line segment, and then select the minimum distance for each respondent.

5.9 *Appendix 5B: Descriptive Statistics*

	Mean	*Min*	*Max*	*SD*	*N*	*Missing*
Should be way for undocumented immigrants to stay	0.67	0	1	0.47	1,064	22
Male	0.48	0	1	0.50	1,086	0
Age (ln years)	3.82	2.89	4.57	0.41	1,074	12
Region: Northeast	0.19	0	1	0.40	1,086	0
Region: Midwest	0.26	0	1	0.44	1,086	0
Region: South	0.35	0	1	0.48	1,086	0
Region: West	0.19	0	1	0.39	1,086	0
Education: College	0.30	0	1	0.46	1,083	3
Economy: Getting Worse	0.24	0	1	0.43	1,067	19
Economy: About the Same	0.51	0	1	0.50	1,067	19
Economy: Getting Better	0.25	0	1	0.43	1,067	19
Party: Democrat	0.29	0	1	0.45	1,067	19
Personal Fin. Situation: Getting Worse	0.07	0	1	0.25	1,067	19
Personal Fin. Situation: About the Same	0.64	0	1	0.48	1,067	19
Personal Fin. Situation: Improving	2.69	1	4	1.11	1,073	13
Party: Republican	3.33	1	5	1.20	1,062	24
Undocumented Immigrants Take Jobs	0.39	0	1	0.49	1,081	5
Importance of Immigration Legislation	0.51	0	1	0.50	1,081	5
Party: Independent	0.10	0	1	0.31	1,081	5
Ideology: Conservative	0.39	0	1	0.49	1,062	24
Ideology: Moderate	0.41	0	1	0.49	1,062	24
Ideology: Liberal	0.20	0	1	0.40	1,062	24
Contact with Undocumented Immigrants	0.30	0	1	0.46	1,067	19
County Hispanic % (2010)	11.81	0.44	79.58	12.57	1,086	0
ln County Hispanic % (2010)	1.93	-0.83	4.38	1.09	1,086	0
County Hispanic % point change (2000-2010)	3.18	-3.52	16.06	2.43	1,086	0
ln County Hispanic % point change (2000-2010) (+5)	2.06	0.39	3.05	0.28	1,086	0
Distance to US-Mexico border (km)	1,659.78	23.45	3,375.41	763.95	1,086	0
ln Distance to US-Mexico border (km)	7.22	3.15	8.12	0.76	1,086	0
County Unemployment Rate (%)	7.22	2.70	15.80	1.86	1,086	0
County Median Family Income ($000)	67.03	28.83	139.24	16.93	1,086	0

6. Conclusion: The Role of Proximity and Space in Shaping Policy Attitudes Among Mass Publics

The central argument of this thesis has been that spatial proximity to relevant geographic features conditions the effects of political factors (such as party identification and ideology) on policy attitudes held by mass publics. In making this argument, the articles comprising this thesis have advanced the public opinion and political behaviour research literatures by adding an important qualification to the long-standing thesis that individual political characteristics such as party identification and ideology shape policy attitudes (e.g., Bartels 2002; A. Campbell et al. 1960; Converse 1964; Jacoby 1991; Zaller 1992) by demonstrating how policy attitudes are contingent upon (moderated by) spatial proximity (e.g., to international borders or energy infrastructure). Further, the interaction of spatial proximity and political variables is neither a unique feature of public opinion in a single country nor of a single policy area. Such interactive dynamics are a feature of public opinion in both Canada and the United States. They are also a feature of policy attitudes in a number of domains: Canada–US relations, energy policy, and immigration policy. In advancing these arguments, the thesis has endeavoured to extend the long tradition of spatial social science (Porter and Howell 2012), and more specifically to demonstrate the value of taking a spatial approach to the study of mass public opinion and political behaviour (cf. Nall 2015; Tam Cho and Gimpel 2012).

Though the articles of this thesis have repeatedly offered confirmation that "proximity matters" (Berezin and Díez Medrano 2008) and have added a spatial and geographic nuance to the literature on party identification, ideology and policy attitudes, the articles raise a series of questions that ought to be pursued in future

research. In this conclusion, I thus offer a review of the main findings of the thesis and some reflections on the questions implied by the four articles.

One direction for future research suggested by the four articles is the relationship between spatial proximity and intergroup contact. The theoretical discussion in chapters 2 and 3 focusing on Canada–US relations assumed that proximity functioned as a proxy of intergroup contact. This assumption was grounded in existing research on cross-border social relations (e.g., Deutsch 1954; Deutsch et al. 1957; Kuhn 2011) as well as initial probes examining the link between Canada–US border proximity and cross-border travel (drawing on data from the Statistics Canada International Travel Survey). This assumption was explicitly tested in the context of immigration attitudes in the US in chapter 5, where the results indicated that proximity did not, in that context, serve as a simple proxy measure of contact. Reflecting on this apparent discrepancy between theory and evidence, it is important to keep in mind that the Canada–US and US–Mexico borders are very different contexts with respect to the trade and security issues they raise (Ackleson 2005; Ackleson 2009; Andreas 2003; Andreas 2005; Meyers 2003). Also, the respective foci of these chapters are very different: cross-border relations (on the one hand) and immigration policy, a nominally intra-state policy area (on the other), albeit with cross-border implications. It is not unreasonable to suggest that the types of personal contacts that bear on Canada–US relations are substantively different from those that bear on attitudes toward immigration and naturalization in the US, and further that the interplay of proximity and contact will differ in each case. A topic for future research, then, is when and where contact mediates the effect of proximity, and in what circumstances proximity captures other social or psychological processes.

While each article hypothesizes (and finds) an interaction between proximity and political variables, they do not all have the same substantive interpretations. In chapters 2, 3 and 5, proximity widens (or amplifies) partisan cleavages in policy attitudes. In chapter 4, proximity attenuates (or mutes) ideological cleavages. What accounts for these different patterns of interactive relationships? A partial answer is likely found in the larger context in which attitudes are formed, including informational cues coming political elites, and the economic context.

With respect to the polarizing effect of proximity seen in Canada and the US in the context of attitudes toward the other country and Canada–US relations (chapters 2 and 3), it is worth recalling the competing views of the US (and Canada's relationship with the US) current in Canadian politics: the US is cast as either Canada's close ally and trading partner or as a pernicious economic and cultural influence. Indeed, these themes represent currents in Canadian politics since before Confederation (Granatstein 1996; Inwood 2005; Nossal 2007). These elite cues were hypothesized as becoming more salient with increasing proximity to the Canada–US border.

In the case of American attitudes toward Canada (chapter 2), the result was somewhat different, with favourable attitudes toward Canada increasing with greater proximity among Democrats, but no significant effect among Republicans. This pattern of relationships may reflect greater awareness of Canada–US ties with increasing proximity, with the effect that partisan cues become more salient among Democrats, who have long viewed the social democratic aspects of the Canadian state favourably (Brooks 2008; Gecelovsky 2006).

A different explanation is suggested in the case of the interactive relationship between proximity to the proposed Keystone XL pipeline route and ideology as they relate to attitudes toward the pipeline (chapter 4). With increasing proximity to

the pipeline route, the attitudes of liberals and conservatives converge toward support for Keystone XL. Attitudes toward Keystone XL only exhibit ideological polarization when the pipeline is literally a distant consideration, with conservatives in favour and liberals opposed. Here, the explanation offered is that increasing proximity brings with it greater awareness of the (presumed) economic gains to result from the pipeline, and thus proximity "crowds out" the effect of (liberal) ideology.

This crowding out stands in contrast to the effect of proximity to the US–Mexico border on attitudes toward illegal immigration (chapter 5). As with Canadian attitudes toward Canada–US relations and proximity to the Canada–US border, increasing proximity to the US–Mexico border serves to polarize American attitudes along partisan lines as it relates to the issue of allowing unauthorized immigrants to stay in the US. With increasing proximity to the US–Mexico border, Republicans become more restrictionist in their immigration attitudes, while Democrats become more open and accommodating. This result holds even when accounting for other important contextual factors – namely the local ethnic (Hispanic) context and change over time in the local ethnic context. In this light, one might go so far as to suggest that Mexico plays the role in American public opinion that the US plays in Canadian public opinion, insofar as proximity to the southern border serves to polarize public attitudes.

The explanations of these different patterns of moderated relationships have thus been advanced on a case-by-case basis with a mind to the political dynamics operating in a particular policy area in either Canada or the US, as well as a sensitivity to what proximity to a given geographic feature serves to encapsulate. In this way, the theoretical grounding of the thesis aligns with Hawley's human ecology approach, since the environment is not assumed to refer to a single factor or

a single dynamic; the definition of "environment" is both flexible and open-ended (A. H. Hawley 1986, 10–12). Still, this implies a need for a more general but also a more precisely specified theory that advances clear expectations for when we should expect proximity (and distance) to exert effects on policy attitudes, and in what circumstances we should expect either an amplifying/polarizing or attenuating/depolarizing dynamic to prevail.

Such a theory might also emerge as a result of – or at least be aided by – further research into possible interactions between proximity and political variables in other substantive areas of mass public opinion. In other words, we should add to the policy areas and country cases in which the politics–proximity interaction is tested. In the North American context, there are the obvious cases of public opinion toward Canada–US and US–Mexico border security – that is, concern over border security threats, support for tighter security measures on the two borders, and support for closer border security cooperation. Within the ambit of energy policy, research is already under way to more precisely test the effects of alternative environmental (climate change) and economic (job growth) frames on attitudes toward different oil pipeline proposals, namely Keystone XL in the US and the Energy East pipeline from Alberta to New Brunswick in Canada; the effects of these frames may vary as a function of proximity to the pipeline routes (Lachapelle, Gravelle, and Borick 2015). Similarly, work is under way on support among the Canadian and American public for hydraulic fracturing ("fracking") as an energy extraction technology (Lachapelle et al. 2014). Beyond the Canadian–American context, intergroup relations, perceptions of neighbouring countries, and attitudes toward border security, trade policy, immigration policy, energy policy and energy infrastructure siting (among others) are all potential fields for the exploration of the interactive dynamics of politics and space. Reflecting on the recent 2014 Scottish

referendum in which 44.7 percent of Scottish voters (or nearly 9 in 20) voted to leave the United Kingdom, there may be an opportunity for research on how attitudes among the Scottish and English populations toward the Union (and reform of the Union) are shaped by proximity to the Scottish–English border.

Further, proximity and distance may be involved in other complex, interactive relationships beyond the interactions with party identification and ideology that have been the focus of this thesis. One potentially fruitful direction for future research is the interplay between proximity to relevant geographic features and identity constructs. Chapters 2 and 3 explicitly raised the possibility that national and continental (pan-North American) identity constructs may interact with spatial proximity in shaping attitudes toward Canada–US relations. Chapter 5 also raised the possibility that the effects of US–Mexico border proximity on immigration policy attitudes operate through mechanisms such as heightened feelings of cultural threat. Another conjecture deserving investigation is the ways in which proximity might moderate the effects of the liberal, ethnocultural and incorporationist facets of American national identity on immigration attitudes (Schildkraut 2007; Schildkraut 2011). In sum, there is space for additional theory and empirical research that integrates *how* we define ourselves (identity) and *where* we find ourselves (spatial context) in the study of policy attitudes.

In proposing these avenues of inquiry for future research, it is important to stress that the availability of spatially-referenced survey data is essential. Chapters 2 and 3 concluded by making the point that spatial data need to be recorded and retained as part of survey data collection – and further, these data points need to be made available to researchers for secondary data analyses. These goals obviously need to be balanced against researchers' ethical obligations to protect respondent confidentiality and to mitigate the potential for deductive disclosure (Gutmann et al.

2007). Consequently there is a need for research – and discussion among research practitioners – at the intersection of survey methodology and research ethics on the concrete questions of what kinds of respondent-level spatially-referenced data ought to be disclosed as a matter of course, what should be restricted (to researchers with a demonstrated need for particular spatial data), and what should not be disclosed (or retained subsequent to data collection) in any circumstance.

Research practice at present varies widely. For example, the archived data sets of the World Values Survey and the International Social Survey Programme make nothing available below the level of state or province (or equivalent). In the case of the US General Social Survey, the National Opinion Research Center (NORC) at the University of Chicago makes county FIPS codes available only by special arrangement; the Pew Research Center (whose data are relied on in chapters 4 and 5) similarly makes ZIP codes and county codes available only by special arrangement. At the other end of the spectrum, the public-use 2011 Canadian Election Study data set (forming part of the data used in chapters 2 and 3) contains census dissemination area codes – location data which in theory could be combined with respondent-level demographic data to uniquely identify respondents (though the possible harm to respondents of a political survey such as the CES in the event of disclosure is low compared to other types of human subjects research).

Such wide variation in research practice speaks to the need for research and discussion among applied social scientists on how to strike the balance between these considerations, and how to facilitate further research linking individuals' opinions toward important public policy issues, their political characteristics, and the spatial and demographic contexts in which they reside.

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