Essays on Party System Institutionalization in East-Central Europe

Dissertation

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By

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Abstract

This dissertation presents three essays exploring the nature of party system institutionalization in post-communist East-Central Europe. While the development of robust party systems is often seen to be critical to healthy democracies, party systems in this region have been slow to develop. Instead, party politics in these countries is characterized by high levels of fragmentation, electoral volatility, and a lack of partisan attachment on the part of both voters and elected elites. The essays contained in this dissertation touch on several of these issues, contributing to the theoretical and empirical understanding of party politics in East-Central Europe. In doing so, the overarching theme in these essays is that more progress is being made than is often recognized in the literature, but that the nature of this progress is different than what the experience of Western Europe would have us expect.

In the first essay, I look at the phenomenon of party switching in the Polish Sejm. In doing so, I develop a new statistical method for analyzing dynamic social network data. The latent path model I propose differs from previous models for longitudinal networks by allowing the explicit modeling of trends in the movement of actors in the latent social space. I apply this model to the network of party switching by Polish members of parliament and show that, while there were nearly 1,100 instances of party switching by sitting members of parliament during the first five parliamentary terms, rather than being a symptom of continued party system fragmentation, switching
has played a constructive role in the Polish party system by allowing politicians the flexibility to sort themselves into more ideologically homogeneous parties.

The second essay, co-authored with Paul DeBell, addresses the nature of political ideology and its relationship to individual psychological motives in the Czech Republic, Hungary, Poland, and Slovakia. Applying item response theory and a seemingly unrelated regression model, we show that while left-right self-placement in these countries does not adhere to expectations gleaned from the Western political experience, the meaning of left and right are far from random. Instead, we show that the meaning of the left-right ideological labels is conditioned by the specific appeals made by political parties.

In the third and final essay, I investigate the link between local electoral institutions and party building in new democracies. I argue that, as is the case with national electoral systems, local institutions can play an important role in party system institutionalization. Specifically, by shaping the incentives for local politicians to join national parties and for national parties to get involved in local politics, different local electoral institutions can inhibit or encourage national party penetration into local politics. I support this argument with an analysis of an unique electoral system discontinuity in Poland. My analysis, which applies a regression discontinuity design approach, shows that a change from plurality election rules to proportional representation had a significant effect on national party performance in local elections in Poland.
This thesis is dedicated to my daughter, Evelyn,
and to my parents, Pamela and Richard.
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Vita

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Chapter 1: Introduction

Political parties play a fundamental role in modern democracy, moderating and channeling public opinion, mobilizing voters, socializing citizens and politicians to the democratic system, acting as valuable programmatic labels for voters, decreasing the cost of running for election, and facilitating governing (Aldrich 1995; Lewis 2000, p. 157). Considering their multifaceted roles, strong parties and party systems are considered integral to the historic development and stability of modern democracy (Huntington 1968). Some have gone so far as to say that modern democracy is “unthinkable save in terms of parties” (Schattschneider 1942, p. 1).

This dissertation presents three essays on party system development in post-communist East-Central Europe. In the comparative parties literature, the overall view of party systems in this region is that they remain fluid and inchoate, characterized by high levels of electoral volatility, government turnover in parliament, a lack of partisan attachment on the part of political elites and voters, a lack of party development, and general uncertainty (e.g., see Bakke and Sitter 2005; Bielasiak 2002; Conrad and S. N. Golder 2010; Kopecký 1995; Lewis 2000; Shabad and Słomczynski 2004). While these stylized facts are well-established in the literature, the broad theme in the essays that follow is that things are not as bad as they may at first appear. Instead, in studies looking at three phenomena typically indicative of weak
party systems in post-communist democracies—pervasive party switching by sitting members of parliament, the confused nature of political ideology, and the lack of party building in the region—I show that, in fact, more progress is being made than is often recognized in the literature. In doing so, these essays contribute to the theoretical and empirical understanding of party politics in East-Central Europe, and political parties more generally. They show that while the nature of progress may be somewhat different than what the experience of Western Europe would have us expect, it remains progress nonetheless. These studies are described in more detail in Section 1.2; however, before providing a more detailed summary of each chapter, the next section provides some background on the approaches to studying parties and party systems, both in general and more specifically in East-Central Europe, and then goes on to discuss some of the limitations of current research with respect to understanding party systems in East-Central Europe.

1.1 Explaining Parties and Party Systems

This section provides a brief overview of the research explaining parties and party systems. This is not meant as a comprehensive literature review; rather, it is meant to set the stage for the research presented in Chapters 2–4.

1.1.1 Existing Theories

The literature on the origins and development of political parties and party systems is anchored by three theoretical approaches.¹ These approaches, which I refer

¹This review glosses over the important distinction between political parties as singular organizations and party systems as patterns of interactions between parties (Mair 1997, pp. 5–6). A more complete review would make this distinction explicit, but doing so is not critical to identifying the key theoretical approaches present in the literature.
to as the sociological, institutional, and individual-rational models of party development, were originally developed to explain the process of party system development in Western democracies, though their application to new democracies, including post-communist countries, has been important in shaping the literature in these contexts as well.

The sociological model, best articulated by Lipset and Rokkan (1967), sees political parties and party systems as reflections of underlying social cleavages. In the West these cleavages were the result of centuries of political and social conflict, ultimately resulting in the class-based party systems that came to define Western democratic politics. In other societies, politically salient cleavages may be defined along ethnic or religious lines.

The sociological model is a macro-level theory that does not distinguish between the political preferences of individuals and the preferences of social groups as a whole. These groups are assumed to be made up of homogeneous individuals which, from an analytical perspective, means each group can be represented by a single set of political preferences. In this model, political parties are the means through which these homogeneous group interests are represented in government. Consequently, the sociological model allows little room for electoral strategy. Party programs are centered on policies seen to benefit the group they represent. This program is known and unambiguous, making voters’ choices also known. For parties, electoral politics

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2In his review of the scholarship on party development, Boix (2007) divides the literature into two groups of theories: historical-sociological and neo-institutional. The problem with this categorization is that it reflects an assumption that the institutional and rational approaches are necessarily tied together. The review below shows that this assumption mischaracterizes the literature, and that it is not unusual for scholars to pair the sociological and institutional (Duverger 1954) or the sociological and rational (Zielinski 2002) models in their attempts to explain party system development.
revolve around mobilization, not on articulating a program that will attract the most votes (Katz and Mair 1995, pp. 6–7).

The institutional model focuses instead on the role of political institutions, such as electoral rules and constitutional arrangements, in shaping party systems. Following the seminal work by Duverger (1954), it is common for scholars looking at the importance of electoral rules to assess the “mechanical” and “strategic”—or “psychological”—effects different rules have on the development of party systems (for a detailed discussion, see Clark and M. Golder 2006).

In contrast to sociological arguments, the institutional approach provides scant insight into the role of parties in integrating individuals into the democratic system or even explaining how individuals and politicians choose between different parties (Amorim Neto and Cox 1997, p. 152). On the other hand, institutional theories do provide clear expectations about how the patterns of party competition—e.g., the number of parties competing in elections—depend on a country’s electoral rules and political institutions (see Cox 1997).

The individual-rational approach to explaining party systems focuses on individual voters and politicians, and the underlying assumption of this approach is individual rationality. Developed largely in the American politics literature, this approach has been applied to investigate such questions as why politicians decide to start or join parties (Aldrich 1995), and why they choose to maintain a two-party system (Riker 1982, p. 764). The dominant explanation of vote choice is provided by Downs’ (1957)
theory of spatial voting: the idea that voters choose candidates or parties closest to their individual ideal points.\(^3\)

In the individual-rational model, parties are explained as providing important benefits to politicians and voters. For instance, Aldrich argues that parties provide a mechanism for overcoming the problem of collective action in the legislature: while joining a party may require politicians to sometimes forgo short-term gains, over time the benefits of belonging to a stable legislative coalition out-weigh the costs (Aldrich 1995, p. 28). For voters, parties act as valuable programmatic labels that decrease the information costs associated with voting.

The sociological, institutional, and individual-rational models of party competition are some of the most sophisticated and well-developed in political science, drawing on decades of careful theoretical and empirical research investigating party development in both democratic and non-democratic settings. However, these theories are not necessarily stand-alone explanations that exclude the importance of their intellectual competitors. Scholars rarely approach the study of party development from such an “extreme monocausalist perspective” (Amorim Neto and Cox 1997, p. 151). Instead, features of two or more approaches are often combined to more closely fit with political reality and to address the inherent limitations of the different theories. For instance, Duverger’s (1954) work itself reflected a compromise between the sociological and institutional approaches. In particular, he saw sociological factors—specifically, ethnic heterogeneity—as providing a set of political possibilities, which institutional arrangements then translated into observed political

\(^3\)While dominant in the rational choice literature, the spatial model of vote choice does not go unchallenged. For instance, see Iversen (1994) for a model that combines spatial and “directional” approaches.
outcomes (see the discussion in Clark and M. Golder 2006, p. 685). Subsequently, this interactive relationship between ethnic heterogeneity and political institutions has become an important line of research (see, e.g., Ordeshok and O. V. Shvetsova 1994; Amorim Neto and Cox 1997; Clark and M. Golder 2006). Chhibber and Kollman (2004) also provide an excellent example of research that melds the three general theories. In their investigation of the nationalization of party systems in the United States, Canada, India, and the UK, they argue that “the distribution of authority across different levels of government” interacts with “social cleavages, electoral rules, [and] political entrepreneurs” to explain the change in party systems over time (2004, pp. 20–21).

1.1.2 Explanations of Post-Communist Party System Development

The sociological, institutional, and individual-rational theories explaining party system development have played an important role in the study of post-communist democracies. However, the direct application of these theories originally formulated to explain Western democracies to the post-communist context was not without controversy, as can be seen in the debate between Bunce (1995) and Schmitter and Karl (1994).

Despite this early controversy, however, scholars have found the insights these theories bring to the study of party systems in post-communist democracies to be useful. In the aftermath of the communist collapse, scholars following the sociological model were particularly quick to begin searching for the cleavages that would shape post-communist party system development. Tucker (2002, p. 292) summarizes this search as an attempt by scholars “to refute a null hypothesis” that the extreme
uncertainty of the political and economic transition would be so strong as to over-
whelm the importance of any existing cleavages. Two views were common among
scholars. In the first group are those scholars that believed the lifting of the oppres-
sive hand of communism would allow the reemergence of latent cleavages suppressed
during communist rule and that this would lead to political conflict. Latent religious
and ethnic cleavages in particular were expected to shape post-communist politics.
Wittenberg (2006), for instance, ties post-communist vote patterns in Hungary to re-
ligious cleavages present in pre-communist Hungary. Jasiewicz (1993) similarly finds
the secular-religious divide to be a key cleavage in Poland.

The second group of scholars expected that new social divisions would emerge to
structure party politics. For example, Kitschelt (1992) provides a discussion of the
dimensions along which cleavages in new democratic societies can take root; namely,
around the issue of who is admitted to participate, what the rules of political compe-
tition will look like, and what assets players are endowed with. Kitschelt argues that
conflict over the first two of these differences will be more detrimental to political sta-
bility than conflict over material assets (i.e., redistribution). In Western democracies,
it is the latter of these cleavages that most politics revolves around. In Central and
Eastern Europe, at least at the moment of transition, polities face questions around
all three. Evidence for the emergence of an assets-based cleavage structure is pro-
vided by Słomczynski and Shabad, where they argue that “[t]he most obvious aspect
of change is a new class composition resulting from privatization of the economy and
The role of institutions in shaping party system development in post-communist countries has likewise been an active area of research almost from the moment communist regimes collapsed. This research has, for instance, looked at the role of electoral institutions in determining the number of parties participating in national politics (Ordeshook and O. V. Shvetsova 1994; Amorim Neto and Cox 1997) and on voter volatility (Toole 2000). Broader institutional contexts, such as the territorial organization of a country (Boschler 2010), have also been found to contribute to party system nationalization.

The economic voting literature provides the clearest example of the application of the individual-rational approach to party system development in post-communist countries, and there is great deal of evidence that voters in the region use party labels—and the associated economic platform—as a useful heuristic in deciding which party to vote for (Powers and Coz 1997; Tucker 2006; Jackson, Klich, and Poznańska 2005). Other literature focuses on the role of elites in shaping post-communist party systems, investigating the degree to which politicians are able to avoid being accountable to voters for poor performance (Zielinski, Słomczynski, and Shabad 2005), as well as the importance of elites in shaping political discourse to emphasize particular underlying cleavages and de-emphasize others (Zielinski 2002) or to formulate “broad integrative narratives” in order to facilitate party consolidation (Hanley et al. 2008, p. 408).

In addition to the three main theories discussed above, scholars of post-communist party development often emphasize the importance of historic legacies in shaping post-communist democratization. Legacy arguments come in two flavors: those that
emphasize the detrimental effects of communism—the so-called “Leninist legacy”—
and those that emphasize the circumstances of the democratic transition.

Jowitt provides an early and pessimistic account of what the Leninist legacy held in store for the region when he argues that the communist period engendered “a world view in which political life is suspect, distasteful, and possibly dangerous; to be kept at bay by dissimulation, made tolerable by private intimacy, and transcended by private virtues or charismatic ethics” (1992, p. 215). The ultimate results of this distaste for and fear of politics, Jowitt argues, would be the rise of “demagogues, priests, and colonels,” which would lead the region to adopt a “liberal authoritarianism” rather than liberal democratic forms of governance (1992, pp. 221–224).

In contrast to Jowitt, Grzymała-Busse (2002) presents a more positive legacy argument when she describes the ability of former communist parties to reinvent themselves after the transition to democracy. Grzymała-Busse specifically argues that the ability of communist parties to reinvent themselves was predicated on the actions and the structure of the communist parties during the communist period. In those countries where the communist party was closer to society, such as in Poland and Hungary, parties were themselves more open to reform after the transition. They likewise had more legitimacy in the eyes of the public and, thus, could become legitimate competitors in subsequent democratic elections.

In addition to Grzymała-Busse’s work, other scholars have found communist legacies to be important in explaining geographic patterns of support for successor parties in Poland (Lubecki 2004) and for defining the main cleavages shaping party competition in post-communist countries more generally (Rivera 1996).
The experience of transition has also been important in explanations of party system development. The economic voting literature, for instance, has established a clear connection between the hardships created by the economic transformation and individuals’ later vote choice. Consistent with expectations, this research has shown that more vulnerable populations were less likely to support parties pushing rapid economic and social reforms (see Tucker 2006; Owen and Tucker 2010). Scholars have also found that perceptions of the transition shape views towards the new democratic regime (Powers and Coz 1997). Influenced by the experiences of Southern Europe, scholars have also looked at the relationship between the mode of transition—e.g., whether the transition was negotiated or the result of regime collapse—and party system development in post-communist countries (Kitschelt 1995).

Tavits (2005) provides an alternative view of party system institutionalization emphasizing what she called “democratic maturation”—the idea that we should expect greater volatility in the early years after transition and that this volatility should decline over time. Similarly, Tavits and Annus (2006) find that strategic voting, as measured by the share of wasted votes in national elections, decreases over time in post-communist countries, suggesting time and party system institutionalization are closely linked. And finally, Tavits (2007) finds that the number of new parties being created in these countries declines over time, due to increasing entry costs for new parties.

### 1.1.3 Weakness of Existing Theories

Existing approaches to explaining party system development suffer from some significant weaknesses, which become particularly apparent when put in the context
of post-communist democracies. A general weakness afflicting the sociological and individual-rational models is the tendency in each case to treat social groups and political parties as unitary actors. For sociological theories, treating social groups and parties as unitary actors is a natural extension of the theory: class consciousness guides individual action—for elites and voters—which is directly reflected in the action of parties. For individual-rational theories, treating social groups and parties as unitary actors is a convenience adopted for tractability. In Downsian spatial models of voting, for instance, parties are assumed to have a single position on policy, where any differences in position among party members is assumed away by treating the median position of members as the overall party position. Without this simplifying assumption it is difficult to determine if voters vote according to their interests. In formal models, tractability becomes even more important since analytic solutions are rarely available once many heterogeneous actors and strategic behavior are considered.

Unfortunately, treating social classes and parties as unitary actors is a simplification that risks imposing a degree of structure on politics that did not exist in post-communist countries. As Przeworski noted, citizens of post-communist countries were atomized and cynical (Przeworski 1991, p. 2), which likely played an important role in the process of party system institutionalization. Atomized citizens are unlikely to have close ties to either classes or parties; cynical citizens are unlikely to believe what elites tell them. Combine these traits and you are likely to find an uninformed and unpredictable electorate. Such an electorate should not be treated as if it can be easily divided into coherent subgroups for convenient analysis.

Moving on to more specific criticisms of existing theories, there are three reasons to be wary of the direct application of the Western sociological model to the
post-communist context. First, latent cleavage explanations seldom account for the “flattening” of society that took place under the communist regimes (Mair 1997, ch. x).

When making such an argument scholars should provide an explanation of how pre-communist social cleavages managed to remain intact during the communist period despite the elimination of the social and economic institutions that under-girded them. This is seldom done (an exception being Wittenberg 2006).

Second, it is likewise problematic to assume that the social cleavages so important to party system development in Western democracies will necessarily be important to party system development and post-communist countries. For example, sociological explanations of party system development in the West rely heavily on particular patterns of industrialization, democratization, and development of the market economy. These patterns cannot be matched in post-communist democracies (Mair 1996; Birch 2003).

Third, the sociological approach depends on the existence of some mechanism through which members of a group or class identify their interests. In the West, class membership came with a set of clear social and institutional ties, which made it relatively easy to identify one’s interests; e.g., unions, religious organizations, and business relations were key in doing so. In post-communist counties, where citizens were atomized and made cynical by decades of communism (Przeworski 1991, p. 2), social connections are weak and membership in institutions rare. As a result, it is difficult to see how individuals can identify those parties that best serve their interests.

This is not to say that the flattening of society during the communist period resulted in perfectly homogeneous societies. As Slomczynski and Shabad point out, making this assumption “obscures the nature, degree, and consequences of social differentiation in these societies, both before and after the onset of systemic change” (Slomczynski and Shabad 1996, p. 188). However, I think it is clear that relative to Western cases, where the sociological model was first elaborated, post-communist societies were largely flattened.
There are three reasons to doubt the ability of the institutional approach to provide an adequate explanation for party system development in post-communist contexts. First, institutional arguments suffer from their inability to provide specific guidance on what should be expected from a party system; in other words, which parties are likely to prosper and which are likely to be eliminated from the party system. Being able to identify the parties most likely to survive is important because it provides an important clue as to whether centripetal or centrifugal forces will be most at work in the party system. The existence of anti-system parties—an example of a highly centrifugal force—may suggest an inherent weakness of the party system (Sartori 1976).

Second, while institutional explanations may be useful in providing bounds on party system parameters—such as the number of effective parties—they cannot explain important characteristics of party system institutionalization, such as party turnover and electoral volatility. This is because the institutional approach does not provide any insight into the content of politics; i.e., the approach does not tell us why people vote for particular parties or why politicians take particular policy positions. This is a critical omission because it means that the theory cannot explain why, given the same institutions, one party system may exhibit centrifugal tendencies while the other does not.5

Third, and perhaps more important to the study of party system development in developing democracies, the assumption that constitutional and electoral institutions can be treated as exogenous factors shaping party systems is highly problematic (Kitschelt 1992, p. 9). Treating institutions as exogenous ignores the fact that in

5See Sartori (1976) for a discussion of party systems demonstrating centrifugal and centripetal tendencies.
new democracies institutions are more malleable and are likely to be changed by politicians seeking to improve their political fortunes.

The direct application of the individual-rational approach to post-communist party development is also not without problems, the chief issue being the vast uncertainties that pervaded transition politics. As Bunce and Csanádi described the situation: “what Eastern Europeans gained from 1989 was uncertainty in political, economic, and social outcomes—the contributions of liberalization—but what they did not gain were all of those elements of certainty that make risk tolerable and functional” (Bunce and Csanádi 1993, p. 267). These uncertainties make it extremely difficult for scholars to judge whether or not political actors have made utility maximizing decisions consistent with the available information.

There are two problems with how legacy explanations are often presented. First, scholars often neglect to identify the mechanism connecting past and future. In other words, they do not offer an explanation of how what happened in the past is transmitted into the future. Some analyses effectively regress an outcome of interest—here it is party system outcome—on a particular legacy—such as the “flattening” of society that occurred during the communist period. But a lot can happen between the historic cause and future effect, and without identifying the mechanism it is difficult to assess whether a particular legacy is driving a particular future outcome or whether something occurred in the meantime, making the apparent relationship between the legacy and outcome spurious. Without a clear mechanism, a long lag time between historic cause and future effect is particularly problematic.\(^6\)

\(^6\)When a convincing mechanism is provided, such as in Grzymała-Busse’s (2002) detailed tracing of the evolution of communist party organizations and their relationships with society, legacy arguments can be quite persuasive.
The second problem with legacy explanations is that they rarely specify when past historic circumstances should no longer matter. This problem is closely related to the problem of failing to identify the mechanisms of transmission: when an analyst presents a legacy argument with a clear mechanism, it is, at least in principle, possible to identify when the legacy no longer matters: when the transmitting mechanism can no longer be traced, the legacy is no longer a critical factor in shaping future politics. However, it may not be the case that the termination of the mechanism is perfectly correlated with the end of the importance of legacy. The mechanism may continue to carry on, but it is importance may be limited by other factors. When making an historic legacy argument scholars need to indicate the circumstances under which the legacy will no longer matter. Otherwise they may run into the problem of attributing everything to it.

1.2 Chapter Overview

Chapter 2 of this dissertation looks at the phenomenon of legislative party switching by sitting members of the Polish Sejm. A high rate of party switching by politicians is typically expected to inhibit party system institutionalization by reducing democratic representation, accountability, and the heuristic value of party labels (Desposato 2006; Heller and Mershon 2005, 2009; Mainwaring 1998). However, in this chapter I argue that in new democracies, where social connections and party labels are weak, party switching allows politicians the flexibility to sort themselves into more cohesive groups, ultimately contributing to an increased likelihood of long-term party system stability.
In order to test this hypothesis and investigate the phenomenon of party switching in the Polish Sejm more closely, this chapter develops a new latent variable model for dynamic network data. The proposed latent path model is a natural extension of the latent space model for static networks developed by Hoff, Raftery, and Handcock (2002) and is in the spirit of the dynamic network model of Ward, Ahlquist, and Rozenas (2013), Sewell and Chen (2015), and Sarkar and Moore (2005). In applying this model to party switching in Poland, which has seen more than 1,100 instance of party switching since the first democratic election in 1991, I show that instead of being an unqualified indicator of persistent party system weakness, switching during the first five parliamentary terms has resulted in greater ideological coherence of parties, and that a core group of 199 long-serving MPs has been at the leading edge of this convergence. This counterintuitive result suggests party switching can sometimes play a more constructive role in party system institutionalization than is typically realized, while it also suggests that the Polish party system may be developing the foundations of a stronger and more stable party system.

Chapter 3, authored with Paul DeBell, shifts the focus from the actions of elected elites to the psychological motivations of individuals by investigating the nature of political ideology and its relationship to individual psychological motives in the Czech Republic, Hungary, Poland, and Slovakia. Self-placement on the left-right spectrum is one of the most commonly used variables in studies of comparative political behavior. However, in the first stage of our analysis, we use graded item response models and the Schwartz Portrait Value Questionnaire embedded in the European Social Survey to show that the correspondence between underlying psychological motives and left-right self-placements adhere to expectations in Western democracies but vary markedly
in East-Central Europe. These results comport with previous analyses (Aspelund, Lindeman, and Verkasalo 2013; Piurko, Schwartz, and Davidov 2011) and raise serious questions regarding the nature and origins of left-right political ideology among mass publics in East-Central Europe; specifically, whether these ideological labels function to link voters to elites in the contexts of post-communist democratization.

However, we contend that this variation is not random. Instead, we argue that voters come to associate the ideological terms left and right with the values promulgated by the major political actors in their country. In a second analysis, we test this Heuristic hypothesis by employing a seemingly unrelated regression model (Zellner 1962) and combining data from the Chapel Hill Experts Survey (Bakker et al. 2012) and Comparative Manifestos Project (Volkens et al. 2014) to show that the meaning of left and right in the Czech Republic, Hungary, Poland, and Slovakia corresponds to the specific appeals made by the major parties of the left and right. In other words, people identify the values appeals of major parties, then select their ideological position to match the politics of their country. This result has important implications for the study of comparative political behavior as it exposes a need for scholars to incorporate more flexible measures of ideology into cross-national research, instead of relying on a simple and homogeneous uni-dimensional left-right concept.

In Chapter 4, I present a theoretical and empirical exploration into the link between local electoral institutions and party building in new democracies. While recent research has demonstrated the importance of local party organization to the electoral success of national parties (Tavits 2012), the importance of local electoral institutions has been largely neglected in the literature. In this chapter, I argue that by providing different incentives for local politicians to join national parties which, in
turn, incentivizes national parties to become involved in local politics, local electoral institutions do matter to national party development in new democracies.

To test my hypothesis, Chapter 4 leverages an unique electoral system discontinuity in Poland. In 1998, the Polish government passed a broad package of reforms to the structure and governance of local governments. For a select set of municipalities—those between 20,000 and 40,000 residents—these reforms included a change in the way they elected their municipal councils, moving from single-member districts with plurality voting to open-seat proportional representation. Using a regression discontinuity design approach (Thistlethwaite and D. T. Campbell 1960), I show that this change in electoral institution was associated with an increase of approximately 18% in national party seat share on local councils. This significant results which is robust to changes in model specification, provides strong support for the idea that local electoral institutions can affect the ability of national parties to penetrate into local politics.
Chapter 2: The Latent Path Model for Dynamic Social Networks with an Application to Party Switching in Poland

2.1 Introduction

Scholars have long viewed a stable party system to be an important component of a healthy democracy (Huntington 1968; Schattschneider 1942). A key to developing such a party system is the development of stable partisan attachments between politicians and voters (Converse 1969; Mainwaring 1999; Mainwaring and Scully 1995). Consequently, high rates of party switching by politicians is often seen as a clear indicator of a lack of overall party system institutionalization. Party switching can reduce politicians’ accountability to voters, suggest a lack of party organization and discipline, and lessen the heuristic value of party labels for voters (Desposato 2006; Heller and Mershon 2005, 2009; Mainwaring 1998).

I would like to thank Jan Box-Steppensmeier, Paul DeBell, Luke Keele, Austin Knuppe, William Minozzi, Irfan Nooruddin, Santiago Olivella, Andrew Rosenberg, and Peter Tunkis for their numerous helpful comments. This project was supported by the Ohio Supercomputer Center and the Institute for Population Research at The Ohio State University. Earlier versions were presented at the Society for Political Methodology’s Annual Summer Methods Meeting (2013–2014) and the Annual Meeting of the Political Networks Section of the American Political Science Association (2013–2014).
The empirical evidence suggests that party switching is damaging to the process of party system institutionalization in young democracies. When politics are uncertain and voters have yet to learn the contours of the new democratic regime, constant switching frustrates attempts by voters to hold their elected officials accountable for poor performance (Zielinski, Słomczynski, and Shabad 2005). Furthermore, high levels of switching can contribute to disorganization in parliament, overall party system fragmentation (Kreuzer and Pettai 2003), and has been shown to encourage the self-serving goals of politicians (Desposato 2006). As Desposato (2006, p. 77) argues, “[s]witching effectively destroys the meaning of party labels, raises voters’ information costs, and eliminates party accountability.”

There are, however, theoretical reasons to believe that party switching per se may not be inherently detrimental to party systems. As Heller and Mershon point out, the notion that switching is damaging to democratic representation assumes that voters select candidates based solely on their party affiliation. In other words, party labels are meaningful and, as such, provide a great deal of valuable information to voters about candidates’ and parties’ policy positions (Heller and Mershon 2009). Yet, switching may play a constructive role if it provides politicians the flexibility to take positions on policy that more closely match the views of their constituents.8 Likewise, when labels carry little meaning, as is the case in new democracies, switching may play a constructive role by allowing politicians the freedom to sort themselves into more cohesive groups that reflect the ideological contours of society, thus ultimately contributing to an increased likelihood of long-term party system stability.

8As an empirical example, consider the partisan realignment in the U.S. after the passage of the Civil Rights Act in 1964, which made the party labels more closely reflect the values of the voters in the South (Levendusky 2009).
In this chapter, I take a dynamic network approach to assessing whether patterns of party switching in Poland indicate a growing coherence of parties in the country or whether this switching indicates continued party system weakness. Poland makes an interesting and difficult case for the proposition that party switching can play a positive role in party system development. Ever since the first democratic parliamentary election in 1991, the Sejm has been plagued by a chronic tendency for elected members of parliament to switch parties. During the first five parliamentary terms, there were nearly 1,100 instances of intra-term party switching in the Sejm, the lower house, with almost 30% of members of parliament (MPs) switching parties at least once. As a consequence of this switching, more than 70 different parties served in parliament during this period. The fragile nature of elite partisan attachments has contributed to persistent government instability: during the first seven parliamentary terms, Poland had 17 different governments, 11 prime ministers, and only one government survived to complete a full four-year term (Conrad and S. N. Golder 2010).\(^9\)

By other common measures of party system institutionalization, however, the Polish party system has begun to show some encouraging signs of stabilization. For instance, despite the upheaval caused by MP party switching, only one new party has been elected to the Sejm during each of the last three electoral cycles. Furthermore, in 2011, Civic Platform (PO) won its second consecutive election, a first for Poland, nearly duplicating its 2007 performance. At the same time, Law and Justice (PiS)

\(^9\)These figures assume the present governing coalition between Civic Platform (PO) and the Polish Peasant Party (PSL) survives the current term that ends in 2015.
retained its position as the main opposition. This greater electoral certainty is re-
flected in declining electoral volatility and low levels of fragmentation, and seems to suggest that an enduring and meaningful division has emerged in Polish politics.\textsuperscript{10}

From the perspective of extant theory, as noted above, the Polish party system raises interesting questions about the state of institutionalization in the country and about the process of party system institutionalization in new democracies more generally. Long established theories of party system development hold that the advent of stable partisan commitments on the part of politicians and voters is critical to the process of institutionalization (Huntington 1968). At the same time, these theories emphasize the importance ideology plays in structuring party competition, with stable party systems exhibiting a close identification between particular parties and ideological positions (Mainwaring and Scully 1995). The level of party switching seen in Poland clearly suggests a lack of party system institutionalization; however, more recent stability in the partisan makeup of electoral politics, and the relatively stable ideological positions of those parties (Markowski 2008; Szczerbiak 2013), suggests growing coherence in the party system.\textsuperscript{11} What explains the discrepancy between politics at the elite level and that at the aggregate electoral level? Why has not the lack of partisan commitments by members of parliament and resultant intra-term party system instability translated into even greater party fragmentation? Finally, what can past patterns of party switching tell us about the possibility of party system institutionalization in Poland?

\textsuperscript{10}Szczerbiak (2013) notes that this division appears to be real, with PO and PiS having “become the main points of reference for each other” (Szczerbiak 2013, pp. 493–494).

\textsuperscript{11}Looking at an earlier period, Shabad and Słomczynski (2004) also note the presence of switching alongside indicators of party system institutionalization.
To date, party switching has been treated as an individual-level phenomenon, whereby switching as an outcome is determined by legislators’ perceptions of the costs and benefits associated with doing so (Desposato 2009; Heller and Mershon 2005; Laver and Benoit 2003; Zielinski, Słomczynski, and Shabad 2005). These benefits of switching include increasing the likelihood of being reelected, obtaining rent from holding office, or achieving some policy outcome. While these approaches are focused on individual-level decision making, there is an implicit relational aspect to the theories in that the benefits to be gained from switching is conditional on the rest of the party system remaining constant. Empirically, these approaches have assumed such independence. However, there are reasons to believe that such independence does not exist. For instance, a party switch by one MP may increase the likelihood that allies in her old party switch in the future; party dissolution may make it necessary for many MPs to “switch” parties simultaneously; and, in a new party system, a learning process may occur which decreases the probability of switching over time, perhaps due to solidifying partisan lines or increasing party discipline. In other words, party switching should be seen as a relational, dynamic process; thus, empirical analyses seeking to understand this process require the use of models appropriate for such data.

In this chapter, I develop a new latent variable model suitable for tracing the movement of members of parliament through a latent social space over time. The proposed model, which I call the latent path model, builds on the latent space models of Hoff, Raftery, and Handcock (2002) and is similar to the dynamic latent space model of Sewell and Chen (2015).\(^\text{12}\) The model differs, however, from prior research

\(^\text{12}\) Also see Sarkar and Moore (2005) for an earlier development along these lines.
in that it allows the explicit modeling of non-linear trends in the movement of actors in the latent social space; can accommodate directed, undirected, and weighted networks; and fits more neatly into generalized linear models familiar to political scientists. I provide a Bayesian implementation of the model in Stan (Stan Development Team 2013). I then apply the proposed latent path model to a core subset of 199 Polish MPs. I find that switching during this period, rather than being a symptom of continued party system fragmentation, has resulted instead in greater ideological coherence of parties. In other words, switching seems to have played a constructive role in the Polish party system by allowing politicians the flexibility to sort themselves into more ideologically homogeneous parties. Overall, these counterintuitive results suggest that party switching may not necessarily be a detriment to party system institutionalization and democratic consolidation more generally. Furthermore, from a broader theoretical perspective, the patterns of change seen in Poland provide insight into the process through which ideologically homogeneous and stable parties develop from the dynamic interaction of politicians in new democracies.

In the next section, I briefly describe the overall trends in party politics in Poland since the democratic transition in 1991, while also providing a more detailed discussion of party switching in the Polish Sejm from a network perspective. Section 2.3 discusses the problems posed by relational data, such as the party switching network, for standard statistical models, and introduces the latent space model previously developed for static networks (Hoff, Raftery, and Handcock 2002). In Section 2.4, I then propose a latent space model for dynamic networks. This model is applied to the Polish party switching data in Section 2.5. Section 2.6 concludes.
2.2 Poland’s Party System

Compared to other third wave democracies, party systems in post-communist Eastern Europe have been slow to institutionalize. Overall, these party systems can be characterized by their comparatively high levels of fragmentation, electoral volatility, and general uncertainty (Bakke and Sitter 2005; Bielasiak 2002; Epperly 2011; Lewis 2000). At first glance, this volatility is unsurprising given the unique obstacles these societies faced in their efforts to shed the economic and social legacies of communism (Mair 1997, ch. 8; Offe 1993). However, by many measures, it remains unclear whether party systems in these countries are moving in the right direction and whether scholars can yet talk about general trends in party system institutionalization in the region. On the one hand, there have been some positive signs that “democratic maturation” is occurring (Tavits 2005; Tavits and Annus 2006), and expected patterns of economic voting are emerging (Duch 2001; Tucker 2006). On the other hand, overall indicators of institutionalization suggest that the consistent patterns that we would usually expect from institutionalized systems have not yet emerged (Casal Bértoa and Mair 2012).

The party system in Poland has been particularly resistant to stabilization. In many ways, this is surprising. In contrast to other countries that saw the thorough flattening of society by the communist regimes, Poland managed to maintain some semblance of civil society,\textsuperscript{13} as evinced by the importance of Solidarity in the democratic transition, while also preserving a largely autonomous Catholic Church.

\textsuperscript{13}Of course, the communist period did not result in perfectly homogeneous societies. As Slomczynski and Shabad point out, making this assumption “obscures the nature, degree, and consequences of social differentiation in these societies, both before and after the onset of systemic change” (Slomczynski and Shabad 1996, p. 188).
and resisting large-scale collectivization of the agricultural sector. Furthermore, two communist successor parties—the Democratic Left Alliance (SLD) and the Polish Peasants Party (PSL)—survived the democratic transition relatively intact.\textsuperscript{14} These parties managed to maintain their organizational structure and were headed by long-standing members (Grzymała-Busse 2002), which lent a degree of pre-existing structure to the party system.\textsuperscript{15}

By anchoring the political spectrum ideologically, the presence of Solidarity and the Catholic Church on the right and SLD and PSL on the left should have aided Poland in developing a robust and stable party system. But this has not been the case. Instead, the party system in Poland has been characterized as being “completely under-institutionalized” (Casal Bértoa 2012, p. 5), which is reflected in Poland having some of the lowest levels of partisan attachment in post-communist Europe (van Biezen, Mair, and Poguntke 2012; Whiteley 2011), persistently high levels of electoral volatility (Epperly 2011), and some of the highest turnover in governing coalitions in the region (Casal Bértoa and Mair 2012; Conrad and S. N. Golder 2010; Grotz and Weber 2012). Poland also has the lowest level of turnout in post-communist Europe, averaging 47.7% in national parliamentary elections. Only two elections (in 1993 and 2005) recorded turnout above 50%, and the first fully democratic election in 1991 recorded a turnout of just 43.2%, an astonishingly low figure given Poland’s leading role in the regional transition. By comparison, in the Czech Republic and Hungary,\textsuperscript{14} SLD was the successor to the communist-era ruling Polish United Workers’ Party (PZPR), while PSL was the successor to United People’s Party (ZSL), a communist era agrarian satellite party.\textsuperscript{15} Strictly speaking, SLD did not consolidate into a single party until 1999, when Social Democracy of the Republic of Poland (SdRP) and the Polish Social Democratic Union (PUS) merged. They mostly competed as a single entity in elections prior to this, however.
turnout averaged over 70% and 60% during the same period (Birch 2003, pp. 60–61; Kostadinova 2003).\footnote{In the partially-free election of 1989 turnout was somewhat over 60%, though this was still lower than the first elections throughout post-communist Europe (Kostadinova 2003).}

None of this is to say that Poland has not made noticeable progress towards developing a more stable party system. Some clear and positive indicators are available. Table 2.1 presents some general electoral trends in Poland over the last two decades. From the data presented in this table, it is tempting to say that the Polish party system has settled into a relatively stable pattern of party competition. For example, as measured by the effective number of parties serving in parliament it appears that the party system has resisted extreme levels of fractionalization.\footnote{In the first democratic election, there was no electoral threshold, which resulted in a large number of parties (29) winning seats in the Sejm. A 5% threshold was instituted for the second election in 1993, which contributed significantly to the decline in the number of parties in parliament.} Furthermore, only one new party has been elected to the parliament in each of the last three elections, which indicates that existing parties are beginning to attract stable levels of support and themselves becoming more institutionalized. Finally, in the last two elections, the same ruling party, center-right Civic Platform (PO), has won and formed the same coalition with PSL.\footnote{Gwiazda (2009) considers the Polish party system to be “quasi-institutionalized”.}

\section*{2.2.1 Party Switching as a Network in Poland}

As presented in the previous section, there is some question as to whether or not the Polish party system has been making progress towards a more stable pattern of competition. Traditional measures of party system institutionalization are rather ambiguous: the effective number of parties in parliament has been relatively stable since 1993; electoral volatility has declined since the 1997 election, and in the 2011 election...
Table 2.1: Overview of Polish Parliamentary Elections Results, 1991–2011.

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<tbody>
<tr>
<td>Total elected</td>
<td>29</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>New elected</td>
<td>–</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total competing</td>
<td>52</td>
<td>26</td>
<td>25</td>
<td>14</td>
<td>22</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Effective parties</td>
<td>11.3</td>
<td>3.8</td>
<td>2.9</td>
<td>3.6</td>
<td>4.2</td>
<td>2.8</td>
<td>2.9</td>
</tr>
<tr>
<td>Electoral volatility</td>
<td>–</td>
<td>41.6</td>
<td>64.8</td>
<td>54.4</td>
<td>35.3</td>
<td>34.1</td>
<td>12.3</td>
</tr>
<tr>
<td>Turnout (%)</td>
<td>43.2</td>
<td>54.0</td>
<td>47.9</td>
<td>46.3</td>
<td>40.3</td>
<td>53.8</td>
<td>48.9</td>
</tr>
<tr>
<td>Vote share top two parties (%)</td>
<td>24.3</td>
<td>39.9</td>
<td>60.7</td>
<td>53.7</td>
<td>51.1</td>
<td>73.6</td>
<td>69.1</td>
</tr>
</tbody>
</table>

Notes: Electoral volatility comes from Powell and Tucker (2014) and corresponds to their Total Volatility measure. Volatility for 2011 was calculated by the author. Effective number of parties calculated as in Laasko and Taagepera (1979).

was half the level it was during the previous election of 2007; and for the first time in post-communist Poland, the same coalition of PO and PSL won in two consecutive elections. However, one of the clearest signs of a lack of institutionalization in Poland has been the extreme fluidity and lack of stable partisan attachments at the elite level (Shabad and Słomczynski 2004). Table 2.2 shows the overall trend of party switching during the first five parliamentary terms in the Sejm.\(^{19}\) During the period covered in the table, there were almost 1100 instances of intraterm party switching. There have been more than 100 switches during each term, with the lowest number of switches (105) occurring during the 2005 term and the most (481) during the previous 2001 term. On average, more than 21% of MPs have changed their party affiliation at least once during each term, and of the 1603 MPs that have served in the Sejm over the period, 28.5% have switched parties at least once during their time in office. Another

\(^{19}\)The party switching data discussed here come from McMenamin and Gwiazda (2011). In their analysis, they provide an event history analysis of party switching in each term, with the objective of identifying the individual motivations for switching. These data are discussed further below.
Table 2.2: Number of Active Parties, MPs, and the Number of Switches by Term in the Polish Sejm, 1991–2005 Parliamentary Terms.

<table>
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</thead>
<tbody>
<tr>
<td>Parties elected</td>
<td>29</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Parties existing</td>
<td>28</td>
<td>23</td>
<td>14</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>MPs</td>
<td>457</td>
<td>477</td>
<td>480</td>
<td>486</td>
<td>476</td>
</tr>
<tr>
<td>Switches</td>
<td>177</td>
<td>180</td>
<td>142</td>
<td>481</td>
<td>105</td>
</tr>
<tr>
<td>Number switched</td>
<td>128</td>
<td>70</td>
<td>93</td>
<td>176</td>
<td>39</td>
</tr>
<tr>
<td>Pct. switched</td>
<td>27.9</td>
<td>14.7</td>
<td>19.3</td>
<td>36.1</td>
<td>8.2</td>
</tr>
<tr>
<td>Max. MP switches</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: McMenamin and Gwiazda (2011). These data include switches to unregistered status.

characteristic of this switching is that when MPs have changed their party affiliation, it was often to new parties instead of existing parties. Consequently, 74 different parties have served in the Sejm during this period.

Figure 2.1 provides another perspective on MP party switching in the Polish Sejm, reporting the number of changes in party affiliation by day over the first five parliamentary terms. The dashed vertical lines mark the dates of parliamentary elections, while the solid lines delineate the formation of a new government as reported by Conrad and S. N. Golder (2010, table 8, p. 143). Two things are remarkable about the patterns shown in this figure. First, while there have been some significant spikes in switching—which coincided with reconfigurations of major parties—switching is not constrained to such periods of acute volatility; instead, switching has been a continual feature of politics in the Sejm, with the only extended lull occurring in 1999. Second, while the summary of switching included in Table 2.2 seems to indicate that, with 105 total switches and 8.2% of MPs switching during the term, there was a decline in
switching during the 2005 term, Figure 2.1 clearly shows that this decline in apparent switching is an artifact of the term being limited to two years. If the rate of switching is extrapolated out to a full four-year term, we would expect upwards of 200 switches during the term.

Figure 2.1: Number of Changes in Party Affiliation by Day in the Polish Sejm, 1991–2005 Parliamentary Terms.

Here I investigate this question with a descriptive analysis of party switching in the Polish Sejm. Unlike other studies that have looked at party switching from the perspective of the incentives facing individual politicians (Desposato 2006; Heller and Mershon 2005; Laver and Benoit 2003; Mershon and O. Shvetsova 2008), I take a social networks approach, which emphasizes the relational nature of party membership in parliaments.
The data for the following analyses come from McMenamin and Gwiazda (2011), and were collected directly from the records of the Polish parliament. These data are unusually detailed, covering all intra-term party switching by MPs, including the exact day they switched as well as their destination party, during the first five parliamentary terms of the Polish Sejm (Oct. 1991–Oct. 2007). Importantly, and what makes this dataset so interesting, is that it includes switches to and from parties that never competed formally in elections. It was not uncommon during this period for groups of MPs to leave their party and form a new one, only to merge with another party at a later date. Such ephemeral parties would not be included in analyses that only looked at records of switching at the time of elections. However, these short-lived parties should be interesting to scholars interested in the dynamic evolution of social relations in the Sejm. These short-lived parties carry important information about personal allegiances and ideological subfactions present in parliament. Indeed, it is common for party subfactions to express their displeasure with their party by splitting from it. Looking just at the aggregate trends in party switching over the first five parliamentary terms, as was done in Section 2.2, it is easy to be pessimistic about the state of party system institutionalization in Poland. However, such summaries do little to reveal the structure of social relations between MPs in parliament. This is where a network approach begins to demonstrate its value.

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20 Email correspondence with Anna Gwiazda (2013-03-11). In their original study, McMenamin and Gwiazda (2011) analyzed the data by term; consequently, some additional processing was needed before it could be analyzed as a single dataset. This included normalizing the names of all politicians across time periods so that complete histories of switching could be constructed for each MP. Some additional cleanup of the data was also required. All data and detailed notes on the changes made to it are available upon request.

21 MPs are allowed to be unregistered, and it was quite common for MPs to abandon their party and remain unaffiliated for some time, though it was not possible to get elected without a party affiliation. In this analysis, I ignore unregistered members. Thus, if two MPs from different parties leave their respective parties, they are not considered to share a party of unregistered MPs.
Figure 2.2 presents the network of relationships between all Polish MPs and political parties as it is derived from the pattern of MP party switching in the Sejm.\textsuperscript{22} During this period, 1603 MPs served and 74 parties operated in parliament. For interpretive clarity, four of the major parties are highlighted: SLD (red), PSL (green), PiS (blue), and PO (orange). All other parties are plotted as the larger dark-gray nodes and individual MPs are presented as small, light-gray nodes. As these are plotted as 2-mode, affiliation networks, ties represent MP membership in the parties during each of the terms. Thus, when an MP is tied to multiple parties, this indicates that the MP switched parties at least once during that term.\textsuperscript{23}

These network plots provide an interesting perspective on party politics in Poland. The first thing that is readily apparent from the graphs is that SLD, the post-communist successor party, has managed to remain relatively cohesive during this period. This is clear from the party’s relative isolation and lack of connections to other parties in the overall network. In other words, members of SLD have been less likely to switch parties, and the party has not suffered from the number of party splits

\textsuperscript{22} The networks depicted in Figure 2.2 were laid out using the following procedure. First, locations for all nodes in the full network dataset were calculated using the algorithm of Fruchterman and Reingold (1991). This force-directed algorithm identifies positions to minimize edge overlap and distribute the nodes relatively evenly across the plot surface, while also maintaining the structure of the network. Second, the node locations were rotated so that SLD, the post-communist successor party, was to the left of PO and PiS. This conforms to what scholars know about these parties. Finally, to facilitate comparison across time periods, node locations in the full network graph where used to position the nodes in the specific time periods; in other words, MP and party node locations are static across time. It is important to emphasize that the node positions and the magnitude of distances between nodes depicted in the graphs are not meant to be used for inference.

\textsuperscript{23} For the purpose of this analysis, all switches were treated equally; in other words, I did not distinguish between, for example, switches by individual MPs to other existing parties or induced by party splits. Other scholars have emphasized the importance of the different types of switches (Kreuzer and Pettai 2003; Shabad and Slomczynski 2004). Furthermore, multiple switches between parties are not accounted for. For example, if an MP switches from party A to party B and then back to party A, the data as analyzed simply record this as the MP having a membership tie to each of those parties. Future research, however, may be able to take advantage of the sequencing of changes in ties and the direction of the switching.
that many of the parties on the right have experienced. Indeed, the lack of partisan commitments by politicians on the right is readily apparent in the graphs. Members of right-leaning parties in the Sejm have been much more likely to switch parties and the parties themselves have been much more susceptible to splits. This difference between the stability of the left and right is something that has been observed by other scholars (McMenamin and Gwiazda 2011).
Figure 2.2: Networks of Party Switching for each Parliamentary Term: 1991–2005. Large gray nodes indicate parliamentary parties, small gray nodes are individual MPs. Major parties are labeled and indicated by color: SLD (red), PSL (green), PiS (blue), and PO (orange).
Second, the network plots also reveal the growing association of PSL with the right side of the political spectrum. Over the first three parliamentary terms, PSL remained relatively isolated in terms of the party switching network, with the majority of switching that did occur being between SLD and PSL. This was likely a symptom of members of PSL, a successor party, maintaining social and ideological ties to SLD in the years following the collapse of the communist regime. Beginning in the 2001 term, however, the majority of switching PSL has experienced has been with the right. This change likely reflects two things. First, turnover in PSL’s membership has meant the number of personal ties between members of PSL and SLD have declined. Second, PSL has been a party of opportunity, playing the role of pivotal party in parliament. Indeed, PSL has been a member of the governing coalition in 5 of 7 parliamentary terms—7 of 17 governing coalitions—since 1991 (Conrad and S. N. Golder 2010, p. 143, table 8).

Despite the usefulness of these network graphs in providing a general idea about how the party system in Poland has evolved, they are of limited use for determining whether any apparent patterns in party switching are indicative of growing coherence in the party system. For one thing, because of the high levels of party switching in Poland, the networks are simply too cluttered to allow for anything but the broadest patterns to be readily discernable, and even then the plots do not allow for any sort of formal inference to be performed. For another thing, while the overall orientation of the nodes has been specified in a way that makes sense from an ideological standpoint, the distance between pairs of nodes is not meaningful. In fact, for the purpose of presentation, the algorithm that positions the nodes intentionally limits the amount
of node overlap.\textsuperscript{24} Substantively, this would incorrectly suggest that two politicians could never hold the same position in the latent social space, which is an assumption that would be violated if any two MPs had the same pattern of party affiliation (something that is quite common in the Polish data). In the following sections, I develop a model capable of rigorously analyzing dynamic, relational data.

2.3 The Latent Space Model

In this section, I present a discussion of network data and the problems such data pose for standard statistical models. I follow with a review of the latent space model for social networks, which provides the foundation for the dynamic network model I propose in Section 2.4.

2.3.1 Networks: Terminology and Representation

A network is a collection of actors and possible pairwise relations between those actors.\textsuperscript{25} The simplest networks consist of a single type of actor, where ties are binary and non-directional. For example, in a network of international trade agreements, the actors would be states and the ties would represent the existence of a trade agreement between each state in the dyad. Directed ties are also possible. In directed networks, asymmetric relationships are possible. In a network of friendship ties, for instance, one member of a dyad may indicate a friendship with the other person, but this friendship may not be reciprocated. Networks need not be restricted to a single type of actor. More complex networks can include multiple types of actors with valued

\textsuperscript{24}Details of how the nodes were positioned are provided in fn 22.

\textsuperscript{25}Actors in the network are also known as nodes or vertices, while relations are known as ties or edges. The canonical introduction to network methods is Wasserman and Faust (1994), while Kadushin (2012) provides a more current review of a range of substantive applications.
ties between them. In the Polish party switching network analyzed below, there are two types of actors—members of parliament and a party—where ties represent MP membership in the parties. In this case, ties are undirected. Networks with this type of structure are known as affiliation networks.

Mathematically, a network can be represented by a matrix, $Y$, known as an adjacency (or socio-) matrix. Each element of the matrix corresponds to a relationship between two actors in the network. In a simple network with a single type of $N$ actors and binary relations, $Y$ is an $N \times N$ matrix, with each element of the matrix, $y_{ij} \in \{0, 1\}$, indicating the existence of a tie between actors $i$ and $j$. In an undirected network, $Y$ is symmetric; i.e., $y_{ij} = y_{ji} \forall i \neq j$. In a directed network, symmetry need not hold. In these networks, $i$ represents the sender of a relationship, while $j$ is the receiver. Weighted networks are also possible. In this case, $y_{ij}$ can take on any value.

Statistical analysis of network data focuses on explaining patterns of ties between actors, either at the dyadic level or from a broader structural perspective. Such data are often expected to have strong interdependencies. For instance, ties received by an actor are often reciprocated (reciprocity), actors with similar characteristics are more likely to have ties with each other (homophily), and friends of a friend are also more likely to be friends (transitivity). These interdependencies complicate the analyses of network data with standard statistical approaches, as they violate the common assumption in regression modeling that observed outcomes are independent conditional on the model and the included covariates. Consequently, by using logistic regression to model tie formation in binary networks, for example, while ignoring

26Self-ties, or loops, are not typically allowed and diagonal elements of the adjacency matrix are zero by definition; i.e., $y_{ii} = 0 \forall i$. 

37
strong degrees of dependence in the process that generates these ties, scholars risk significant bias in estimates of coefficient and standard errors. Standard models are simply not appropriate for data with high levels of dependence between ties.

### 2.3.2 The Latent Space Model for Network Data

The methodological complications network data pose have encouraged the development of numerous statistical approaches to analyzing such data. Methods range in approach from actor-based, decision-theoretic models, which explain the observed network structure as the result of the cumulative decisions of actors in the network (Snijders, Bunt, and Steglich 2010), to more holistic modeling strategies like the exponential random graph model (ERGM), which aims to estimate the likelihood of observing a network in its entirety given particular structural characteristics (see Cranmer and Desmarais 2011, p. 222).

The latent space approach to modeling network data, first proposed by Hoff, Raftery, and Handcock (2002), takes something of a middle ground between the actor-based and holistic ERGM approaches. This model takes a network and posits that the presence (or strength) of a tie between each pair of actors in the network is a function of their positions in a latent social space. The fundamental assumption of this model is that actors located more closely together in the latent social space are more likely to have ties with each other. For example, in the application to party switching in the Sejm, the latent space could be interpreted as an ideological space, where MPs near each other in that space are more likely to share parties.\(^{27}\) Viewed this way, the

\(^{27}\)In their original study, Hoff, Raftery, and Handcock (2002) analyze the Florentine marriage data of Padgett and Ansell (1993), which records relations between major Florentine families during the 15th century. In that dataset, a tie between families is recorded if there is a marriage between them. In using the latent space approach to modeling network interdependencies, the authors are saying that marriage ties between families are representative of their positions in some latent social space.
latent space model is analogous to many ideal point models more commonly seen in political science (Poole and Rosenthal 1997; Clinton, Jackman, and Rivers 2004). In these models, a vote for a bill is seen to be more likely when it reflects a point close to a legislators' ideal policy position; thus, legislators that often vote the same way are seen to have similar positions on some ideological scale.\textsuperscript{28}

Some mathematical notation should help further clarify things. As discussed above, a network can be defined as a set of pairwise ties between actors in the network. This set of ties defines a response vector, \( y_{ij} \), where each element of the vector indicates whether or not there is a tie between actors \( i \) and \( j \). In the latent space model, this response vector is modeled as a function of the pairwise distances between actors:

\[
y_{ij} = \mathcal{F}\{\beta^T x_{ij} - d(z_i, z_j)\}.
\]

(2.1)

Here, \( z_i \) and \( z_j \) represent the \( k \)-dimensional vector of positions for actors \( i \) and \( j \) in the latent social space, while \( d(z_i, z_j) \) is some distance function specified by the analyst that satisfies the triangle inequality. To ease interpretation, the Euclidean distance is often used; e.g.,

\[
d(z_i, z_j) = \sqrt{\sum_{k=1}^{K} (z_{ik} - z_{jk})^2}.
\]

(2.2)

However, other distance models are possible. For example, Hoff, Raftery, and Handcock (2002) also include a projection model that maps actor locations to coordinates on a unit circle, and Schweinberger and Snijders (2003) extend the approach to use

\textsuperscript{28}In the latent space model, the social space may be somewhat less well defined than in ideal point models, since the location of bills in the ideological space is often also estimated. In the latent space model, we only see the connections between legislators, which can be affected by factors other than ideology.
ultrametric distances and a hierarchical structure. Finally, the model can also include a set of (optional) covariates and associated coefficients, specified here as $\beta^T x_{ij}$.$^29$

In their original formulation, Hoff, Raftery, and Handcock (2002) demonstrated the latent space model on networks with binary ties, both directed and undirected. In that case, a logistic regression model was used. However, the latent space approach is much more general and can readily accommodate networks with more complex tie structures. Krivitsky et al. (2009), for example, demonstrate a count model that assumes a Poisson data generating process, using it to assess shared periodical readerships in Slovenia. Generally speaking, the latent space model can be easily incorporated into the generalized linear modeling framework, though to date there has been relatively little research into how well these models perform in modeling real-world data. Furthermore, several extensions to the model have been developed. For instance, Handcock, Raftery, and Tantrum (2007) extend the latent space model to include actor-level clustering, making it possible to identify groups of similar actors based only on their ties. In more recent work, Krivitsky et al. (2009) specify models to include so-called sociality random effects terms in undirected networks and sender and receiver random effects in directed networks.$^{30}$ Such terms are meant to capture the tendency for some actors to form ties more readily than others (i.e., some are more sociable than others). Finally, Hoff (2005) provides a bilinear mixed-effects model that includes the cross-product of latent sender and receiver positions. The flexibility of the latent space approach set it apart from other network methods, such

$^{29}$In specifying covariates, it has to be remembered that the dependent variable in these models is a tie between two nodes. Consequently, covariates are often defined on the dyad.

$^{30}$Krivitsky et al. (2009) also include clustering in their random effects latent space model.
as ERGMs, which have only recently been extended to value-edged networks and are computationally more demanding (Krivitsky 2012; Desmarais and Cranmer 2012).

Something should be said about the fundamental assumption underlying this model. The latent space model carries with it a strong conditional independence assumption; i.e., ties are assumed to be independent given the node positions in the latent space and any covariates included in the model. In other words, the latent positions (along with the covariates) fully capture the complex dependencies that affect tie formation in the network. However, while stringent, this is no different than the assumptions made in traditional regression models, where assumptions of conditional independence are also made. That said, unlike standard models, little is known about the sensitivity of the latent space model to deviations from the conditional independence assumption or on their performance in small networks.

2.3.3 The Problem with Dynamic Networks

The latent space model was originally formulated for single realizations of a network, which limits its applicability to dynamic networks. As originally conceived, scholars had two options for modeling dynamic networks with the latent space approach: they could pool all observations into a single network or they could analyze each network separately. Neither of these options is particularly satisfactory. As with other types of data, pooling a dynamic network into a single realization means masking potentially interesting processes that drive structural change. Furthermore, when networks are pooled, structures may appear different than they are. Depending on the research question being explored, the inferences we make by pooling a dynamic network may be quite misleading.
Consider the simple network depicted in Figure 2.3. This network consists of four nodes and two periods. In the first period, there is a transitive relationship between nodes B, C, and D. While in the second period the ties between B and D and between C and D have broken down, while at the same time, new ties were formed between A and B and between A and C. If we pool these network realizations into a single network suitable for analysis with the standard latent space model (as depicted in the third network in the figure) the structural change in the network between these two periods is no longer apparent. Instead, the network appears to be nearly fully connected, only lacking a tie between A and D. Depending on the question being asked, inferences drawn from this pooled network may be wrong. For example, suppose the network represented military alliances. In this case, the first and second networks represent very different worlds. In $t = 1$, country A was excluded from alliances with the other countries, suggesting it may play the role outside the system of international security or could even be a common enemy of the other countries during this period. As such, the latent position of A would be located far from the other nodes. In $t = 2$, D is

\[31\text{In this simple network, B and C would also have identical positions in the latent space.}\]
the outlier, while A has now been incorporated into the alliance network of B and C. Obviously, these are very different scenarios, which would be erased in an analysis that pooled the networks together.

The second option available to scholars wanting to apply the latent space model to dynamic networks would be to model each network realization separately. Doing so would make change in network structures more apparent; however, estimating separate models raises its own problems. Consider the network of three nodes and three periods in Figure 2.4. In this network, ties are valued, which we may interpret as being the number of interactions between nodes during each period. In the first period, \( t = 1 \), B and C report three interactions with each other, while both B and C report one interaction each with A. The latent space model would, in this case, place B and C close to each other in the latent social space and far from A. In \( t = 2 \), the number of interactions between A and B increases to two and the number of interactions between B and C decreases to two. For this reason, the latent space model, knowing nothing about the positions of the actors in the previous period, would shift the latent positions so that the distance between A and B and between B and C were equal. Finally, in the last period, \( t = 3 \), the number of interactions between the nodes returns to the values observed in \( t = 1 \); thus, the latent positions estimated for each node by the latent space model will also revert to those of the first model. Taken as individual networks, it makes sense that the position of B would change over time; however, when looked at as a dynamic network, the relatively large changes in the position of B seems less appropriate. First, estimating three separate models ignores the knowledge about previous periods, making the estimate inefficient. For instance, given \( T \) realizations of a network with \( n \) nodes, a \( k \)-dimensional latent space model,
estimated for each realization of the network, would require \( T \times n \times k \) estimated parameters. However, by putting some structure on actors’ movement in the social space over time, it may be possible to greatly limit the number of parameters that need to be estimated. In the example of Figure 2.4, \( 3 \times 3 \times 2 = 18 \) parameters would need to be estimated in three latent space models, while a linear trajectory model (introduced in Section 2.4) requires \( 3 \times 4 = 12 \) parameters.\(^{32}\) Second, estimating three separate models introduces a risk of overfitting or inferring more change in node location in the latent social space what may be the case. Figure 2.4 shows this potential quite clearly. As discussed above, the change in position of B in the second period looks too extreme given the observed ties in the first and third periods. If ties are a stochastic process, the pattern of ties seen in the second period would not be unusual even if the pattern in the first and third periods was the expected one. Finally, estimating separate models could make it difficult to compare latent positions across observed networks. As discussed below, model identification can be an obstacle in these models. Depending on how it is achieved, the latent spaces could be on different, incomparable scales across model estimates. This is would be particularly the case if there was node turnover in the networks, which could greatly affect node positioning.

2.4 The Latent Path Model

Here I introduce a new model suitable for modeling dynamic networks, such as the party switching network analyzed in the next section. The proposed latent path model builds on the latent space model of Hoff, Raftery, and Handcock (2002) outlines in the

\(^{32}\)The relative efficiency of the proposed model increase as the number of times periods increase.
previous section and is closely related to other dynamic latent space models (Sarkar and Moore 2005; Sewell and Chen 2015; Ward, Ahlquist, and Rozenas 2013), though there are important differences that will be discussed below. This model has a few key features. First, instead of assuming that each actor is located at a single point in the latent social space, the model treats the location of each actor as lying on a path in that space. In other words, actor positions are allowed to shift over observed network realizations, and the direction and magnitude of these changes is inferred from the dynamic evolution of ties in the network. Second, by explicitly linking the observed realizations of a network through the estimation of trajectories for each actor in any of the observed networks, the model provides a natural way to accommodate changes in the nodal composition of the network over time. Missing data, either in the form of unaccounted for ties or missing or changing composition of modes,

\[^{33}\text{In their conclusion, Hoff, Raftery, and Handcock (2002) mention the possibility of extending the model to dynamic networks, though they do not provide detailed guidance on doing so.}\]

\[^{34}\text{Greater levels of node turnover will, at a minimum, increase the uncertainty in the estimates of the estimated latent trajectories for all nodes in the network. This is similar to a situation in item response models, where missing responses increase the standard errors around the estimates of latent abilities.}\]
is a significant problem in the statistical study of networks (Robins, Pattison, and Woolcock 2004; Kossinets 2006; Borgatti, Carley, and Krackhardt 2006; Huisman and Steglich 2008). Yet, in social networks, it is common for there to be significant change in the composition of the network. For example, in the application to party switching in the Polish parliament, a great deal of MP turnover in parliament occurs with each term. If change over time is of interest, this makes existing models inappropriate. The ability of the latent path model to accommodate networks that experience some level of turnover in nodes should make it useful for analyzing a broader range of networks.

The formal definition of the latent path model is directly analogous to the latent space model of Hoff, Raftery, and Handcock (2002) described above. The difference is that the response vector in the latent path model includes repeated observations for each dyad for each time period, while the distances between actors in the network are also allowed to change over time as actors’ positions in the latent social space change. Mathematically, this suggests the addition of time subscripts as well as a redefinition of the position vectors from those of Eq. (2.1):

\[ y_{tij} = F\{\beta^T x_{tij} - d(z_{ti}, z_{tj})\}. \] (2.3)

Here, the subscripts \( i \) and \( j \) continue to refer to the two nodes in a dyad in the network, while \( t = 1, 2, \ldots, T \) indicates the observed realizations of the network of interest. The noticeable difference between the model of Eq. (2.3) and the latent space model of Eq. (2.1) lies in the definition of the latent positions, \( z_{ti} \). In the latent path model, \( z_{ti} \) no longer represents a single point in the \( k \)-dimensional social space; rather, it represents a path defining a trajectory of movement for actor \( i \) through
the latent social space over a set of temporally-ordered network realizations. For example, the simplest, non-trivial function would assume that actors in the network change positions in the latent social space following a linear trajectory (i.e., nodes are modeled as moving from point A to point B in T equivalent steps). In this case, $z_{ti}$ can be defined as follows:

$$z_{ti} = g(t, z_0^i, z_s^i) = z_0^i + t z_s^i.$$  \hfill (2.4)

Here, $z_0^i$ is a vector representing the starting positions for actor $i$ in the latent social space and $z_s^i$ is a step vector indicating the direction and magnitude of movement taken by the actors in each period. Of course, more elaborate functions are possible. One can imagine, for instance, a quadratic or otherwise curved path being specified. Alternatively, as a smaller innovation on the linear trajectory, a path function could be specified that allowed an increasing or decreasing degree of movement during each period. Such a model is used in the analysis of party switching presented in Section 2.5.

### 2.4.1 Identification and Estimation

Parameter identification is a significant obstacle one faces when attempting to estimate latent variable models. The lack of identification in these models takes two forms. The first issue lies in the invariance of the likelihood to reflection, rotation, and translation of the latent positions. In other words, while maximizing

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35 It is not necessary for the network to be observed at regular points in time; however, if the period of time between observations does vary, changes to the definition of the trajectory function may need to be made to account for this, depending on how important the gap between realizations is to the substantive interpretation of the problem at hand.

36 The issues of identification described here are analogous to that faced by scholars wanting to estimate ideal-point or other latent variable models (Clinton, Jackman, and Rivers 2004; Bafumi et al. 2005).
the likelihood with respect to distances is possible and relatively straightforward (Hoff, Raftery, and Handcock 2002, p. 1092), maximizing with respect to the locations is not. For example, suppose \( Z \) is a matrix of \( n \) latent locations in a \( k \)-dimensional space. Consider these the true positions of these nodes. There then exists a \( k \times k \) transformation matrix, \( T \), such that \( \hat{Z} = ZT \) and \( L = \mathcal{F}(d(\hat{Z})) = \mathcal{F}(d(Z)) \), where \( d() \) is the distance function and \( L \) is the likelihood given the inputs. Consequently, the model is not identified with respect to node locations: there exist an infinite number of sets of locations in the latent space that map to the same set of distances between nodes.

The second source of non-identification is due to additive aliasing. Suppose \( d = d(z_i, z_j) \ \forall \ i \neq j \), a vector of distances between each pair of nodes in the network, \( b = \beta 1 \) is an intercept term (perhaps representing the overall, default connectivity of the network), and the likelihood can be seen as some function of their difference: \( L = \mathcal{F}(b - d) \). In this case, one can add some value \( \delta \) to both \( b \) and \( d \) and recover the same likelihood:

\[
L = \mathcal{F}(b - d) = \mathcal{F}((b + \delta) - (d + \delta)).
\]

(2.5)

There are two approaches to dealing with the problem of identification with respect to the invariance of distances to latent locations. The first approach is to first define some particular set of latent positions, \( \bar{Z} \), as a reference class,\(^{37}\) and then during each draw from the posterior (in a Bayesian context) use a Procrustes transformation to minimize the difference between the posterior draw and the latent positions.\(^{38}\) This is the method used by Hoff, Raftery, and Handcock (2002), and subsequent studies

\(^{37}\)How these positions may be chosen will be discussed below.

\(^{38}\)See Borg and Groenen (2005, ch. 20) for a description of the Procrustes transform.
have used a similar approach (e.g., Krivitsky et al. 2009; Shortreed, Handcock, and Hoff 2006). The second approach to modeling identification is to fix the locations of a small set of reference nodes in the latent social space (as in ideal point models, \( k+1 \) nodes need to be fixed to assure identification; see Clinton, Jackman, and Rivers 2004). Similarly, in a Bayesian approach, strong priors can be used to constrain the latent locations of some of the nodes to assure convergence to a single mode of the posterior.

Each of these approaches carries with it technical and substantive advantages and disadvantages. In the first approach, the use of a Procrustes transform should greatly decrease the computational burden of estimating the model, since every draw of the latent locations from the posterior is forced, via the transform, to reflect a single mode of the posterior. In contrast, using fixed reference nodes for identification will likely be more computationally demanding, since the model will take some time to converge to the model posterior (i.e., a longer burn-in period will be required compared to the Procrustes transform approach). Finally, by relying on strong priors, the fully Bayesian approach is likely to be even more computationally onerous.

On the other hand, since the Procrustes method of transforming the latent locations used in these analyses relies on a procedure that minimizes the difference between the reference class, \( \bar{Z} \), and the transformed positions, \( ZT \), there is some risk that the draws from the posterior using this method will not reflect the variability in the actual latent locations. This is because the Procrustes transform forces each draw to be as close as possible to the reference configuration. Instead, fixing a set of reference nodes and estimating the other nodes’ latent locations directly, without
such a transform, should result in the posterior marginal variances for the nodes that accurately reflects the information contained in the network.

A second advantage of the fixed-node method is that it allows the analyst to “bake-in” an orientation of the latent space that is consistent with theory. Scholars often know, for instance, that some parties or politicians are to the political “left” or “right” of others; thus, it makes sense to orient estimated positions in the latent social space to reflect this prior knowledge. Fixing particular, influential nodes provides a straightforward substantive interpretation of model results without the need for post-processing.

The problem of additive aliasing can be addressed, in the Bayesian context, by using tight priors on the distances and the intercept term. In a maximum likelihood approach, aliasing is a bit more difficult to deal with; however, it is possible to post-process the positions and intercept after maximization. This is necessary even when you fix the locations of some nodes, since the simultaneous estimation of the intercept and the locations tends to increase the distances between nodes (also observed by Shortreed, Handcock, and Hoff 2006, p. 27). Alternatively, in the case where nodes can be grouped by some characteristic (for instance, by gender in a study of adolescent friendship ties or by time period in a temporal model) a hierarchical approach to specifying the priors could be used to assure identification. If taking a maximum likelihood approach, setting one of the intercept terms could be set to zero (Bafumi et al. 2005, pp. 173–174).

Because of the inherent dependencies in network data, the large number of parameters that need to be estimated, as well as the identification issues, establishing good
starting values for any of the optimization routines can greatly reduce the computational burden of these models. Hoff, Raftery, and Handcock (2002) and subsequent researchers have used a multi-step approach. In the first step, geodesic distances between each pair of nodes are calculated between nodes. Second, latent starting positions in the $k$-dimensional space are generated using classical multidimensional scaling (Gower 1966). Hoff, Raftery, and Handcock (2002) then use these positions as starting values to get point estimates for the latent locations via maximum likelihood. Their subsequent MCMC algorithm then uses the maximum likelihood estimates as the reference positions for their Procrustes transform, which establishes the posterior distribution of the node locations.\footnote{The standard errors derived from maximizing the likelihood should not be used for inference given the non-independence of the data.}

\section*{2.4.2 Comparison to other Models}

Two other latent space models have been proposed for dynamic networks. Ward, Ahlquist, and Rozenas (2013) build on the bilinear mixed effects model of Hoff (2005) to model dynamic international trade networks. That model accounts for the third-order dependencies of network data through the inclusion of the cross-products of sender and receiver positions in the latent space. When a dyad’s sender and receiver positions are oriented in the same direction, this is an indication that the ties between these actors is stronger than one would expect given the rest of the model. Ward, Ahlquist, and Rozenas (2013) extend the model to include lagged bilinear terms. These terms are only included for $t = 2, 3, \ldots, T$, with the bilinear terms for all periods after the first being interpreted as changes in latent positions in the sender.
and receiver spaces. For modeling directional network data, the bilinear model has some advantages, particularly in cases where latent sender and receiver spaces have clear theoretical interpretations. This was the case in the authors’ application to international trade networks. However, for modeling affiliation or other undirected networks, the model is less useful: in these networks, there is no concept of sender and receiver. Furthermore, their model also draws the latent sender and receiver locations from different spaces; thus, if there is an interest in the location of the nodes in the latent space, this makes comparison difficult. Finally, their lag term is on the cross-product, so unit movements are not explicitly modeled.

An earlier approach to modeling dynamic networks was proposed by Sarkar and Moore (2005). One of the biggest differences between this model and the one I propose is that in their model, change in latent position is not modeled explicitly. Instead, nodes are simply allowed to drift in the latent social space. Another difference is how they model ties. Each node in the network is assumed to have a level of sociality. This sociality defines a space within which nodes are to have a decreasing likelihood of a tie with another node within the space. The probability of a tie with a node outside this circle is defined to be small. Finally, the model was constructed for binary ties and it is not clear how easily it can be extended to weighted edges. An advantage of their model, however, is that it can readily accommodate large networks, as they show in their Monte Carlo analysis, which includes networks with up to 11,000 nodes. Building on Sarkar and Moore (2005), Sewell and Chen (2015) have recently

\footnote{Note that it is not possible to drop a period from the model in order to construct the lagged bilinear effect; as a latent trait of the system, there is no way to construct the lag without first estimating the positions.}
introduced a random walk model incorporating an attractions parameter meant to model sociality of individual nodes.

Random walk models are attractive in their simplicity; however, for the purpose of the substantive analysis of politics, they are quite susceptible to overfitting. For instance, in the recent model by Sewell and Chen (2015), each node noticeably shifts during each period depending on whatever ties they have during that period. If a large number of periods are included in the model, then these idiosyncratic shifts in latent position should average out. However, when only a few realizations of the network are available, these models could be influenced to a great degree by noise in the data.

2.5 An Analysis of Party Switching in the Polish Sejm

The latent path model presented in the previous sections provides a novel approach to assessing specific patterns of party switching and their unique effects upon party system institutionalization. Three features of the model make it particularly well suited to the task. First, the latent path model is dynamic. Thus, it is appropriate for evaluating the level of change in the party system over time. Second, the latent path model is explicitly relational. An MP’s decision to switch parties is likely to affect other members’ decision. Perhaps it signals the weakness of party discipline or the non-viability of the original party. Because MPs’ decisions to switch are not independent, standard statistical models that assume independence of observations are not appropriate. Finally, the latent path model is spatial, which fits well with spatial theories of politics (e.g., Downs 1957).
In this section, I apply the latent path model to party switching in the Polish Sejm with the intent of assessing whether there is any connection between switching and ideology in Polish politics. Ideology is an important factor in determining the nature of the party system, providing structure to political competition and placing important constraints on elected elites (Mainwaring and Scully 1995; Mainwaring 1999; Tavits 2005, p. 286). In young, post-communist democracies, the ideological contours of politics are often unclear. Parties and politicians often fail to take clear positions on issues, and focus instead on populist appeals or personal charisma to obtain office (Innes 2002). This is certainly the case with Poland. But ideology remains an important determinant of party systems and, if institutionalization is occurring, we should see greater ideological coherence in parties over time. Here I use the proposed latent path model and the network of party switching in Poland to show that party switching has allowed Polish MPs to sort into more coherent ideological groups. In other words, contrary to conventional wisdom about the destructive consequences of party switching, the evidence presented here suggests switching can play a positive role in the process of party system institutionalization in new democracies.

2.5.1 The Data

The network of party switching introduced in Section 2.2.1 were used in this analysis. Because there was a great deal of attrition of in the network—of the 1603 MPs that served in the Sejm during the five terms analyzed here, 1096 (68%) served only one term, while 308 (19%) served two terms—only those 199 MPs that served three or more terms were used in the analysis. The network was also converted from

\footnote{While the latent path model is able to accommodate attrition from and addition to the networks, estimation of the model with so much volatility in the network would not be feasible.}
Table 2.3: Distribution of Shared Parties by Time Period.

<table>
<thead>
<tr>
<th>Term</th>
<th>0</th>
<th>3</th>
<th>10</th>
<th>1256</th>
<th>5127</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td></td>
<td></td>
<td>10</td>
<td>1256</td>
<td>5127</td>
</tr>
<tr>
<td>1993</td>
<td>1</td>
<td>3</td>
<td>92</td>
<td>5482</td>
<td>11261</td>
</tr>
<tr>
<td>1997</td>
<td>0</td>
<td>1</td>
<td>302</td>
<td>3352</td>
<td>6642</td>
</tr>
<tr>
<td>2001</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>605</td>
<td>1950</td>
</tr>
<tr>
<td>2005</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>605</td>
<td>1950</td>
</tr>
</tbody>
</table>

a bipartite network of party affiliations to a unimodel network recording the number of shared parties between each MP in the network. The distribution of the number of shared parties between the 199 MPs included in the network is shown in Table 2.3.

2.5.2 Model Specification

Before applying the latent path model to the Polish data, several decisions about model specification need to be made. First, the number of dimensions for the latent social space has to be determined. In the absence of prior knowledge about this space, the analyst would need to estimate multiple models with different dimensions and compare them to determine what produces the best fit; for example, by using some out of sample predictive diagnostic. In the case of the Polish Sejm, however, we are able to lean heavily on prior research and knowledge of Polish politics. While there has been some debate in the literature on Polish politics about the salience of particular dimensions at particular times, area specialists are largely in agreement that Polish politics is structured around two primary dimensions of political contestation: a redistributive/pro-market economic dimension and a secularist/confessional
dimension (e.g., see Markowski 2008). Thus, I have chosen to use a two dimensional latent social space.\textsuperscript{42}

Second, the form of the trajectory has to be specified. For this analysis, I have chosen a linear trajectory (see Equation 2.4) for MP movement in the latent social space, with one slight modification. If party politics in the Polish parliament are settling down—party system maturation is occurring—this would suggest that MPs would be shifting their positions in the latent social space more slowly over time. For this reason, I have included in the model a decay parameter on the distance MPs move during each term in parliament. If this decay parameter is estimated to be less than 1, this would suggest that, on average, MPs are moving more slowly over time. On the other hand, if the parameter is greater than 1, this would imply that the Polish party system is increasingly chaotic.

The assumption that MPs follow a linear path through the latent social space potentially a more problematic assumption than assuming a two-dimensional latent social space. It is quite possible, for instance, that political learning by different politicians may be non-linear. That said, the linearity assumption is justified by the limitations of the available data. The Polish party switching data contains just five periods; consequently, it is likely that successfully estimating anything but a linear model would be difficult.\textsuperscript{43} Furthermore, a more complicated specification could be susceptible to overfitting.

\textsuperscript{42}A one-dimensional model was also attempted; however, it never reached convergence (even when run for twice the number of iterations as the 2-dimensional model), which is a strong indication that restricting the model to a single dimension was not reflective of Polish party politics in the Sejm.

\textsuperscript{43}Recall that a separate trajectory is estimated for each MP included in the data. In this case, 196 different trajectories, or 196 × 2 = 392 trajectory parameters, are estimated for the Polish data (the locations of the reference units are treated as fixed). With just five realizations of the network available, a more complicated functional form would ask too much of the data.
As described above, the unimodal network analyzed here records the number of shared parties between each MP. As a discrete, count variable, a Poisson model was used. Given the trajectory discussed above, the model is shown here:

\[ y_{tij} = \text{Pois} \{ \beta_t - d(z_{ti}, z_{tj}) \} \quad \forall \ i \neq j \quad \text{where} \quad z_{ti} = z^0_i + t^\alpha z^*_i. \tag{2.6} \]

In Equation (2.6), \( \alpha \) is the decay parameter meant to capture the maturation of the party system.

### 2.5.3 Parameter Identification

To facilitate model estimation and identification, restrictions on the latent positions and trajectories of three MPs on the scale of the latent space was necessary.\(^44\) From a technical standpoint, restrictions could be placed on any three MPs in the dataset; however, constraining particular MPs makes interpretation of the results more straightforward. For this analysis, I have chosen to restrict the positions of Jacek Piechota, Bronisław Komorowski, and Waldemar Pawlak. Two factors make these good candidates for restriction. First, each of these MPs is, or has been, a leader of important factions in Polish politics. Jacek Piechota of the Democratic Left Alliance (SLD), successor to the communist-era ruling party, has been a long-time left-wing politician, served as Minister of the Economy in two governments, and was a member of the ruling communist party. Bronisław Komorowski, currently serving as the President of Poland, was a prominent member of Civic Platform (PO), currently the majority party in the governing coalition, before he left the party in 2010 when he was elected President. Komorowski was also a member of Solidarity and

\(^{44}\)As discussed in Section 2.4.1, pairwise distances are invariant to reflection, rotation, and translation. Without these restrictions, it would not be possible to statistically identify unique positions for the MPs in the latent social space. A similar restriction is required for identification in ideal point models (see, e.g., Clinton, Jackman, and Rivers 2004; Bafumi et al. 2005).
is a good representative of the political center-right. Finally, Waldemar Pawlak has been a long-time member of the Polish Peasants Party (PSL) and was also a member of United Peoples’ Party (ZSL), the agrarian satellite party during communism. He has twice been Prime Minister and served as Deputy Prime Minister during first PO/PSL coalition (2007–2011). The second, practical factor that makes Piechota, Komorowski, and Pawlak good candidates as reference units is that each of the three served in the Sejm for all five terms analyzed here. Since the locations of all other politicians in the latent social space are positioned relative to these three reference nodes, having them present in each of the time periods reduces the computational burden of estimating the model.

Choosing politicians for whom their ideological leanings are well known lends interpretive structure to the latent social space. In this case, relative latent locations can be chosen for each of these MPs in a way that agrees with prior knowledge about their political leanings. Specifically, as a leader of the ex-communist party, Piechota is known to be left of Komorowski on economic issues, while also being less socially conservative. Between Komorowski and Pawlak, we know that Komorowski was less socially conservative than Pawlak and also somewhat to the right on economic issues. Thus, by positioning these politicians in a way that reflects this knowledge, the estimated latent positions of the other MPs become interpretable on these ideological dimensions. However, instead of assigning Piechota, Komorowski, and Pawlak arbitrary locations that satisfy their relative positions in the social space, which would have guaranteed model identification, their locations in the space were estimated simultaneously with the locations and trajectories of all other MPs, subject to some strong priors and box constraints on their latent locations. These box constraints
Table 2.4: Box Constrains on the Latent Locations for the Reference MPs.

<table>
<thead>
<tr>
<th></th>
<th>Economic</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piechota</td>
<td>[−5, 0]</td>
<td>[−5, 0]</td>
</tr>
<tr>
<td>Komorowski</td>
<td>[0, 5]</td>
<td>[−5, 0]</td>
</tr>
<tr>
<td>Pawlak</td>
<td>[−5, 5]</td>
<td>[0, 5]</td>
</tr>
</tbody>
</table>

are shown in Table 2.4. In addition, a normal prior with mean of zero and standard deviation of 0.25 was placed on their locations. This is a conservative specification, since it means any distance away from the origin would be a strong sign that the network contains information about differences in their political leanings.

Priors for all other parameters estimated are reported in Table 2.5. As shown, all parameters were given relatively tight priors to facilitate identification. However, as with the locations of the reference MPs, this is a conservative specification, since any estimated differences in latent locations would indicate clear differences in ideological positioning. On the other hand, if MPs’ estimated positions are clustered around the origin, this would be an indication that the network carries with it very little information.

2.5.4 Model Estimation

The model was estimated using Hamiltonian Monte Carlo in Stan (Stan Development Team 2013) using the No-U-Turn sampler (Hoffman and Gelman 2013). Four chains were simulated with 400,500 iterations each, saving the last 500 draws from the posterior for each chain. Gelman-Rubin’s (1992) $\hat{R}$ was less than 1.05 for these
Table 2.5: Priors for Intercepts, Decay Parameter, Latent locations, and Trajectories for all other Parameters in the Latent Path Model.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Prior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($\beta_0$)</td>
<td>Normal($\mu = 0, \sigma = 1$)</td>
</tr>
<tr>
<td>Decay† ($\alpha$)</td>
<td>Normal($\mu = 1, \sigma = 1$)</td>
</tr>
<tr>
<td>Positions ($z_0^i$)</td>
<td>Normal($\mu = 0, \sigma = 1$)</td>
</tr>
<tr>
<td>Trajectory ($z^i_s$)</td>
<td>Normal($\mu = 0, \sigma = 0.5$)</td>
</tr>
</tbody>
</table>

† decay parameter was constrained to be positive.

as well. Summary of model convergence is available in Appendix A.2. Stan code for the model is located in Appendix A.3.\textsuperscript{45}

2.5.5 Results

The locationsof the reference MPs—Piechota, Komorowski, and Pawlak—is key to the interpretation of the model results. Figure 2.5 shows a random draw of 250 points from the posterior distribution of estimated final locations for these MPs. The large, solid points represent the posterior means. As expected, the model positions Piechota, Komorowski, and Pawlak in the lower-left, upper-left, and lower-right quadrants, respectively. This is, of course, a result of the relative constraints placed on their positions in the model. What is noteworthy, however, is the distances of the posterior means from the origin. Recall that the model does permit (and even encourages given the tight normal prior on their positions) the positions of these reference units to

\textsuperscript{45}Convergence was not perfect. Of the 797 parameters estimated (includes the log-probability), 93 (11.6%) $\hat{R}$ values were over 1.05 (the usual threshold accepted as indicating convergence); however, only 5 parameters had an $\hat{R}$ above 1.10. It is not expected that this lack of apparent convergence should change the results presented below as it appears that three of the four chains had converged, but that the fourth was more problematic. A greater number of iterations should solve this.
collapse to the origin, which would happen if the party switching network contained no information about the ideological locations of these actors. Instead, structural patterns in the switching network clearly indicate ideological differentiation.

Figure 2.5: Estimated latent positions for reference MPs, Piechota (red), Komorowski (orange), and Pawlak (green). Open points are 250 random draws from the posterior positions for each MP. Means for the full marginal posteriors are shown as dark, closed points.

It was argued above that if the Polish party system is settling into a more stable equilibrium, the movement of MPs in the latent social space will slow over time.
Figure 2.6 reports the posterior distribution of the estimated decay parameter and provides evidence for this hypothesis. As shown, the posterior mean for the decay parameter is approximately 0.9. A value less than 1.0 indicates that, on average, MPs’ movements through the latent space are, in fact, slowing.\footnote{While the slowing is not dramatic—movement between the 4th and 5th periods had decreased to just under 80% of what it was between the first and second periods—it should be remembered that this is an average rate for all MPs in the dataset.}

Finally, the full results from the estimated latent path model are presented graphically in Figure 2.7. This figure plots the estimated positions in the latent social space for each active MP in the Polish Sejm over the five parliamentary terms included in...
the study, with each point in the plot representing one of the 199 MPs included in the estimation. Since the estimated positions of the MPs in the latent social space can overlap when they have identical or similar ties, MP locations have been plotted with some transparency, so that the darker the area the larger the number of MPs located at that location. To aid interpretation, labels are also included for several groups (parties) of interest.

Several things are apparent from these results. First, despite the expected organizational strength of Solidarity and the Catholic Church at the beginning of the democratic transition, the political right appears to have been in disarray during much of this period. This is apparent in the scattered latent positions estimated from the data, which is particularly noticeable in the first and fourth terms. Also clear is the split between PiS and PO in 2001.

The second thing to notice is that SLD has remained fairly stable and cohesive during this period. Very few of its members have switched to or from the party, which is apparent from the lack of MPs being placed by the latent path model into positions between the SLD MPs and other groups. Even while in turmoil during the 2001 term, members did not seek out parties outside the leftist, social democratic family of parties.

Recall that the relative disorder on the right, the stability of SLD, and the growing association of PSL with the right was also reflected in the standard network plots of Figure 2.2. Along with qualitative knowledge of the Polish party system, this helps lend credibility to the latent path model. However, the network plots also obscured the degree to which the Polish parliament has come to be dominated by four relatively homogeneous factions. While switching clearly continues, particularly on the right,
this switching has come to take place almost exclusively between more homogeneous groups over time. This is evident in the fact that very few MPs are positioned significantly far from groups of other MPs. In fact, by the 2005 parliamentary term, only a couple MPs are located in positions that could be considered between groups. Overall, these results lend support to the hypothesis that party switching, even at the levels seen in Poland, are not necessarily a long-term liability to the process of party system institutionalization and democratic consolidation. Instead, in Poland it appears that patterns of party switching reflects a process of political learning and the emergence of a more ideologically coherent party system.
Figure 2.7: Estimated Latent Locations as Produced by the Latent Path Model.
While the estimated locations for Polish MPs presented above support the hypothesis that the Polish party system is on a path towards institutionalization, there may be some concern that the ideological labels do not conform to those actually salient in Polish politics. To validate these locations as representing ideology, Figure 2.8 presents a comparison of latent locations to those provided by the Chapel Hill expert survey for SLD, PiS, and PO (Hooghe et al. 2010).\footnote{Social ideological location refers to “galton” measure; economic ideological location refers to the “lrecon” measure. To put the numbers on the appropriate scale from $[-5,5]$, 5 was subtracted from the measures of ideology and then shifting their centroid to equal that of the reference MPs. No other transformations or rescaling was performed.} Clearly, the ideological locations provided by the Chapel Hill survey conform closely to those generated by the latent path model. In other words, it is reasonable to conclude that the structure of party switching in the Polish Sejm is related to the ideological orientation of MPs and that the latent path model is able to recover these orientations independent of any other exogenous information, such as party manifestos or voting records.

### 2.6 Conclusion

This chapter has made two contributions, one methodological and one substantive. In terms of the methodological contribution, I have presented a new network model for dynamic, relational data that will be more attractive to those political scientists hoping to account for the dependencies inherent to relational data, while remaining in the more familiar the realm of GLMs. Based on the latent space approach to modeling network interdependencies (Hoff, Raftery, and Handcock 2002), this model, which I call the latent path model, supports binary or valued ties as well as directed or undirected ties. Furthermore, unlike alternative methods recently developed in the
Figure 2.8: Comparing Estimated Latent Locations of MPs to Measures of Ideology as Provided by the Chapel Hill Expert Survey (2002, 2006).

![Diagram showing the comparison of estimated latent locations of MPs to measures of ideology over time.]

The chapter also contributes to the substantive literature on party system institutionalization in new democracies, particularly with respect to the problem of party switching. Most extant literature argues that rampant party switching is detrimental to the development of a healthy democracy. However, an application of the latent path analysis to the party switching network in Poland shows that such switching is not necessarily a problem. Instead, contrary to conventional wisdom, party switching in Poland has allowed politicians to sort into more homogeneous groups. For scholars of Polish party politics, this lends support to the idea that the party system in the country is finally starting to show signs of settling down (Markowski 2008). For
parties scholars more generally, the results suggest we look more closely at the role of party switching in the development of stable party politics.
Chapter 3: Valuing Left and Right: Party Competition and Political Ideology in East-Central Europe

3.1 Introduction

The terms left and right are ubiquitous in politics. Since defenders of the ancien régime sat on the right side of the French National Assembly of 1789, while supporters of the revolution sat on the left, these terms have structured discussions of political ideals in both popular discourse and scholarly study. Subsequent history and political development have produced widely accepted definitions for left and right in most advanced industrial democracies: the left advocates for political change in support of a more egalitarian society, while the right favors the status quo and grants a role for certain inequalities in society.

How well do the constructs of left and right travel to polities outside of the Western political experience? Gaining an understanding of how people in different societies talk and think about politics is critical to developing broader theories of vote choice.
public opinion, and political competition, both in the well-studied democracies of Western Europe as well as in newer democracies. Furthermore, as a practical matter, left-right placement is a widely used indicator of ideological position in comparative politics;\(^{49}\) thus, understanding how people use this concept in their political decision making has a direct bearing on how scholars approach many questions in comparative politics.

This chapter examines the origins of the meaning of left and right with an analysis of public opinion in the young democracies of post-communist East-Central Europe (ECE). To date, there is conflicting evidence as to what anchors left and right in this region. Some have found that left and right are rooted in similar underlying psychological motivations regarding the regulation of uncertainty and tolerance of inequality in both the advanced industrial democracies of the West and the post-communist countries of Central and Eastern Europe (Jost, Glaser, et al. 2003). Conversely, more recent studies support this finding regarding Western democracies, but show no such consistency in post-communist Europe (Aspelund, Lindeman, and Verkasalo 2013; Piurko, Schwartz, and Davidov 2011). Moreover, these later studies discern no cogent pattern of meaning in self-reported left and right placement in ECE. What should we make of these conflicting empirical results? Is it truly the case that left and right mean nothing to voters in the region?

We argue that in ECE left and right function as heuristic labels identifying groups of political competitors. In an analysis incorporating measures of four fundamental psychological motivations, we show that as ideological labels, left and right meaningfully reflect the political divisions of individual countries. In other words, in contrast

\(^{49}\)See, for example, Huber (1989), Knutsen (1995, 1997), Kitschelt and Hellemans (1990), and Evans and Whitefield (1998).
to recent work, we show that the meaning of left and right is neither consistent with
the West, nor is it meaningless or random. Left and right are flexible terms, acquiring
meaning through the interaction of individuals’ underlying psychological motivations
and the specific actions and discourse of political elites in each country. In this way,
we build off of work highlighting the “partisan” aspect of political ideology (e.g., In-
glehart and Klingemann 1976; Medina 2013; Zechmeister 2006), but draw on multiple
data sources to document the process through which partisan competition imbues the
labels left and right with values meaning among the electorate.

3.2 Foundations of Political Ideology and the Concepts of
Left and Right

Political ideology plays a key role in democratic politics by helping to organize the
complex political world in a way that engenders communication and accountability
between citizens and political elites. The concept of ideology is, however, so flexible
as to be difficult to grasp. The term has been used to mean everything from the
comprehensive worldviews of Marx and Engels, to Burke’s general duality between
continuity and change, to specific individuals’ explanations for the social world around
them.

When it comes to both popular discourse and scientific study, however, political
ideology is almost always collapsed into a single dimension: the left-right spectrum.
This is an oversimplification of political positions, but it is useful to politicians and
other elites in that by referring to positions on a single left-right dimension, they can
make politics more understandable to voters. In this way, this left-right “semantic
space” helps to organize and simplify diverse political attitudes and evaluations (Fuchs
and Klingemann 1989, p. 229). Consequently, this spectrum is the predominant
space for party competition (Downs 1957) and structures the way people perceive the political world (Lodge and Taber 2013).

The social and political psychology literature on ideology has a long tradition of probing the meanings of left and right. Indeed, the notions of the right being more resistant to change (Huntington 1957), less comfortable with ambiguity or uncertainty (Tetlock 1983), and more authoritarian (Adorno 1950; Altemeyer 1998) have long histories. The past decade has been a particularly fruitful period of investigation into the psychological roots of left-right political ideology. Scholars focusing on the advanced industrial democracies have documented stark differences between those on the left and those on the right in terms of deeply held notions of morality (Graham, Haidt, and Nosek 2009), strategies for dealing with new stimuli (Janoff-Bulman, Sheikh, and Baldacci 2008; Shook and Fazio 2009), and basic elements of personality (Caprara et al. 2006; Carney et al. 2008). There is even growing evidence for a genetic component underlying liberal-conservative political ideology in the United States (Alford, Funk, and Hibbing 2005; Hatemi, Eaves, and McDermott 2012). Overall, research shows that the constructs of left and right (or liberal and conservative in the US) are widely-used, deeply ingrained, and commonly understood in Western democracies (Fuchs and Klingemann 1989; Huber 1989; Jost 2006).

This notion that ideological orientations are rooted in basic human psychology has empirical support. In the most comprehensive contemporary psychological model of left and right, Jost, Glaser, et al. (2003) argue that left and right political ideology is consistently anchored in the same set of psychological motives cross-nationally. They argue that political ideology is rooted in basic orientations towards acceptance (or resistance) to change as well as acceptance (or rejection) of inequality. Thus,
conservatism is “motivated social cognition” driven by deference to and respect for the status quo and a series of moral arguments that justify inequality and make it tolerable (Jost, Glaser, et al. 2003). Jost et al. argue that political ideology provides a valuable service to individuals by fulfilling basic psychological needs. These needs include individuals’ relational motives to have meaningful connections to others and to locate oneself in society, epistemic motives to deal with uncertainty and explain the social world, and existential motives to provide security and predictability. They go further in positing an electoral affinity between citizens and the ideology to which people are psychologically predisposed, arguing that “people can be said to choose ideas, but there is an important and reciprocal sense in which ideas choose people” (Jost, Federico, and Napier 2009, p. 308).

3.3 Political Ideology and Left-Right in Post-Communist Europe

While the empirical research on older democracies shows that political conservatism is rooted in resistance to change and acceptance of inequality across cases, the evidence for a direct link existing in the newer democracies of East-Central Europe is mixed. In their cross-national meta analysis, Jost, Glaser, et al. (2003) argue that, given the inclusion of Poland in the analysis, the these conclusions hold for the post-communist world. A more recent analysis by Thorisdottir et al. (2007) largely supports these findings, showing that resistance to change is predictive of right-wing orientation in ECE. Interestingly, however, Thorisdottir et al. (2007) found no relationship between identifying with the left and attitudes towards inequality in ECE. Another study by Kossowska and Van Hiel (1999) focusing on Poland specifically finds resistance to change to be positively associated with conservatism, as would be
expected by the Jost paradigm. This also comports with long-established arguments in political science that connect right wing orientation to favoritism for the status quo (see Huntington 1957).

Notwithstanding this evidence, there are several compelling reasons to believe that notions of left-right political ideology may be different in ECE. The communist era was a crushing experience for the societies it occupied, with homogenizing pressures so strong commentators wondered whether real societal divides existed to be represented in politics (Linz and Stepan 2011). While this *tabula rasa* hypothesis was largely unfounded (Kitschelt, Mansfeldova, et al. 1999; Shabad and Slomczynski 1999), the fact remains that the communist legacy left anemic civil societies (Howard 2003) and flattened class divisions. Indeed, there are a number of challenges to developing distinct and consistent left-right ideological positions in ECE. The simultaneous political, economic, and social transitions created a situation unseen (and thus unstudied) in the cases of the long-established advanced industrial democracies (Haggard and Kaufman 2008; Przeworski 1991). The system of state socialism also left cleavages on economic dimensions muted, such that experts predicted little party competition or ideological differentiation on the economic cleavages that so affected political competition in Western Europe (Zielinski 2002).

In addition to the potential weakness of certain traditional ideological divides in the region, voters in ECE are exposed to cross-pressures when it comes to ideology in at least two ways. First, whereas ideology is inherently bound up with the nature of the status quo (Huntington 1957; Jost 2006), the status quo was very different in the wake of communism than in the West. Instead of an aristocracy of the right and associated inequality being an element of the status quo, state socialism and
relative equality was the norm following the transition. Indeed, political change and reform were to become associated with significant increases in inequality. While right wing orientation is associated with a distrust of change and a tolerance for inequality, voters who are skeptical of change may well tend towards the political left in ECE, while maintaining an intolerance for inequality demonstrated by leftists in the West. Indeed, Greenberg and Jonas (2003) argue that it is the political right—typically seen as traditional and wary of change cross-nationally—that advocates for change when the status quo is of the left. Similarly, McFarland, Ageyev, and Abalakina-Paap (1992) show that in the initial years of transition in post-communist Russia, resistance to change was a correlate of the left side of the political spectrum, not the right.

A second, related, source of ideological cross-pressure is the disjuncture between stated party ideological positions and their actions, both in terms of rhetoric and policy outputs. Economic conditions in the young democracies of ECE involved highly competing pressures: on the one hand enormous unemployment and the crumbling remnants of the bloated communist state economies required intense austerity, while on the other hand this very austerity created majorities of newly empowered voters feeling the brunt of these economic changes (Cook 2007).

Parties in ECE often dealt with these competing pressures in surprising ways given their stated ideological positions. Carey and Reynolds (2007) argue that parties have been extremely vague in terms of programmatic platforms, and Lipsmeyer (2002) finds no relation between stated ECE government ideology and overall spending, and a positive relationship between pension spending and rightist governments. Additionally, left-right ideology is not an adequate predictor of how coalition governments are
formed in ECE (Savage 2012). Tavits and Letki (2009) show that the actual policy outputs of governments on the right and left are not in line with their stated ideological positions. They present evidence that governments ostensibly on the left have been more likely to promulgate the austere economic policies typically associated with the right, while parties of the right towed a populist line and produced policies that are more protectionist.

Even measuring party platforms in terms of left and right is a fraught process in post-communist Europe. The widely-used RILE measure of left-right party ideology from the Comparative Manifestos Project, which holds up in a meaningful way when applied to Western European democracies, runs into difficulty when applied to those European democracies that experienced communism (Mölder 2013). Such cross-pressures are felt by voters, with strong implications for the way they use (or fail to use) labels pertaining to political ideology. Indeed, even in the United States, where party competition is highly institutionalized, people are likely to resist placing themselves on the left-right (liberal-conservative) political spectrum due to competing ideological pressures (Treier and Hillygus 2009).

Recent research on the relationship between psychological orientations and left-right orientations supports the idea that ECE is different with respect to the relationship between left and right and underlying values. Piurko, Schwartz, and Davidov (2011) search for common predictors of left and right in the value structure of voters in twenty countries. While they find discernible trends in the advanced industrial democracies of the West, they find that values do not structure left-right political ideology in post-communist Europe. Similarly, Aspelund, Lindeman, and Verkasalo (2013) conduct a comparison of left and right political ideology in Western and Eastern Europe,
explicitly rooting their analysis in Jost and colleagues' theory. In examining whether political conservatism is rooted in orientations towards change and inequality, they find a strong cross-national relationship in Western Europe but a seemingly random relationship in post-communist Europe. They show that the relationships between resistance to change and acceptance of inequality and right wing orientation varies widely across both cases and over time in ECE. Both of these studies, therefore, find little rhyme or reason to the meaning of left and right in ECE.

3.4 A Heuristic Explanation for Left-Right Orientations in ECE

If left and right are not predicted by identical underlying psychological motives across cases in ECE, does this indicate that they are simply not anchored in the psychological dispositions of voters? We argue that left and right serve as heuristics for groups of political competitors in ECE. Thus, cross-national heterogeneity in the psychological attributes of individuals that identify with the left and the right causes the differences observed in the correlates of ideological self-placement in the region. In other words, left and right are meaningful in the eyes of citizens and elites, but their specific meanings are determined by factors specific to political messages and events within each country.

A heuristic is a mental shortcut that enables a person to make quick judgments and decisions without expending time or mental resources. Though imperfect and frequently the cause of significant misjudgments, these simplifications are critical to human cognition and behavior across numerous realms, and politics is no different. Indeed, Sniderman, Brody, and Tetlock (1993) see political ideology as one of the most important political heuristics. This function of ideology is a basic tenet of spatial
models so prevalent in theories of political behavior dating back to the seminal work of Downs (1957).

If left and right are labels that come to serve as heuristics for understanding the contours of political competition in a specific country, the actions of that country’s political elites are key to understanding how these ideological labels obtain their meaning. This is backed up by a great amount of scholarship, even within the tradition of examining left and right in the established Western democracies. Indeed, Jost and colleagues argue that “the main factor governing mass acquisition of ideological content seems to be attention to and comprehension of information flowing from political elites” (Jost, Federico, and Napier 2009, p. 317). Ideology has long been seen as deeply rooted in partisanship, with Inglehart and Klingemann (1976) arguing that one of the central meanings of left and right in older established democracies is a reflection of partisan loyalties. Medina (2013) supports this theory with recent data including cases from both Eastern and Western Europe, and adds that the degree of polarization in a polity helps account for the strength of the partisan element to ideological self-placement. Relatedly, Zechmeister (2006) shows that “elite packaging,” valence issues, and policy positions affect the meanings of left and right in Mexico and Argentina.

At the outset of multiparty competition, the actions of political parties and elites are the main source of information for voters about the meaning of left and right. Prior

\footnote{While both extant social cleavages and party competition will surely interact in a mutually reinforcing manner, a top-down process of elite actions affecting mass perceptions of the meaning of left and right seems more likely. Parties in the region did not bubble up from below out of civil society, but instead emerged instantly as cartel parties, promulgating platforms and appeals with an eye of attracting constituents and not representing natural groups of constituents (Mair 1996). As Tavits (2008) demonstrates, the formations of the party systems in the region seem much more tied to elite actions than anything among the masses.}
to multiparty competition, voters have a limited idea about how to place candidates, parties, and even themselves on an ideological spectrum that is consistent with their new political context. Voters will, however, have a strong incentive to define this new ideological space. Judgments are more easily made with regard to social groups than on, for instance, policy proposals. Furthermore, ideologies may more easily attach to groups of people—such as competing political factions—than to specific political issues or bundles of abstract ideas. While specific policies often fail to provide ideological constraint even in a political system as established and stable as the US (Converse 2006 [1964]), social groups are an integral aspect of political orientation (A. Campbell et al. 1960). Indeed, citizens often personalize concepts as abstract as the state in trying to understand the political world (McGraw and Dolan 2007).

These factors make the possibility that left-right ideological labels serve as heuristics for locating political competitors a likely scenario. Parties in ECE emerged as cartels of elites competing for votes and placed themselves on the left-right spectrum with the goal of attracting votes (Innes 2002; Mair 1996). As they worked to maximize their votes and represent certain constituents, their appeals, actions, and policies affected the notion of what left and right mean in the eyes of voters. This does not preclude similar psychological motives underpinning left-right political ideology in the region. On the contrary, it seems likely that the same elective affinity outlined by Jost, Federico, and Napier (2009) would take place. The motives may be largely the same, but their expression into the political realm, and their labeling as left and right, may be a function largely of dynamics unique to each state and its political actors.
This *Heuristic hypothesis*—that the psychological predictors of left and right are heterogeneous across ECE, with their meanings being determined mainly by the actions and appeals of elites and parties that adopt the left-right labels—helps bridge the gap between work on both sides of the debate over what left and right have come to mean in post-communist Europe. It suggests that the answer is neither complete adherence to the patterns observed in the advanced industrial democracies of the West, nor the apparent randomness more recent studies uncover. Instead, the left and right ideological labels are meaningful representations connecting psychological motives to political divides in ECE; however, the specific manifestations of these representations are contingent on the dynamics of political competition within each case. We turn to testing this hypothesis in Section 3.6; however, first we show that the meaning of left and right are, in fact, different in ECE.

3.5 The Psychological Correlates of Left and Right

Given the conflicting evidence in the literature, and to lay the foundations for our argument that left and right serve as heuristics for individuals’ understanding of political competition, we begin our analysis with an investigation into the relationship between voters’ psychological orientations and their left-right self-placement across Eastern and Western Europe.

3.5.1 Data, Measurement, and Model Specification

To operationalize psychological motivations, we use underlying human values as put forth by Schwartz 1992; 2001. We follow the example of Piurko, Schwartz, and Davidov (2011) and Aspelund, Lindeman, and Verkasalo (2013) by drawing upon the
Schwartz Portrait Value Questionnaire (PVQ)\textsuperscript{51} embedded in each round of the European Social Survey (ESS) to analyze the extent to which underlying values relate to left-right self-placement. In their analysis, Piurko, Schwartz, and Davidov (2011) used structural equation modeling to identify 10 different value dimensions in the first round of the ESS. Aspelund, Lindeman, and Verkasalo (2013) use estimates derived from a separate study (Verkasalo et al. 2009) to uniformly project PVQ responses from the third (2006) and fourth (2008) rounds of the ESS onto a 2-dimensional values space. In contrast, our analysis employs individual Item Response Theory (IRT) models and the PVQ to operationalize four principal values dimensions—\\textit{Conservation, Openness, Self-transcendence, and Self-enhancement}—for respondents in 23 countries (15 Western European, 8 Eastern European) over all six rounds of the ESS.

For our purposes, item response models provide key advantages over traditional data-reduction tools such as factor analysis. IRT models estimate factor scores directly instead of depending upon factor rotations and other assumptions (Treier and Jackman 2002, 2008), while also being able to accurately model the ordinal responses in our data. Most importantly, though, is ability for IRT models to accommodate missing responses, which are common in the PVQ.\textsuperscript{52} We use IRT to extract four dimensions because our analyses reveal this to be the best fit to the data. The

\textsuperscript{51} The 21 item PVQ battery in the ESS measures the 10 basic human values proposed by Schwartz (1992). This scale and the underlying value model it measures have been validated in hundreds of samples in over 60 countries (Schwartz 1992; Schwartz, Melech, et al. 2001). Moreover, elements of this values schema have also been widely used in studies of left-right ideology in the West, with the values categories of conservation and self-enhancement being highly predictive of both right-wing political preferences (Barnea and Schwartz 1998; Cohrs et al. 2007) and other various psychological measures associated with political ideology, such as right-wing authoritarianism and social dominance orientation (McKee and Feather 2008).

\textsuperscript{52} Between approximately 10,000 (4\%) and 12,000 (5\%) of each PVQ question went unanswered. Listwise deletion would have resulted in removing more than 26,000 (10\%) of respondents from the sample. More details of the IRT models and the results are provided in Appendix B.3.
2-dimensional model, as used by Aspelund, Lindeman, and Verkasalo (2013), is potentially problematic for the ECE data because the questions that load consistently with particular dimensions in Western Europe do not consistently load with those dimensions in the post-communist world. The ten-dimensional analysis that Piurko, Schwartz, and Davidov (2011) use, on the other hand, relies on only two questions for determining individual’s location on each dimension (three questions for Universalism). Given non-responses and measurement error, this asks a great deal of the data. We extract four dimensions that correspond readily to Jost et al.’s (2003) theory of the psychological determinants of conservatism. Openness and Conservation correspond to acceptance and avoidance of social change, while Self-enhancement and Self-transcendence relate to the acceptance or rejection of a role for inequality in society.

In order to understand the psychological correlates of left and right across Eastern and Western Europe, we use the four value measures estimated from the IRT models to predict participants’ left-right self-placement. We estimate a linear model for each country, where left-right self-placement is regressed on the four latent dimensions as well an indicator for the ESS round. The theoretical and empirical

53 This finding is consistent with Piurko, Schwartz, and Davidov (2011).

54 Schwartz and Boehnke (2004, p. 251) show that using these four “higher-order” scales is often a desirable and valid alternative to the full ten dimension “circumplex” of values Schwartz proposes. This is particularly true in cases where statistical power is an issue, as it is here because the PVQ in the ESS contains only half of the full Schwartz value battery.

55 How each question in the PVQ maps to these four dimensions is provided in Table B.1 of the Appendix. Questions in the PVQ were recorded on a scale from 1 to 6, with 1 being the highest level of agreement with the statement. For the purpose of our analyses, this order was reversed.

56 Left-right self-placement was recorded on a scale from 0 to 10. While a strictly ordinal, rather than interval, scale, there were enough categories (11) that moving to an ordered logit would not provide any advantage and would needlessly complicate the interpretation of the models. That said, a set of ordered logit models were estimated and the results were in line with the OLS estimated presented here.
research discussed previously suggests that we should expect *Conservation* and *Self-enhancement* to be positively associated with right-leaning responses, while the *Openness* and *Self-transcendence* dimensions should be negatively associated with right-leaning responses, standing in for tolerance of change and intolerance of inequality, respectively.

### 3.5.2 Results

Figure 3.1 presents the results of these models for each of the 23 Eastern and Western European countries in the study. In the figure, the vertical axis represents the estimated coefficient value and the horizontal axis indicates the country. Point estimates for each value dimension and 95% confidence intervals are provided. As higher values of the measure for left-right self-placement indicate positions farther to the right, positive coefficients indicate a value dimension that predicts identifying on the right in a given case. Negative coefficients indicate that the value dimension is correlated with left leaning ideological placement. Western European countries are positioned on the left side of each panel, while the shaded region on the right of each panel highlights the estimates for post-communist Europe.

The results comport the findings from the studies by Piurko, Schwartz, and Davdov (2011) and Aspelund, Lindeman, and Verkasalo (2013). That is, the expected psychological motivations predict identification on the left-right ideological scale in the older democracies of Western Europe, but not in post-communist countries. With the exception of Cyprus (a relatively young democracy compared to other Western European countries), the patterns that emerge are those predicted by Jost’s model of political ideology. *Conservation* and *Self-transcendence* conform to the model
most closely, with the former powerfully predicting right-leaning orientation and the latter correlating with self-placement on the left side of the political spectrum. *Self-enhancement* also conforms to the expectations, typically predicting self-placement on the right in the models for Western Europe. In the case of *Openness*, no clear-cut pattern emerges in the Western European data, but the coefficient values are small and the overall picture in Western Europe remains largely consistent with the expectations of existing psychological theories of political ideology.\(^{57}\)

\(^{57}\)The standard deviation for each of the latent values estimates was approximately 0.9. Consequently, a coefficient value of 0.5 for a value indicates an increase in self-placement of just under 0.5 for each standard deviation increase in the latent value.
Figure 3.1: The Relationship Between Left-Right Self-Placement and Estimated Values Orientations in Europe, ESS 2002–2012. The figure presents OLS point estimates and 95% confidence intervals for a regression of left-right self-placement on estimates of respondent psychological orientations in Europe. Respondent psychological orientations were estimated from graded IRT models using the Schwartz PVQ embedded in the ESS.
In contrast, there is no consistent relationship between underlying value dimensions and left-right self-placement in the new democracies of ECE. What is more, where the relation between values and an ideological label are strongest (notably in the Czech Republic and Slovakia), the relationships run in the opposite direction to what we would expect given the work on ideology in the West. For instance, whereas *Conservation* should predict self-placement on the right, in the Czech and Slovak cases it is a strong predictor of self-placement on the left. The opposite is true of *Openness* in these two cases; greater adherence to this value should be an attribute of the left, but in the Czech and Slovak Republics it is in fact an attribute of those that place themselves on the right. Our analysis does not lend credence to Jost et al.’s (2003) argument that the same psychological motivations anchor left and right in ECE as in the advanced industrial democracies of Western Europe. This begs the question, what, if anything, do left and right mean in the eyes of voters in post-communist democracies? This is a question we seek to address in the next section with a test of our *heuristic hypothesis*.

### 3.6 Testing the Heuristic Hypothesis

To reiterate, our *heuristic hypothesis* posits that left and right obtain their meaning from the actions and messages of political parties associated with the left and right. Thus, left and right do express psychological motivations in ECE as in Western Europe (Jost, Glaser, et al. 2003), but their specific meanings depend upon idiosyncratic patterns of political competition within each country, helping to explain the lack of a pattern that Aspelund, Lindeman, and Verkasalo (2013) and Piurko, Schwartz, and Davidov (2011) observe. This hypothesis predicts that left and right are useful labels
for communication between voters and elites within each case, but does not neces-
sarily entail cross-national consistency in terms of how left and right correlate with
psychological motivations. In other words, the labels left and right indicate political
parties facing off against one another; however, the specific values that each label
is associated with are a function of how they appealed to underlying psychological
needs.

To test this hypothesis we model the level of agreement between parties and
individuals on the left-right spectrum as a function of their level of agreement on the
values (Conservation, Openness, Self-enhancement, and Self-transcendence) discussed
in previous sections. When agreement is high between an individual and a particular
party on their values, the heuristic hypothesis suggests that the self-placement of
the individual on the left-right spectrum would likewise be in agreement with the
positioning of the party. Conversely, when agreement on values is low, the individual’s
left-right placement is unlikely to be consistent with the positioning of parties. For
example, we would typically expect a party perceived as right-leaning to promote
Conservation values. In this case, respondents that also score highly on Conservation
should be more likely to place themselves on the right side of the left-right scale. In
other words, high agreement on a value is hypothesized to predict high agreement
on left-right placement. However, we stress that the heuristic hypothesis does not
imply a fixed relationship between values and left-right. If a party perceived as left-
leaning promotes Conservation values, voters scoring high on that value should place
themselves on the political left.
3.6.1 Data, Measurement, and Model Specification

To test the heuristic hypothesis we focus on the Visegrad Four: Hungary, Poland, and the Czech and Slovak Republics. These cases are ideal for our purposes because they share many attributes. They are all strong democracies that started the transition from state socialism with robust anti-communist opposition movements, and all four cases joined the European Union in 2004. However, as our results from Section 3.5 show, they also provide ample variation in terms of which side of the ideological spectrum the values we measure predict. These similar and frequently compared cases thus feature the apparent randomness in the meaning of left-right self-placement emblematic of ECE.

Our test requires that we supplement the European Social Survey data used in the previous analysis of individual values with data appropriate for capturing party left-right placement as well as the values expressed by each party. In this analysis, we draw on the Chapel Hill Expert Survey for the measurement of each party’s left-right placement and the Comparative Manifestos Project to capture party values.

Dependent Variable: Proximity on the Left-Right Scale

The heuristic hypothesis requires a measure of congruence between an individual’s position on the left-right scale and a similar measure for the position of each party. A measure of individual’s position on the scale is readily attainable from the left-right self-placement responses available in the ESS data analyzed in the previous section. A measure of parties’ left-right placement, on the other hand, must come from an independent source in order to capture the ideological positions that each party claims for itself. For this we rely upon expert left-right placement of political
parties from the Chapel Hill Expert Survey (henceforth, CHES; Bakker et al. 2012). Unfortunately, the expert placement of parties on the left and right is only an approximation of the latent value of how these parties are perceived. However, it is an accurate approximation as these political experts best understand the contours of party competition in each case and are themselves important contributors to the discourse of left and right that we want to measure.

Individual ideological self-placement on the ESS and the expert party ideological placement in the CHES were both measured on an 11-point scale ranging from 0 to 10, with 0 indicating placement all the way to the left, 5 a position exactly in the middle of the ideological spectrum, and 10 placement as far to the right as possible. From these measures of left-right we calculated the absolute difference between the individual’s self-placement and the CHES placement of each party. With this measure of congruence—which ranged from approximately 0 to 9.5, with an average of 2.6—an increase indicates a greater distance between the individual and the party on the left-right spectrum, while lower values indicate that an individual places herself on the left-right spectrum close to the position of a given party.  

**Explanatory Variable: Agreement on Values**

Our explanatory variables of interest are measures of agreement between individuals and parties on the four Schwartz values. For individuals, we adopt the measures derived from our item response models in Section 3.5. For parties, we construct measures from the Comparative Manifestos Project (henceforth CMP; Volkens et al. 2014) data on the content of the platforms of each party. CMP coders break each

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58Details on the distribution of the measures used in the following analysis can be found in Appendix B.2.
party platform into individual statements and then categorize each as belonging to one topic out of an extensive coding scheme. Coders then divide the total number of statements in the manifesto by the number of statements dedicated to each topic. The resulting data measure the proportion of each party manifesto dedicated to each topic in a given election. From these measures we created indices based upon the Schwartz theory of human values.

While the CMP data have several critics and are not appropriate as measures of concrete issue positions,\textsuperscript{59} these measures are useful as indicators of the salience of particular aspects of politics (Budge 2001). This is in line with our theoretical argument, which holds that as parties identified with one or the other side of the left-right spectrum make certain values salient, citizens identifying with this value will come to self-identify with that side of the spectrum. Thus, they provide an unbiased, though rough, approximation of the party value appeals we seek to explore. Moreover, the bias introduced by using the CMP data is against supporting the heuristic hypothesis. Because these measures pick up what is posted in official manifestos, they are often criticized for missing out on what parties actually do. While we hypothesize that both actions and appeals influence the meaning of left and right in the eyes of voters, actions are arguably more influential to most voters.

To generate measures from the CMP data, we matched statement categories to the four Schwartz values. We then constructed an additive index of these categories for each of the parties and centered and scaled by their standard deviations. This process required that we make numerous coding decisions. In our coding scheme we erred on the side of inclusive indices in order to provide the most comprehensive analysis

\textsuperscript{59}See Gemenis (2013) for an overview.
possible (see Appendix B.4). This is largely because the frequency of any given individual CMP measure varied widely across both cases and time. Stable measures required that we make the indices widely inclusive. However, this had the drawback of sacrificing some precision for stability. The inclusion of the economic measures was a particularly difficult decision given the expectation that economic and social values may be at odds in the region compared to Western expectations (Zielinski 2002), but given the critical importance of these issues in the long transition away from state socialism they merit inclusion. Analyses with different values indices yield identical results to those presented below.

With the individual and party values indices in hand, we constructed measures of individual-party agreement on the four values in a similar way to left-right agreement by calculating the absolute difference between individuals’ and parties’ values. As with the measure of left-right agreement, an increase in these measures indicates greater disagreement between the party and respondent.

Model Specification and Estimation

Our analytic strategy is to estimate the relationship between values-agreement and the agreement in left-right scale using a seemingly unrelated regression (SUR) model (Zellner 1962). Specifically, let $i \in \{1, 2, \ldots, I\}$ index individual respondents, $p \in \{1, 2, \ldots, P\}$ the parties active in a particular period, while $v$ indexes the four values: Conservation, Openness, Self-enhancement, and Self-transcendence. Then the response variable is defined as $y_{ip} = |y_i - y_p|$, the absolute difference in left-right score between respondent $i$ and party $p$; i.e., we are modeling the distance between an

\footnote{For political science applications of the SUR model, see Tomz, Tucker, and Wittenberg (2002) and Jackson (2002).}
individual’s left-right self-placement and the placement of the party. The explanatory variables of interest are defined analogously as $x_{vip} = |x_{vi} - x_{vp}|$; the distance between the individual and the party on value $v$ (there are four such distances given the four values). Finally, let $x_{vi} = [x_{vi1} \ x_{vi2} \ ... \ x_{vip}]$ be a vector of these distances for individual $i$ on value $v$, $X_i$ be a $4 \times P$ matrix stacking these vectors of distances, while $\beta$ represents a vector of 4 coefficients to be estimated on these values distances. So defined, the linear SUR model is as follows:

$$[y_{i1} \ y_{i2} \ ... \ y_{iP}]^T \sim \mathcal{N}_P(X_i^T \beta, \Sigma_P),$$

(3.1)

where $\Sigma_P$ is a $P \times P$ covariance matrix for the multivariate normal distribution.

We rely upon the SUR model instead of a more straightforward OLS regression model because it allows us to take into consideration the dependence in the response variable. To understand the source of this dependence, take for example a case with two parties and one value. If the parties’ positions on the values measure are known, say $p_1 = 0.7$ and $p_2 = 0.1$, while the distances between the parties and the individual are also known, say $d_1 = 0.5$ and $d_2 = 0.1$, then the value for individual is uniquely determined; in this example, the individual’s value on the measure would be 0.2. Practically speaking, what this means is that the individual equations in Equation (3.1) are not independent; i.e., the off-diagonals of $\Sigma_P$ are not zero. Summary statistics on these distances are available in Appendix B.2.

SUR models were estimated in Stan (Stan Development Team 2013), one for each country-round of the ESS. Since the left-right distances were highly skewed, the square root of the response variable—the distance between individuals and parties on

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61 An example of the model code is available in Appendix B.5. Stan version 2.6.0 was used for all models.
the left-right scale, $y_{ip}$—was used in the model. An intercept was included for each party in the model. Relatively diffuse priors were specified.\footnote{Normal priors center at zero with a standard deviation of 2.5 were used for the coefficients (intercepts and slopes for the distances on values). While not being a typical flat prior, since the response variable had a range from 0 to approximately 3, the priors on this scale remain quite diffuse. More diffuse normal priors were tested on select country-years but made no difference to the estimation, while the taking considerably more time to estimate. For the standard deviations, half-Cauchy prior with dispersion of 2.5 were specified, while an LKJ prior (Lewandowski, Kurowicka, and Joe 2009) with parameter 2.0.} Twelve chains were run until the $\hat{R}$ convergent diagnostic (Gelman and Rubin 1992) was below 1.05 for every parameter and the effective number of samples was above 1000 (3600 raw samples were taken for each parameter).

3.6.2 Results

Figures 3.2–3.5 show the results from the SUR models estimating the relationship between individual-party agreement on the four value dimensions and on left-right. Each of the four figures shows estimated posterior means for the estimates slope parameters plotted on the vertical axis, while the ESS round is indicated on the horizontal axis.\footnote{Recall that a separate SUR model was estimated for each country-year.} Pluses denote positive and significant estimates, while minuses indicate significant, negative estimates. Red symbols indicate significance at the 95% level, grey at the 90% level. Light grey circles indicate non-statistically significant results.\footnote{Significance was determined by comparing the appropriate quantile value for the posterior distribution of the selected parameter to zero. For instance, if the 2.5% quantile was positive, then the estimate was seen to be positive and significant at the 95% level; i.e., it was plotted as a red plus sign.}

Broadly speaking, the statistical results are consistent with the proposed Heuristic hypothesis. While the results are not particularly strong, it is clear that number of
Figure 3.2: Explaining Respondent-Party Left-Right Agreement in Czech Republic. Posterior means (vertical axis) plotted for each party and round. A red plus (minus) indicates a posterior mean that is positive (negative) and significant at the 95% confidence level; a grey plus (minus) indicates significance at the 90% level. Light grey circles are non-significant estimates.
Figure 3.3: Explaining Respondent-Party Left-Right Agreement in Hungary. Posterior means (vertical axis) plotted for each party and round. A red plus (minus) indicates a posterior mean that is positive (negative) and significant at the 95% confidence level; a grey plus (minus) indicates significance at the 90% level. Light grey circles are non-significant estimates.
Figure 3.4: Explaining Respondent-Party Left-Right Agreement in Poland. Posterior means (vertical axis) plotted for each party and round. A red plus (minus) indicates a posterior mean that is positive (negative) and significant at the 95% confidence level; a grey plus (minus) indicates significance at the 90% level. Light grey circles are non-significant estimates.
Figure 3.5: Explaining Respondent-Party Left-Right Agreement in Slovakia. Posterior means (vertical axis) plotted for each party and round. A red plus (minus) indicates a posterior mean that is positive (negative) and significant at the 95% confidence level; a grey plus (minus) indicates significance at the 90% level. Light grey circles are non-significant estimates.
positive and significant results outnumber the negative coefficient estimates. Substantively, this indicates that a greater distance between a party and an individual on a particular value is associated with a greater distance in left-right placement. In other words, if parties emphasize values that are distant from the views of an individual, the individual is, on average, less likely to place themselves close to that party on the left-right spectrum. Conversely, closeness on a value is associated with closeness on the left-right spectrum.

While the estimated coefficients largely support the *Heuristic hypothesis*, in many cases the substantive significance of these variables is not insignificantly. Recall that the response variable ranged from 0 to approximately 3.1 (0 to 9.47 in raw distances), while the covariates ranged from 0 to just above 6. With a coefficient estimate of 0.05, moving from the minimum to the maximum distance on a covariate is associated with an increase on the left-right measure of agreement of 0.3, or around 10% of the range in the response variable. Similarly, a coefficient of 0.10, is associated with a change of 0.6, or 20% of the range of the response. Overall, from the posterior means presented in the figures we can see that 36 of the positive and significant results are above 0.05 in magnitude.

Turning to the specific country results, we see that results for the Czech Republic and Poland are the strongest. From the Czech results in Figure 3.2, it is clear that distance on Openness and Self-enhancement are closely associated with distance on left-right agreement. For Openness, this association holds for nearly all ESS rounds and parties, for Self-enhancement the relationship is strongest in periods 2 and 4.

Specifically, the number of positive versus negative and significant (at 90% level) coefficients was: 17 positive, 6 negative in the Czech Republic; 10 positive, 7 negative in Hungary; 22 positive, 13 negative in Poland; and 10 positive and 8 negative in Slovakia.

See Appendix B.2.
There is also a clear positive relationship between distance on *Conservation* and left-right agreement, especially in the latter three ESS rounds, while there is no evidence for the importance of Self-transcendence. The results for Poland, shown in Figure 3.4, also provide strong support for the *Heuristic hypothesis*. In this case, distance on *Conservation* and *Openness* are most associated with distance on left-right, though some evidence is also provided by Self-enhancement (except in ESS round 2). Self-transcendence in the Polish case is, however, something of an outlier, demonstrating an overall pattern of being *negatively* associated with agreement on left-right. It is hard to make clear sense of this, but it is likely related to the strong, cross-cutting nature of the social liberal-conservative cleavage in the country (e.g., see Markowski 1997, p. 236).

A significant pattern in the SUR results for Czech Republic and Poland, specifically related to the previous IRT results, illuminates the *Heuristic hypothesis* in action. While the received wisdom in study of the psychology of ideology holds that *Conservation* is an attribute of people on the right side of the political spectrum, this is not the case in the Czech Republic. As the IRT results and Figure 3.1 shows, *Conservation* strongly predict self-placement on the *left*, not the *right*, in the Czech Republic. However, it is also the case that Czech parties associated with the left side of the political spectrum promulgate policies that fall within the realm of conservation values, while parties on the right are less likely to do so. Thus, the clear positive relationship between left-right agreement and *Conservation* shown in Figure 3.2 confirms that those who value conservation values are likely to share their location on the ideological scale similar to that of parties that promulgate these values; that is to say, both these voters and parties are on the *left.*
Congruence on the *Conservation* dimension is also an aspect of ideology in Poland, but in the opposite substantive direction from the Czech Republic. Here the values of *Conservation* are promulgated by the parties associated with the right. Likewise, Poles surveyed by the ESS who identify with this value are more likely to place themselves on the right. Why is this? The Polish Catholic Church remained one of the country’s most important institutions even through the communist period. Thus, it anchored both the anti-communist element of the right as well as the right’s moral elements such that to be on the right side of the ideological spectrum in Poland conforms much more closely to Western preconceptions of right-leaning conservative values. As one of the world’s most secular countries, the Czech Republic lacks this religious pole. There the right is more associated with the anti-communist, anti-authoritarian movement, leading to right more grounded in the values of *Openness*. While *Conservation* as an element of leftist politics situation may appear backwards from the outside, it is meaningful from the perspective of Czech voters and parties. As these examples illustrate, it is possible for left and right to be meaningfully rooted in the psychological motives of voters within two countries but for the psychological correlates of left and right to be idiosyncratic to each case.

The results for Hungary and Slovakia are somewhat weaker than those for the Czech Republic and Poland though, broadly speaking, patterns in the results for these countries also support the *Heuristic hypothesis*. For Hungary, the results are strongest for *Self-transcendence*, though the rest of estimates show little clear pattern. This is likely a reflection of how politics have evolved over the last decade and a half in the country, particularly the collapse of the political left and the strong shift to a greater focus on nationalism. For Slovakia, *Conservation* provides the strongest
support for the hypothesis, though it is not nearly as strong as in the Czech Republic and Poland. As with Hungary, the weaker association of the psychological orientations with left-right self-placement may be related to the peculiar politics of the country, specifically the stunting democratic development during Mečiar period.

While the link between distance on values and that on left-right placement is not as strong in Hungary and Slovakia as it appears to be for the Czech Republic and Poland, the pattern seen in the SUR models is encouraging. Post-communist party politics are messy. The fragmentation of ECE party systems has meant that messages coming from the multiple of parties on the left and right often conflict and contradict one another. Moreover, the frequent emergence of populist and vanity parties—which rarely fit neatly into the traditional left-right space—has further complicated the messages voters receive. In other words, ECE is a hard case for the development of clear links between values and ideological labels. However, as the these results seem to indicate, such consistent links rooted in psychological motives do appear to be developing.

Finally, a short comment should be made regarding the variance we seen in the results over time; for example, why in the Czech Republic the distance on Conservation seems less associated with left-right agreement in earlier surveys, but appear to become more closely linked in the later periods. Simply put, this should not be surprising. Along with the emergence of new parties, the changing salience and emergence of different political issues (e.g., the EU), is likely to complicate party politics. In this environment, we should expect to see some volatility in the results.
3.7 Conclusion

The link between left-right self-placement and ideological orientations in the young democracies of East-Central Europe is not random. On the contrary, within individual post-communist countries, the notions of left and right make sense. As we have argued, voters come to associate the ideological terms left and right with the values promulgated by the major political actors in their country. For example, when parties positioning themselves on the “left” of the political spectrum profess conservation values—e.g., resistance to change—citizens holding those same values will begin to associate themselves with the left side of the spectrum. On the other hand, if a party on the “right” emphasizes such values, citizens holding those values will consider themselves to be on the political right. In simple terms, this Heuristic hypothesis says that people identify the values orientations of parties and then select their position on the left-right spectrum to match the unique politics of their country.

Our findings speak directly to the debate surrounding the meaning of left and right in the new democracies of post-communist Europe. Our argument and evidence provide a common ground between conflicting views of the meaning of ideological labels in these countries. On the one hand, there are those who claim that the same psychological orientations motivate the meaning of these labels in these new democracies as they do in Western Europe (Jost, Glaser, et al. 2003). On the other hand, there is more recent work that shows this is not the case; instead, these competing studies show great variation across cases in post-communist Europe when it comes to the meaning of left and right. For instance, in some cases conservatism is associated with the right and in some with the left. These studies have taken this as evidence that left and right do not mean anything, but we have shown the plausibility of a
middle ground (Aspelund, Lindeman, and Verkasalo 2013; Piurko, Schwartz, and Davidov 2011). We have shown that neither position is completely correct: while the meaning of left and right are not the same in post-communist democracies, our analysis comports the basic elective affinity that Jost (2006) and Jost, Federico, and Napier (2009) argue for; i.e., that citizens bring psychological motives to their political understanding, and that the expression of these motives is conditioned on the actions of elites.

Finally, this research has important implications for the study of comparative political behavior more broadly. The left-right ideological spectrum is a useful construct, allowing a complicated political world to be simplified into more a manageable and understandable form. For this reason, it is no wonder that its use is ubiquitous in political discourse as well as scholarship on voting behavior and party politics. However, while being a meaningful construct, as we have shown, left and right are flexible labels. Instead of being associated with a fixed set of political views, in new democracies left and right can become linked with values that are the polar opposite to those established in the advanced-industrial democracies of the West. In other words, the left-right ideological spectrum does not lose meaning in these democracies, their meaning is simply different. This heterogeneity exposes a need for scholars to incorporate more flexible measures of ideology into cross-national research.

67 See Zechmeister (2006, p. 170) for a similar warning about treating the left-right labels homogeneously across cases.
Chapter 4: The Cheap Seats: Party Development and Local Electoral Reform in Poland

4.1 Introduction

Stable political parties with robust linkages to society are widely seen to be a critical component of successful, long-lasting, and representative democratic governance (Huntington 1968; Kitschelt, Mansfeldova, et al. 1999; Innes 2002; Mainwaring and Scully 1995). But building a successful political party in a modern democracy is difficult. In Western democracies, parties were able to co-opt long-standing social structures—the extensive linkages rooted in class and confessional memberships (Lipset and Rokkan 1967)—which helped defray the organizational costs associated with party building, and made the mass party a viable organizational model in many Western democracies (Katz and Mair 1995). This model was not, however, a viable option in post-communist democracies, where the requisite social structures were “largely undernourished and inchoate” due to decades of communist rule (Mair 1997, p. 177) and for which democratization was occurring in an overall environment of

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68I would like to thank Paul DeBell, Luke Keele, William Minozzi, Frank Thames, and Peter Tunkis for their helpful suggestions. This project was supported by the Ohio Supercomputer Center. An earlier version was presented at the Annual Meeting of the Midwest Political Science Association (Chicago, 2012).
dealignment (Dalton and Weldon 2007). In the absence of a strong social foundation, party leaders in new democracies were forced to look to alternative strategies for building lasting party organizations.

Eschewing strategies requiring extensive party building efforts, post-communist party leaders have instead turned to alternative organizational models that leverage the mass media and charismatic party leaders in order to attract votes (Kopecký 1995). While not going so far as being completely cartelized (Innes 2002, p. 91), this strategy reflects the cartel-like reliance of parties on the state, which often finance party activities and grants airtime on media networks (Kopecký 2006, p. 256). 69 In a sense, the availability of the mass media provides parties the lowest marginal cost for each vote obtained. However, by many measures, the reliance on the mass media and top-down organizational structures has not produced the consistently stable and representative parties one may hope for in a healthy democracy. Instead, as is often remarked in the literature, party and party system consolidation in post-communist countries has been slow to materialize (Lewis 2000; Bielasiak 2002; Bakke and Sitter 2005; Epperly 2011).

This chapter investigates the role of local electoral institutions in the process of party building. Recent research has demonstrated the importance of party organizations, including local party branches, to party building in the young democracies of East Central Europe (Tavits 2012, 2011). While there is a long and influential literature discussing the importance of national electoral institutions on party system development (Duverger 1954; Cox 1997; Clark and M. Golder 2006), the importance

69 Of the 10 post-communist Eastern European countries they survey, van Biezen and Kopecký (2007) find that in 8 parties get direct funding from the state.
of subnational electoral institutions in this process is unexplored. The motivating hypothesis of this chapter is that local electoral institutions can play an important role in national party development in new democracies. This is for two reasons: (1) Different local electoral institutions provide different incentives for local politicians to join national parties. (2) Local politicians joining national parties creates incentives for national parties to become involved in local politics.

I test the above hypotheses by leveraging an unique local electoral system discontinuity in Poland. Choice of local electoral institutions and overall national party system development are likely highly endogenously determined. As a consequence, the effects of local institutions on national party development is difficult to identify in stable electoral and party system contexts. A careful analysis of the discontinuity in local electoral institutions in Poland helps me avoid this endogeneity. In 1998, Poland’s newly elected Solidarity coalition passed a broad package of local government reforms. These reforms changed how a certain class of municipalities elect their council members. For a subset of municipalities, council members would no longer be elected in single-member districts and would instead switch to an open-list proportional representation system. Taking advantage of this discontinuity, I use a regression discontinuity (RD) design approach to determine if the switch from SMD to PR had an effect on national party participation and performance in local elections as well as in national elections. I show that in those municipalities that experienced the change from SMD to PR, the performance of national parties improves significantly in both local and national elections. In other words, the nationalization of the party system

70 Chhibber and Kollman (2004) provide an excellent study of the importance of subnational politics in the nationalization of party systems; however, their study focuses on the nature of issue salience—whether issues are national or subnational in scope—not on electoral institutions.
was aided by the change in the electoral system. This highlights the importance of local politics in the overall party and party system development.

4.2 Local Politics and National Parties in Post-Communist Countries

Party development in post-communist Europe has been largely a top-down affair (Kopecký 1995, 2006). National elites have prioritized parliamentary politics, while simultaneously using broad, short-term strategies to capture as many votes as possible. This is in contrast to the development of party politics in Western Europe, where competition was focused on turning out the vote of particular groups or classes of voters.

There are several reasons why elites in post-communist Europe adopted this approach. First, unlike in Western Europe, the “flattened” social environment of post-communist society did not encourage the organization of party competition around a set of deep social cleavages. Consequently, there were few natural divisions that could be exploited by party leaders for the purpose of defining political competition and mobilizing voters (Mair 1997). Second, the communist era created a great distrust of parties and politics in general (Jowitt 1992, p. 215). Instead of representing the ideals of democratic political competition, because they were associated with the prior authoritarian regime, parties—and politics more generally—were viewed quite cynically. As O’Dwyer (2006, p. 123) puts it, “two defining features of postcommunist politics” are their “demobilized societies and delegitimized states.” One manifestation of this, was the “popular stereotype” that involvement with political parties was “a shameful activity to be frowned upon” (Szczepaniak 2001b, p. 166). Third, parties’ close ties to the state have meant that grassroots support was not needed in order to effectively
compete in elections. State funding and state mandated access to the media provided the material resources party leaders needed to compete. In other words, in a very real sense, it was more cost effective, from party leaders’ perspective, to resist investing in party building efforts (Kopecký 1995).

While national parties have not spent a great deal of effort on party building, there are very real electoral and organization advantages to developing strong party organizations and this has not been lost on many politicians. Tavits, for instance, notes that party officials in Estonia have cited the importance of having active party membership as well as a network of visible party offices in developing ties to society (Tavits 2012, pp. 85–86). And the regeneration of many ex-communist parties was in great measure facilitated by the legacy of communist-era party organizations (Grzymała-Busse 2002). However, while there are certainly exceptions, overall initial incentives favored top-down rather than bottom-up parties.

The argument being made in this chapter is that local electoral institutions can play an important role in shaping the development of national parties and party systems. Two mechanisms—individual candidate decisions to enter politics and join national parties and party incentives to invest in local party operations—link local electoral institutions to the development of national parties. These are discussed in the following sections.

4.2.1 Local Elite Incentives

The first mechanism tying local electoral institutions to national party development is the way in which electoral institutions shape the incentives of local politicians to join national parties. It is a fundamental finding in the study of party politics that
electoral institutions play a vital role in shaping the character of parties, party systems, and the broader democratic context. Electoral institutions have been found to affect everything from the number of parties (Duverger 1954; Clark and M. Golder 2006; Amorim Neto and Cox 1997), to turnout (Cox 1999; Blais 2006), to redistribution (Iversen and Soskice 2006).

An important mechanism through which electoral systems affect party systems is by shaping the incentives for prospective politicians to participate in elections. Politicians will enter politics when they believe they have a decent probability of winning a seat, and this probability is a function of the vote share required to win. In the simplest case of single-member districts with first-past-the-post voting, the vote share required to win a seat is the highest (50% + 1 in the case of a 2 person race). In proportional representation systems, where multiple candidates are selected for each district, the share of the vote needed to win a seat will be lower. Comparing these two examples, a prospective candidate would clearly be more likely to enter the race in a PR system with a high district magnitude than in they would in a SMD system with plurality voting (Cox 1997).

Another key decision a candidate faces is whether to run as an independent, join an existing party, or to start one of her own. Of course, while running as an independent in a candidate-centered electoral system may be viable, this is not often possible in the electoral systems that use party lists. In such circumstances, the candidate will have no choice but to choose between joining an existing party or starting her own. There are costs and benefits to both options. On the one hand, if the candidate joins an existing party, she will possibly benefit from financial support from the party and the party label will be a known entity to voters. On the other hand, joining a party
means being forced to some degree to adopt that party’s platform and to tow the party line on issues that may arise during the elections.\textsuperscript{71} By starting her own party, a candidate will have much more flexibility to run on a platform she sees as more compatible with the electorate and her own views. However, the costs of starting a party are high. Not only would the candidate need to pass any legal hurdles necessary to be recognized as a party, she would also face the substantial barrier of building familiarity with the electorate (Aldrich 1995).\textsuperscript{72}

A candidate for local office faces these same incentives. As is the case for a prospective politician at the national level, a candidate for local office will base her decision to enter a race by weighing her prospects for winning against the costs of running. She will likewise face the decision of whether to join an existing party or to start her own. How will this affect national party development? Simply put, local elections that rely on party lists and multi-member districts are more likely than candidate-focused electoral institutions to (1) encourage prospective candidates to run for office and (2) to see these candidates join national parties.

The first hypothesis follows from the above argument that PR systems create more opportunities for prospective politicians, thus attracting a greater number of candidates.\textsuperscript{73} Furthermore, in new democracies, the effect of electoral systems on new candidate entry is particularly strong. Local offices in new democracies, such as

\textsuperscript{71}This is even the case in East-Central Europe. As Szczerbiak (2001b, p. 57) notes that while the local party officials in Poland were given a great deal of autonomy “on purely local issues, . . . [m]ost party statutes contained clauses that empowered the central offices to intervene in the activities of any local branch when it felt that the party program or statute was being violated or when the party was suffering damage nationally.”

\textsuperscript{72}As Aldrich (1995) shows, there are also significant legislative incentives to join existing parties. Those are beyond the focus of this argument.

\textsuperscript{73}This is known as the “strategic” or “psychological” effect of electoral institutions on politician and party participation (Clark and M. Golder 2006; Duverger 1954).
those of post-communist Europe, are often captured by local elites (e.g., see O’Dwyer 2006, ch. 5). In such situations, there is little space for the entry of new politicians. Incumbent advantage keeps prospective politicians out of local races, particularly when the electoral system is candidate-centered. PR in this case will provide greater space for new candidates to compete for office.

The second hypothesis—that multi-member districts will encourage local candidates to join national parties—follows from the simple requirement for candidates in PR systems to belong to a party. Every new candidate entry represents a potential recruit for national parties. If starting a party is costly, relative to joining an existing one, then national parties are a natural choice for new candidates. This is particularly the case when national parties are well developed, as they would provide the most benefit in terms of visibility, organization, and resources; however, the attractiveness of national parties to candidates for local office is also likely to be significant.

4.2.2 National Party Incentives

Once they have successfully attracted local politicians to their banner, national parties have an incentive to expend resources on local party development. This is the second mechanism linking local electoral institutions to national party development. The motivations for getting involved stems from parties’ need to build and maintain their brand. Parties will not want to accept just any local candidates to run on their labels, and they will not want these candidates to run on policies that contradict the values and positions of the national party. Consequently, national parties will be motivated to exert control over candidates, either through their control local party lists, as in PR, or by restricting membership under SMD. This will require that parties
develop the means of evaluating potential local candidates and drawing up, or at least approving, local lists.

While costly, there are significant spillover benefits to getting involved in local elections, which have the potential to strengthen national parties over the long term. First, as Geser notes, establishing a local presence allows parties to “maximize their chances of generating a large reservoir of experienced young adherents from which future candidates for higher roles or public positions can be recruited” (Geser 1999, p. 6). Second, investing in local organization and participating in local politics provides the opportunity for national parties to test new, alternative campaign strategies. In the case of electoral defeat at the national level, local politics provides a venue for a party to regroup (Geser 1999, pp. 7–8). Recent empirical research supports this argument that local party organization matters to national party development (Tavits 2012). Finally, a local presence provides the means through which lines of communication from the local to the national level and back can be established. Issues at the local level can be monitored at the national level. Thus, this would make national politics more relevant to the electorate.

4.2.3 Observable Implications

In the previous sections, I have argued that different local electoral institutions should affect national party development in different ways. Specifically, PR at the local level will provide the incentives for prospective local politicians to join national parties. Faced with the need to integrate new members, parties will be forced to develop organizations to manage local lists. However, while costly to set up, these

\footnote{Also see (Tavits 2012, p. 86).}
organizations will generate positive spillover effects for the party. They will (1) provide the means through which the party can attract and train new members; (2) provide a venue for new electoral and policy strategies to be developed; and (3) develop into conduits through which information can pass between the local to the national levels. In sum, relative to plurality electoral rules, proportional representation in local elections should benefit national parties and, thus, should contribute to the development of robust party systems.

There are two immediate observable implications associated with this argument. First, if PR creates greater incentives for local politicians to join national parties, overall national party performance in local elections should be better in PR electoral systems relative to their performance in plurality systems. This would be particularly the case if higher quality candidates—those more likely to win elections as independents in plurality elections—are induced to join national parties in PR systems. Second, if local politics matter at all to national party and party system development, we should observe some effect of the presence and performance of national parties at the local level on their performance at the national level. In other words, the increased exposure of national parties at the local level should translate into a greater familiarity on the part of voters and improved party organization at the local level, resulting in improved performance in national elections.

The following empirical investigation will focus on the first of these implications—that PR leads to improved performance of national parties in local elections—by taking advantage of a unique discontinuity in electoral laws in Poland.
4.3 The Test Case: Local Electoral Reform in Poland

The relationship between local electoral institutions and party development is highly endogenous. This makes a clear test of the proposed hypotheses difficult. For instance, in established and stable political systems the stated hypothesis that some local electoral institutions facilitate national party development while others inhibit such development would be empirically indistinguishable from the inverse hypothesis that highly developed national parties in particular electoral contexts choose particular local electoral systems. In other words, does PR at the local level foster national party development or do highly developed national parties instead choose PR? While I have argued for the former, there are good reasons to believe the latter could also be at play. Simply put, strong parties may institute PR for local elections for reasons that have nothing to party development. As a consequence of this problem of endogeneity, only a research design that takes advantage of some source of randomization can help us parse out the effects of local electoral institutions on national party development. A change in local electoral institutions in Poland provides a great opportunity to do just that.

In June 1998, the Polish parliament enacted a wide-ranging local government reform program. Comprehensive local government reform had long been a goal of the political right, and had become an important component of Solidarity Electoral Action’s (AWS) platform in the national parliamentary campaign of 1997. Once AWS had won the election and established a coalition government with Freedom Union (UW), passing local government reform became a key priority for the government. Balcerowicz, the architect of shock therapy and UW party leader, was particularly supportive of reforms, while many far-right members of the coalition were opposed
The legislation that ultimately passed parliament included significant changes at all levels of local government, including the reduction of the number of provinces (\textit{województwa}) from 42 to 16 and the establishment of a new county (\textit{powiat}) level of government, of which 308 were initially created (Regulski 1999).\textsuperscript{76}

\textsuperscript{75}The nationalist and religious right was adamantly opposed to the reforms and, in protest to the legislation, 15 MPs defected from the coalition, 7 from the Confederation for an Independent Poland–Patriotic Camp (KPN-OP) and 8 from Polish Family Association (SRP) (Szczerbiak 1999, p. 86). While being the project of the Solidarity coalition, the opposition communist successor parties were closely involved in the negotiations that shaped the legislation. As O’Dwyer (2006, PAGE) points out, patronage was critical to gaining support.

\textsuperscript{76}Of the 308 counties created, 65 were larger municipalities that were also granted county status.
Most relevant to this study were the reforms made to the electoral rules governing local municipal council elections. Since the first post-communist local election were held in 1990, municipal councils had been elected using two different sets of electoral rules. In smaller municipalities with fewer than 40,000 residents, council members were elected in single member districts by a simple majority. In municipalities with 40,000 or more residents, council members had instead been elected through an open-list proportional representation system. The 1998 law changed this threshold, so that in the October 1998 and subsequent municipal elections all municipalities with more that 20,000 residents used the open-list PR system. This change in electoral system for municipalities between 20,000 and 40,000 residents provides the discontinuity that will be exploited in the empirical analysis below. Overall, 194 (8.3%) of some 2342 municipalities under 40,000 residents experienced the change to PR. The geographic distribution of the affected municipalities are shown in Figure 4.1 and Table 4.1 provides some basic demographic summaries for municipalities on each side of the discontinuity.\textsuperscript{77}

Besides providing a convenient natural experiment, Poland also provides a difficult test of the theory. To begin with, starting a party in Poland is notoriously easy—requiring just 15 by citizens signatures (Cabada, Hlousek, and Jurek 2014, pp. 108–109). As a consequence, there has been a proliferation of parties at the local level. In 2002, which will be the focus of the analysis below, more than 25,000 parties

\textsuperscript{77}All elections data used in this analysis were scraped from the Polish National Electoral Commission’s (NEC) elections websites, \url{http://pkw.gov.pl}. Demographic and economic data come from the Polish Central Statistical Office, \url{http://stat.gov.pl}. All replication materials for this chapter, including the code used to scrape the NEC’s election pages, will be available on the author’s website upon publication.
participated in local council elections.\footnote{While the first elections under the new electoral rules took place in October 1998, the complete results of these elections are not available from the NEC (nor, might I add, are the results for the 1994 local elections Szczerbiak 1999). Specifically, the results for municipalities under 20,000 residents—those using plurality elections—are not available from the NEC (O’Dwyer 2006, p. 129; I want to thank Peter Tunkis for verifying in person the unavailability of these results). For the purposes of this study, the lack of detailed results for 1998 is not seen be a significant obstacle. For one thing, many of the reforms to local governance were not implemented until after the election. Thus, local politicians and voters had not yet experienced the full implications of these reforms and, consequently, may not have been able to adjust their actions accordingly. Similarly, given that there was not a great deal of time between the passage of electoral reform in June and the first election in October, there was limited opportunity for political actors to adjust their election strategies. As such, it would not be surprising if the impact of the new laws on the 1998 election were quite muted.} Of course, the vast majority of these were “parties” consisted of a single person.\footnote{In one municipality, Sędziszów, 49 “parties” participated in the 2002 local elections. Of these, nearly 30 were vanity parties with just one or two candidates.} In the SMD districts, there were more than 24,500 unique parties active in the 2002 election. On average, nearly 14 parties competed for 15 council seats in each of these municipal elections. In municipalities between 20,000 and 40,000 residents (those that saw the change to PR), there were 822 unique parties active, with an average of almost 7 parties competing for 21 council seats.

4.3.1 The 2002 Polish Local Elections

In terms of the theory being tested here, the ease at which parties could be established, as is indicated by the proliferation of vanity parties, shows that there were few extra barriers to individual candidates raised by the change from SMD to PR elections. In other words, rather than joining existing national parties, it would have been relatively simple for prospective candidates to either start their own party or to join with a small local group of candidates to start new parties. National parties were, in other words, not in a good position to attract local politicians to their banner.
Thus, any increase in performance on the part of national parties would be strong evidence in favor of the theory.
Table 4.2: Distribution of Party Activity. The table shows the number of parties active in the number of municipalities. The most active parties were SLD (1855 municipalities), PSL (1374), Samoobrona (1245), and LPR (792).

<table>
<thead>
<tr>
<th>Municipalities</th>
<th>Parties</th>
<th>Mean Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>25,222</td>
<td>14,979</td>
</tr>
<tr>
<td>Regional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 to 81</td>
<td>521</td>
<td>19,827</td>
</tr>
<tr>
<td>National</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LPR (792)</td>
<td>1</td>
<td>24,465</td>
</tr>
<tr>
<td>Samoobrona (1245)</td>
<td>1</td>
<td>20,808</td>
</tr>
<tr>
<td>PSL (1374)</td>
<td>1</td>
<td>12,982</td>
</tr>
<tr>
<td>SLD (1855)</td>
<td>1</td>
<td>17,735</td>
</tr>
</tbody>
</table>

A second characteristic of the Polish case that makes it a tough test of the theory is the high level of historic localism and the general distrust of the national parties that was felt at the local level. There was a desire to keep the national parties out of local politics (Szczerbiak 2001b), while it was also believed that locals would be better at governing and dealing with the issues unique to individual municipalities.  

4.4 PR and Local-Level National Party Performance

I have proposed a hypothesis linking local institutions and national party development. This hypothesis states that certain local electoral institutions, specifically PR, should lead, first, to better performance of national parties in local elections and, second, that better performance in local elections should result in better performance...  

80 Reflecting this view, Regulski, an architect of early attempts at local government reform, comments that a reform program to devolve social welfare programs to local officials “is based on the obvious truth that the local authorities know better how to effectively help their people than the central government does” (Regulski 1999, p. 44; emphasis added).
for national parties in national elections. This section will test the first of these hypotheses. However, before discussing my analytic approach to testing this theory, I first want to define what I mean by a “national party” and their performance in local elections.

In an ideal world, all national parties active in the formulation of the law changing local electoral institutions would be active in local elections. But party politics in Poland are far from ideal. Instead, by the time of the 2002 local elections, AWS, the driving force behind the reforms, was defunct, having even failed to receive 5% of the vote and make it into parliament in the 2001 parliamentary election. Not surprisingly, AWS was a non-entity in the 2002 local elections; thus, testing whether the local electoral change had direct effects on its ability to build a local presence is not possible. It is possible, however, to test the effect on other national parties. Overall, just 4 parties—SLD, PSD, Samoobrona, and LPR—can reasonably be considered to be “national”, in the sense that they actively participated in a reasonable number of local municipal elections. As shown in Table 4.2, SLD and PSL, the communist successor parties, were active in the largest number of municipalities. Of the 2,478 local municipal council elections, SLD was represented in 1,855 (75%) local elections, while PSL was represented in 1,374 (55%). The representatives of the political right were somewhat less active, with Samoobrona participating in 1,245 (50%) of elections and LPR participating in 792 (32%). While no party was active in all municipalities, in very few (255 or 10%) was a national party presence completely absent. In more than 70% of municipalities, 2 or more of national parties were present.

National parties have been known to act behind the scenes to support candidates under different labels in local elections (Szczerbiak 2001a, p. 81).
As my measure of national party performance—the outcome variable of interest—I use the share of local council seats won by national parties in the following analyses. Because the change in electoral laws also included an increase in the number of council seats for municipalities that changed to PR, it was not possible to use the raw number of seats as the response variable as they would not be directly comparable between these groups of municipalities. This, along with the nature of open-seat PR elections, also made the use of raw vote share problematic.\textsuperscript{82} Figure 4.2 presents the distribution of outcome variable. The left panel shows a histogram of national parties’ council seat share across all municipalities. The panel on the right shows the distribution by population (1998) within nine bins, the first 8 bins of which are 5,000 residents in width, while the ninth bin on the far right contains the remaining 133 municipalities with more than 40,000 residents. The grey boxes on the left are those using SMD to elect their council members, while those in red are those that changed from SMD to PR.

Overall, the national party share of council seats was an average of 32.5% in 194 municipalities with between 20,000 and 40,000 residents (those that switched to PR), while the national party share of seats was 24.2% in 2,149 municipalities with fewer than 20,000 residents (those using SMD).\textsuperscript{83} A difference in means test shows this difference in national party share to be statistically significant ($t = 5.91$), with a 95% confidence interval of $[0.055, 0.110]$. Because it applies the same weight those municipalities far from the cut-point as those close, thus not accounting for the heterogeneity across municipalities, a simple $t$-test does not provide a sufficient test.

\textsuperscript{82}The open-seat PR elections meant that votes for parties and votes for specific candidates was sometimes difficult to parse out in the Electoral Commission data.

\textsuperscript{83}Election results were unavailable for one municipality (Polczyn-Zdrój) below the cut-point.
Figure 4.2: Distribution of National Party Council Seat Share, 2002 Polish Local Elections. The left panel shows the distribution of the share of council seats won by the four national parties in the 2002 local elections. The right panel shows the distribution of the national party share by municipal population (1998) in bins of 5,000 residents. Boxes in grey indicate those municipalities with fewer than 20,000 residents; boxes in red are those with between 20,000 and 40,000 residents. Box sizes span the inter-quartile range for each bin, while the horizontal line is the median. The number of municipalities in each bin is shown at the top of the plot.

for the theory; however, while problematic, this is at least positive evidence in support of the theory that PR promotes national party performance in local elections. In the next section, I use a regression discontinuity design to perform a more extensive, rigorous test of the theory.
4.4.1 Design

The regression discontinuity (RD) design approach was first applied by Thistlethwaite and D. T. Campbell (1960) to test the effects of receiving public acknowledgment of academic distinction on future performance. In recent years, the RD design has become popular in both political science and economics as a way of measuring causal effects in the absence of a manipulable treatment. The method has been broadly applied to a variety of questions, including the investigation of the importance of class size on academic performance in Israel (Angrist and Lavy 1999), the role of partisan alignment on fiscal transfers in Brazil (Brollo and Nannicini 2012), the effect PR on turnout in France (Eggers 2015), the effects of holding office on future earnings in Britain (Eggers and Hainmueller 2009), the impact of incumbency on PR vote share in Germany’s mixed-electoral system (Hainmueller and Kern 2008), and incumbency advantage in U.S. House elections (Lee 2008; Butler 2009).

The key idea behind RD designs is that the assignment of treatment status is determined by a discontinuous jump in a continuous forcing variable. The assumption is that at the point of the discontinuity—often the result of some change in public policy, such as the Polish case being investigated here—assignment of a unit’s treatment status is determined in an as-if random fashion. In other words, treatment status is wholly determined by the forcing variable and all other pretreatment characteristics that may condition the treatment effect are balanced at the discontinuity, or cut-point. Consequently, any change in the outcome variable can be plausibly attributed to the change in treatment status and not to other unobserved factors. In more concrete terms, in the Polish case being explored here, municipal population acts as
the forcing variable and the cut-point of 20,000 residents determines the treatment: whether the local electoral system was changed to PR or remained SMD.

The RD design is attractive because it allows a more credible case to be made about the effect of some treatment on the outcome of interest when direct manipulation of treatment status is not possible. However, the estimation of these effects is not trivial, and several important modeling choices have to be considered when estimating these effects. First, the RD design estimates the effect of the treatment on the outcome at the cut-point. However, in practical applications, including the Polish one, there is often a dearth of observations actually at the cut-point. Instead, global or local polynomial regression is used to estimate the difference in the outcome on each side of the cut-point. In this case, the inclusion of observations some distance—within some window or bandwidth—from the cut-point is necessary. The choice of this window can have a significant impact on effect estimates and the inferences made from them. For this reason, some principled method of selecting the window needs to be employed. For the primary results presented in the following sections, I use a method proposed by Calonico, Cattaneo, and Titiunik (2014) to select the optimal bandwidth and for calculating robust standard errors and confidence intervals. However, the robustness of the estimates will be checked against alternative methods popular in the literature.

At first glance, it may be tempting to use a method such as matching to estimate the differences in effects on each side of the cut-point. But in matching the assumption of covariate overlap is fundamentally violated in the presence of a discontinuity (Imbens and Lemieux 2008).

Calonico, Cattaneo, and Titiunik (2014) argue that the optimal bandwidths recommended by other methods, such as the cross-validation procedure of Ludwig and Miller (2007) or that of Imbens and Kalyanaraman (2012) are often “too large”. In other words, they include observations much further from the cut-point than does their method. In fact, in the Polish data, their method selects an optimal bandwidth approximately half the length of the cross-validation approach of Ludwig and Miller (2007) and a third of that of Imbens and Kalyanaraman (2012).

124
The second specification decision deals with the functional form of the estimator. While Lee (2008) uses a global parametric fourth-order polynomial model, Imbens and Kalyanaraman (2012, p. 3) suggest that “local [non-parametric] methods build in robustness by ensuring that observations with values for the forcing variable far away from the threshold do not affect the point estimates.” For my analysis, I take this suggestion by estimating local linear regression (i.e., first-order), but following the suggestion of Eggers, Fowler, et al. (2015), I further test the robustness of this choice by providing estimates based on higher degree local polynomial models.

4.4.2 Results

Figure 4.3 provides a graphical perspective on the impact of the change from SMD to PR on national party performance in local elections. It shows two local linear regression (loess) lines, along with their 95% confidence intervals—one set for those municipalities that retained SMD and one for those that adopted PR after the change to electoral law—regressing national party seat share (vertical axis) on population (horizontal axis). The dashed vertical line indicates the location of the 20,000 resident cut-point. The points represent mean outcome and population for municipalities binned according to population. There are 46 evenly-spaced bins on the left of the cut-point and 39 on the right.\(^{86}\) The conclusion to be drawn from this plot should be clear: the change from SMD to PR significantly increased the performance of national parties in local elections. This can be seen in the vertical distance between where the regression models meet the vertical cut-point. In this case, the distance represents an increase in national party seat share of approximately 15%.

\(^{86}\)Bins were defined following using the “evenly-spaced, mimicking variance” method of Calonico, Cattaneo, and Titiunik (2015a). The local linear regression lines were fit with all of the data.
Figure 4.3: Regression Discontinuity Plot. The figure shows a local linear regression (loess) relating municipal population to national party seat share for each side of the discontinuity (vertical line). The points are the mean of binned observations (46 bins on the left, 39 on the right). Bin sizes were calculated using the ESMV method of Calonico, Cattaneo, and Titiumik (2015a). The loess regression line was estimated with a span of 0.5 and degree 1 (linear) local polynomial. 95% confidence intervals are shows as dashed lines.

(more than 3 seats on a 21 seat council), which is in line with the local non-parametric regression estimates presented below in Table 4.3.
Table 4.3 presents the estimated effects of a change from SMD to PR on the share of local council seats captured by national parties. These results use a local polynomial regression model, with bias corrected, robust standard errors and bandwidth calculated as in Calonico, Cattaneo, and Titunik (2014). The RD design estimates provide clear evidence in favor of the theory that local electoral institutions matter to the performance of national parties in those elections. As shown in Table 4.3, the change to PR increased the share of the seats won by national parties by an estimated average of 18% in those municipalities affected by the change in electoral law. Substantively, this is not an insignificant effect: for a 21 seat council, it represents an average increase of approximately 3.8 seats. Furthermore, as the table shows, these results are robust to changes in polynomial degree specification and bandwidth: for each of the alternative specifications using second-, third-, and fourth-degree local polynomial fits (lines 2–4), the RD estimates were at least as substantively as strong as the local linear fit (line 1), while maintaining also statistical significance.

### 4.4.3 Robustness Checks

The evidence provided in the previous section suggest the change from SMD to PR had a significant effect on the performance of national parties in local elections.

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87 The results reported here exclude four municipalities, Dąbrowa Tarnowska, Boguchwała, Puck, Pyskowice, and Pasłęk. They were dropped because the number of the mandates recorded for these municipalities did not match the number they should have had given their populations recorded by the Central Statistical Office. For Pyskowice, 15 mandates were reported, while it should have had 21 given its population greater than 20,000. The other three municipalities had reported populations below the cutpoint but 21 mandates were reported instead of 15, which would have been correct for their size. It is unclear why these municipalities had the incorrect number of mandates for their size, but it may be due to revisions in populations done by the Central Statistical Office in years following the change to electoral law. Because it was impossible to know why this apparent misclassification occurred, it was thought best to exclude these municipalities from the analysis. Finally, no election results were reported for Połczyn-Zdrój, thus it was also dropped from the analysis.

88 The analysis was performed in R (3.2.0) using the rdrobust (0.80) package (Calonico, Cattaneo, and Titunik 2015b).
Table 4.3: Effects of a Change in Local Electoral Institutions on National Party Share of Local Council Seats. The table shows regression discontinuity estimates for the effect of a change from SMD to PR on national party share in local council seats.

<table>
<thead>
<tr>
<th>Est.</th>
<th>Std. Err.</th>
<th>lower</th>
<th>upper</th>
<th>Bandwidth</th>
<th>left</th>
<th>right</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.180**</td>
<td>0.068</td>
<td>0.048</td>
<td>0.313</td>
<td>3972.3</td>
<td>111</td>
<td>85</td>
</tr>
</tbody>
</table>

First-degree local polynomial regression were estimated with robust standard errors, confidence intervals, and bandwidths calculated as in Calonico, Cattaneo, and Titiunik (2014). A triangular kernel was used and bias corrected robust standard errors were calculated with local polynomial regression of degree two used to calculate the effect estimates. ** $p < 0.01$

In Poland. Furthermore, these results were strong and robust to different modeling assumptions. However, as with all modeling strategies and research designs, these inferences are based on strong assumptions about the data generating process. Possibly the most important assumption deals with possible sorting around the cut-point. Identification of effect estimates in an RD design are predicated on the random distribution of units around the cut-point. This identification assumption would be violated if units were able to manipulate their treatment status; i.e., if they were able to choose whether or not they received the treatment or not by manipulating their value on the forcing variable.

In the Polish case, sorting or municipalities around the 20,000 resident cut-point would occur if municipal governments (or other actors) were able to manipulate their population figures so that they could select into or out of the change to PR. In fact, there may have been some incentive for local elites to partake in this manipulation. First, if local leaders are already members of national parties, and if the theory if
correct—national parties would do better under PR—then there would be an incentive for these leaders just below the threshold to increase their populations artificially in order to have their electoral system change to PR. Second, in municipalities without a large national party presence and with an entrenched local elite, there may be an incentive for leaders in municipalities just below the threshold to manipulate the population figures to avoid the change to PR. In each case, the significant effect estimates presented previously may be the result of PR being instituted in municipalities already inclined to vote for national parties or vice versa. If such sorting was occurring, it may manifest itself as a discontinuity at the cut-point in the forcing variable (municipal population) itself. To check for this, Figure 4.4 presents McCrary’s (2008) test for sorting at the cut-point. The $p$-value for this test is 0.131, which suggests there is little evidence of sorting in municipal population at the 20,000 resident cut-point.

While the McCrary test did not uncover any obvious discontinuity in the municipal population at the cut-point, the test is not particularly suited for a situation where some municipalities may select themselves into the treatment (PR), while others simultaneously select themselves out (remain SMD); in other words, the scenario I outlined above where some elites may artificially increase their reported populations because they prefer PR, whereas others decrease their populations to retain SMD. When the sorting is similar on either both side of the cut-point, there may not be much of discontinuity in population to detect. One way of testing whether or not some municipalities near the cut-point may have selected into or out of the treatment is to look at the recorded population growth rates. If population growth between
Figure 4.4: McCrary (2008) Test for Population Sorting at the Cut-Point. The $p$-value for the test is 0.131, indicating that there is little evidence of such sorting.

1997 and 1998 is higher for those municipalities on the right side of the cut-point, this could be evidence for selection. Table 4.4 presents the results for this analysis.

The results shown in Table 4.4 suggest that just such a sorting may have occurred: municipalities above the cut-point saw higher levels of growth than those below it.
Table 4.4: Effects of a Change in Local Electoral Institutions on National Party Share of Local Council Seats. The table shows regression discontinuity estimates for the effect of a change from SMD to PR on population growth.

<table>
<thead>
<tr>
<th>Poly. degree</th>
<th>Conf. int.</th>
<th># obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>lower</td>
</tr>
<tr>
<td>1</td>
<td>0.005**</td>
<td>0.002</td>
</tr>
<tr>
<td>2</td>
<td>0.005*</td>
<td>0.002</td>
</tr>
<tr>
<td>3</td>
<td>0.006*</td>
<td>0.003</td>
</tr>
<tr>
<td>4</td>
<td>0.006*</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Degree 1–4 local polynomial regression were estimated with robust standard errors, confidence intervals, and bandwidths calculated as in Calonico, Cattaneo, and Titimik (2014). A triangular kernel was used and bias corrected robust standard errors were calculated with local polynomial regression of degree one greater than that used to calculate the effect estimates. * p < 0.05, ** p < 0.01

Specifically, the local linear regression result (first line) shows an estimate of approximately 0.5% higher population growth on the right side of the cut-point than on the left. At this level of growth, a municipality with around 19,900 residents would be able to meet the cut-point and, thus, be assigned to the group of municipalities switching to PR.

On the face of it, these results are quite problematic for the theory that national parties perform better in local election under PR than they do under an SMD electoral system. If local or other elites were able to select into or out of PR, the previous analysis showing a large effect associated with switching to PR may hardly be surprising: where elites thought PR would benefit them, they would attempt to select themselves into PR, but when they believe PR is against their interests, they would
attempt to select out of the change to PR. However, the question remains: If this selection process did take place, how successful was it?

We can get some idea of how much sorting was taking place by looking closely at the municipalities around the cut-point. Table 4.5 shows all of the municipalities within 300 residents of the cut-point in 1997 and includes their populations as reported by the Polish Central Statistical Office in 1997 and 1998 as well as the growth rate between those two years.\textsuperscript{89} As the table shows, in just three municipalities was population growth between 1997 and 1998 high enough to push the municipality past the 20,000 resident cut-point. In no case did population decrease enough in a municipality for it to drop below the cut-point. What this suggests is that if political actors sought to sort themselves into their preferred electoral system, they were not particularly adept at doing so. In other words, while the results of Table 4.4 suggested it was possible that there was some sorting around the population cut-point, looking closely at the actual growth of municipalities around the cut-point indicates that any manipulation of population growth that may have occurred was not significant enough to change the results of the previous analysis.\textsuperscript{90}

\subsection*{4.4.4 Regional Party Participation in Local Elections}

The analysis in Section 4.4.2 shows a strong relationship between the local electoral system and the performance of national parties in local elections in Poland. In municipalities that were forced to adopt PR, national parties were able to capture a

\textsuperscript{89}This table excludes those municipalities discussed in footnote 87.

\textsuperscript{90}To verify that there was not any intentional sorting in the three municipalities indicated in Table 4.5, I excluded them from the sample and estimated the RD model again. The estimated effect of moving from SMD to PR was 0.174 with a 95\% confidence interval of [0.034, 0.315]. This is in-line with the results reported in Table 4.3 and Figure 4.3.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warka</td>
<td>19727</td>
<td>19742</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Słubice</td>
<td>19754</td>
<td>19924</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>Sierpc</td>
<td>19841</td>
<td>19857</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Żukowo</td>
<td>19869</td>
<td>20285</td>
<td>0.021</td>
<td>✔</td>
</tr>
<tr>
<td>Łańcut</td>
<td>19891</td>
<td>20087</td>
<td>0.010</td>
<td>✔</td>
</tr>
<tr>
<td>Hrubieszów</td>
<td>19962</td>
<td>20157</td>
<td>0.010</td>
<td>✔</td>
</tr>
<tr>
<td>Olesno</td>
<td>19972</td>
<td>19995</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Tarnów</td>
<td>20045</td>
<td>20298</td>
<td>0.013</td>
<td></td>
</tr>
<tr>
<td>Czerwonak</td>
<td>20123</td>
<td>20478</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td>Czarny Dunajec</td>
<td>20153</td>
<td>20305</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td>Pyrzyce</td>
<td>20182</td>
<td>20270</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Czersk</td>
<td>20212</td>
<td>20199</td>
<td>−0.001</td>
<td></td>
</tr>
<tr>
<td>Biskupiec</td>
<td>20220</td>
<td>20320</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Grodków</td>
<td>20221</td>
<td>20206</td>
<td>−0.001</td>
<td></td>
</tr>
<tr>
<td>Tuchola</td>
<td>20234</td>
<td>20328</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Gołdap</td>
<td>20300</td>
<td>20390</td>
<td>0.004</td>
<td></td>
</tr>
</tbody>
</table>

greater proportion (approximately 18% greater) of local council seats than they did in those that retained plurality voting. Overall, this is strong support for the theory that local electoral systems matter to the ability for national parties to penetrate local elections. However, these results also raise further questions about the mechanisms linking the electoral system to national party performance. Specifically, the left panel of Figure 4.3 reveals an interesting relationship between municipal population size and the performance of national parties in local council elections. As shown, population size is *negatively* related to national party performance for those municipalities.
What could account for this change in relationship between population and national party seat share above and below the 20,000 resident threshold? The data point to an explanation for this in the emergence of regional parties in larger municipalities below the cut-point, which appear to compete against national parties for local politicians and overall vote share. Some evidence for this was shown previously in Table 4.2. As reported, 521 different parties were active in between 2 and 81 municipalities, which also had an average municipal population somewhat larger than in those municipalities where local parties (those only active in a single municipality) competed. On average, regional parties competed in municipalities with approximately 19,000 residents, while local parties were active in municipalities with an average of around 15,000 residents.

More formally, Table 4.6 presents four regression models relating regional party participation and performance to municipal population above and below the 20,000 resident population threshold. Models (1) and (2) are logistic regression models that regress an indicator of regional party participation on the 1998 municipal population. For model (1), the regression coefficient is positive and statistically significant, indicating that in municipalities below the cut-point, regional parties are more likely to be active in local elections as municipal population increases. In terms of predicted probabilities, an increase in municipal population from 10,000 residents to the 20,000 is associated with an increase in the predicted probability of participation from approximately 0.54 to 0.68. On the other hand, for municipalities above the cut-point,

91I want to thank William Minozzi for making this suggestion.
model (2) indicates that there is little evidence for a relationship between population and the probability that a regional party participated in a local election.

To determine whether regional parties are able to compete successfully against national parties in these elections, models (3) and (4) in Table 4.6 regress the difference between national and regional party performance (measured as the share of council seats won) on municipal population.\textsuperscript{92} For those municipalities below the 20,000 resident cut-point, the coefficient on population is negative and significant, indicating that a 1,000 resident increase in municipal population is associated with an increase in relative performance of the regional parties of approximately 0.9%. Once again, for the model explaining relative electoral performance in municipalities above the cut-point, the coefficient for population is not significantly significant.

Figure 4.5 provides another perspective on the performance of local, regional, and national parties relative to the municipal population. The points in the figure show mean council seat shares for these three party categories binned according to population. The solid lines are bootstrapped local regression fits, with the dashed lines indicating 95\% confidence intervals.\textsuperscript{93} Three observations can be made from this figure. First, it is clear that performance of local parties drops considerably at the cut-point. For example, at 10,000 residents in SMD elections, local parties capture around 70\% of all council seats, while in municipalities of 30,000 residents and PR, local parties capture approximately 40\% of seats, on average. Second, as the regression models also show, regional party performance increases relative to national

\textsuperscript{92}The dependent variable is measures as National Share - Regional Share; thus, a negative value indicates a higher share went to regional parties.

\textsuperscript{93}The width of each bin was 250 residents. 2,500 bootstrap samples were used to calculate the predicted loess means (solid lines) and confidence intervals (dashed lines). For the loess estimates, a span of 0.75 and tricubic weights were used.
Table 4.6: Activity of Regional Parties and Performance Relative to National Parties by Municipal Population, 2002 Polish Local Elections. The first two logistic regression models estimate the probability of a regional party being active in local elections given the municipal population size for those below (1) and above (2) the 20,000 cut-point. Models (3) and (4) are OLS regressions of the difference in national and regional seat shares won on municipal population.

<table>
<thead>
<tr>
<th></th>
<th>Logit</th>
<th>OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below (1)</td>
<td>Above (2)</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>−0.493***</td>
<td>0.459</td>
</tr>
<tr>
<td>(0.098)</td>
<td>(0.912)</td>
<td>(1.492)</td>
</tr>
<tr>
<td>Population (1998; 000's)</td>
<td>0.063***</td>
<td>0.035</td>
</tr>
<tr>
<td>(0.011)</td>
<td>(0.034)</td>
<td>(0.171)</td>
</tr>
<tr>
<td>p</td>
<td>0.000</td>
<td>0.295</td>
</tr>
<tr>
<td>N</td>
<td>2150</td>
<td>195</td>
</tr>
</tbody>
</table>

***p < 0.001; **p < 0.01, *p < 0.05.

party performance up to the 20,000 resident threshold, at which point the performance of regional and national parties both increase in step, taking share from local parties. Third, regional parties interestingly never out-perform national parties. What this suggests is that

4.5 Conclusion

In this chapter, I have shown that local electoral institutions matter to national party development. I have argued that by shaping the incentives for local politicians to attach themselves to national parties and, in turn, by altering the incentives for national parties to get involved in local elections, local electoral institutions can play an important—and largely unrecognized—role in the process of party system
Figure 4.5: Local Council Seat Share Plots for Local, Regional, and National Parties. Points are mean seat shares binned by population (width=250). Local parties are in grey, regional parties in blue, and national parties in red. Lines are bootstrapped loess curves (2,500 samples; span=0.75; tricubic weights), where the solid lines are the mean loess predictions and dashed lines represent 95% confidence bands. Vertical dashed line represents the 20,000 resident cut-point.

institutionalization. I have provided empirical support for this argument by taking advantage of a unique electoral discontinuity in Poland to show that a change from SMD to PR has a significant effect on the penetration of national parties into local politics. Specifically, using a regression discontinuity design, I have shown that a
change from SMD to PR has the effect of increasing national parties’ share of local
council seats by an estimated 18%. This strong result is robust to changes in model
specification and to potential sorting at the population discontinuity.

The results presented here are closely related to recent research by Tavits (2012,
2011). However, while she focuses on the importance of party organization (including
at the local level) and MP independence, which is conditioned by the strength of local
party organizations, my argument points to the ways in which parties may become
organized in the first place. As has been argued elsewhere (Kopecký 1995), party de-
velopment in East-Central Europe has been largely neglected by national politicians,
who are more likely to use the relatively cheap (in effort as well as money) mass media
to win elections than they are to spend the resources necessary to build long-term
grassroots party organizations. By shaping the incentives for local politicians to seek
out a national party label, local electoral rules may play an important role in shaping
the context through which national parties become engaged in local politics.
Chapter 5: Conclusion

This thesis has presented three essays exploring the state of party politics in East-Central Europe. In Chapter 2, I looked at the problem of party switching in the Polish Sejm. In the process, I developed a new latent variable model—which I call the latent path model—for dynamic social networks. This model allowed me to show that, contrary to much of the literature on party switching that sees switching as detrimental to party system institutionalization, party switching the Polish Sejm has allowed members of parliament to sort themselves into more coherent groups. This suggests that party switching in new democracies may, in certain circumstances, play a more constructive role than is typically realized. Specifically, in situations with high uncertainty, such as post-communist Europe where political actors may not initially understand their position in the broader political context, the ability to switch parties to seek out new affiliations may provide a mechanism through which more ideologically homogeneous and stable parties can develop.

In Chapter 3, Paul DeBell and I investigated the chaotic nature of political ideology in East-Central Europe. Contrary to previous work that suggested that there is no discernible pattern to the relationship between left-right self-placement and values orientations in these young democracies, we found that the link is not as chaotic
and random as it may first seem. Instead, in analyses utilizing item response theory, seemingly unrelated regression techniques, and multiple data sources from the Czech Republic, Hungary, Poland, and Slovakia, we find that within individual post-communist countries, the notions of left and right make sense. As we demonstrated, over time voters in these countries have come to associate the left-right ideological terms with the values promulgated by the major political actors in their country. In other words, the left-right ideological labels are not without content in this region. Left and right are meaningful but flexible labels that are not necessarily tied to a fixed set of political views. This heterogeneity in meaning reveals a need for scholars to incorporate more flexible measures of ideology into cross-national research.

Finally, in Chapter 4 I looked at the significance of local electoral institutions on national party development. In doing so, I argued that, as is the case at the national level, local electoral institutions can be important to this process. In doing so, I identified two mechanisms through which local institutions can be critical. First, local electoral institutions will shape the incentives local politicians have for joining national parties. Specifically, all else equal, by making party membership a requisite to running for office, proportional representation will make joining national parties less costly to local politicians. This is even the case when, such as in Poland, starting parties is relatively cheap. Second, because of the need to monitor potential members and protect the party brand, increased demand for party membership will increase the incentives for parties to invest in organizing. My analysis then tested the plausibility of the first of these mechanisms by taking advantage of an abrupt change in local electoral institutions in a portion of municipalities in Poland. Applying a regression discontinuity design approach, I showed that the change from single-member districts
with plurality voting to open-seat proportional representation was associated with an increase of approximately 18% in national party seat share on local councils. This shows the important effect local electoral institutions can have on the penetration of national parties into local elections.

Each of the foregoing essays highlights the need for scholars of party politics in East-Central Europe to, first, consider alternative explanations for the apparent disarray in the party systems in the region and, second, the necessity of seeking out new and novel sources of data to further explore the politics of the region. For example, by treating rampant party switching in Poland as a network process, and by developing a new method to analyze it as such, I have shown that party switching, even at the extreme rates seen in Poland, may not be as harmful to the long-term development of the party system as conventional approaches and theory suggest. Likewise, by integrating disparate data sources and analytic methods, Paul DeBell and I showed that if we consider the role of parties in structuring individual ideology, the relationship between values and ideology in the region make sense. Finally, by collecting a new data set on local elections, I have shown that local electoral institutions may play an unrecognized role in party and party system development in new democracies. Together, these essays suggest that, while they may not look like the party systems of Western Europe, more progress is being made in party system development in East-Central Europe than is often recognized.
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A.1 The Polish Electoral System & Election Results

Poland has a semi-presidential system, with a bicameral legislature. The Sejm, the lower house, consists of 460 MPs elected through an open list PR system. The Senate, the upper house, consists of 100 members elected by plurality (Zielinski, Słomczynski, and Shabad 2005, pp. 376–377). The center of power in the Polish system resides in the Sejm, though it the President and the Senate maintained a good deal of influence until the 1997 constitution was adopted.
A.1.1 Summary of Electoral Rules


<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</tr>
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<tr>
<td>Electoral districts(^1)</td>
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<td>52</td>
<td>52</td>
<td>41</td>
<td>41</td>
<td>41</td>
<td>41</td>
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<td>District magnitude</td>
<td></td>
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<td>3</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
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<td>17</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>20</td>
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<tr>
<td>Median</td>
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<td>7</td>
<td>7</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>12</td>
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<td>Mean</td>
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<td>7.5</td>
<td>7.5</td>
<td>11.2</td>
<td>11.2</td>
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<td>Seat distribution</td>
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<td>391</td>
<td>460</td>
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<td>460</td>
<td>460</td>
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<td>69</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>Party</td>
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<td>5%</td>
<td>5%</td>
<td>5%</td>
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<td>Coalition</td>
<td>None</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>National list</td>
<td>5%</td>
<td>7%</td>
<td>7%</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Allocation system</td>
<td>Hare-</td>
<td>d’Hondt</td>
<td>d’Hondt</td>
<td>Sainte-</td>
<td>d’Hondt</td>
<td>d’Hondt</td>
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<tr>
<td></td>
<td>Niemeyer</td>
<td></td>
<td></td>
<td>d’Hondt</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{*}\) Indicates a change in electoral institutions. \(^{1}\) Excludes the national tier. Sources: Gebethner (2006) and Birch et al. (2002, table 2.1, p. 27), the Polish National Electoral Commission, and author’s calculations.
### A.1.2 Polish Election Details and Results: 1989–2011

Table A.2: Dates of Local, Parliamentary, and Presidential Elections and National Referenda in Poland.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Date</th>
<th>Winner</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parliament</td>
<td>1989–06–04</td>
<td>Solidarity</td>
<td>Partially contested</td>
</tr>
<tr>
<td>President</td>
<td>1990–11–25</td>
<td>Wałęsa (Solidarity)</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>1990–05–27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parliament</td>
<td>1993–09–19</td>
<td>SLD (20.4%, 171 seats)</td>
<td>8 parties won seats in Sejm</td>
</tr>
<tr>
<td>Local</td>
<td>1994–06–19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>President</td>
<td>1995–11–05</td>
<td>Kwasniewski (SLD)</td>
<td></td>
</tr>
<tr>
<td>Parliament</td>
<td>1997–09–11</td>
<td>AWS (33.8%, 201 seats)</td>
<td>6 parties won seats in Sejm</td>
</tr>
<tr>
<td>Local</td>
<td>1998–10–11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>President</td>
<td>2000–10–08</td>
<td>Kwasniewski (SLD)</td>
<td>12 candidates contested, Kwasniewski won in first round</td>
</tr>
<tr>
<td>Parliament</td>
<td>2001–09–23</td>
<td>SLD-UP (41.0%, 216 seats)</td>
<td>AWS (now known as AWSP) dissolved</td>
</tr>
<tr>
<td>Local</td>
<td>2002–10–27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referendum</td>
<td>2003–06–08</td>
<td>Vote to join EU</td>
<td></td>
</tr>
<tr>
<td>Parliament</td>
<td>2005–09–25</td>
<td>PiS (27.0%, 155 seats)</td>
<td>7 parties won seats in Sejm</td>
</tr>
<tr>
<td>President</td>
<td>2005–10–09</td>
<td>Kaczyński (PiS)</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>2006–11–12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parliament</td>
<td>2007–10–21</td>
<td>PO (41.5%, 209 seats)</td>
<td>5 parties won seats in Sejm</td>
</tr>
<tr>
<td>President</td>
<td>2010–07–04</td>
<td>Komorowski (PO)</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>2010–11–21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parliament</td>
<td>2011–10–09</td>
<td>PO (39.2%, 212 seats)</td>
<td>6 parties won seats in Sejm</td>
</tr>
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</table>
Table A.3: Election Results for the Polish Sejm, 1991.

<table>
<thead>
<tr>
<th>Party</th>
<th>Votes</th>
<th>Pct</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democratic Union (DU)</td>
<td>1382051</td>
<td>12.3</td>
<td>62</td>
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<tr>
<td>Democratic Left Alliance (SLD)</td>
<td>1344820</td>
<td>12.0</td>
<td>60</td>
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<tr>
<td>Catholic Election Action (WAK)</td>
<td>980304</td>
<td>08.7</td>
<td>49</td>
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<tr>
<td>Citizen’s Centre Agreement (POC)</td>
<td>977344</td>
<td>08.7</td>
<td>44</td>
</tr>
<tr>
<td>Polish Peasant Party - PA (PSL-SP)</td>
<td>972952</td>
<td>08.7</td>
<td>48</td>
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<tr>
<td>Confederation for an Independent Poland (KPN)</td>
<td>841738</td>
<td>07.5</td>
<td>46</td>
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<tr>
<td>Liberal Democratic Congress (KLD)</td>
<td>839978</td>
<td>07.5</td>
<td>37</td>
</tr>
<tr>
<td>Others</td>
<td>820108</td>
<td>07.3</td>
<td>0</td>
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<tr>
<td>Peasant Accord (PL)</td>
<td>613626</td>
<td>05.5</td>
<td>28</td>
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<tr>
<td>Independent Self-Governing Trade Union - Solidarity</td>
<td>566553</td>
<td>05.0</td>
<td>27</td>
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<tr>
<td>Polish Party of Friends of Beer (PPPP)</td>
<td>367106</td>
<td>03.0</td>
<td>16</td>
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<tr>
<td>Christian Democrats (CD)</td>
<td>265179</td>
<td>02.2</td>
<td>5</td>
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<tr>
<td>Union of Political Realists (UPR)</td>
<td>253024</td>
<td>02.2</td>
<td>3</td>
</tr>
<tr>
<td>Labour Solidarity (SP)</td>
<td>230975</td>
<td>02.1</td>
<td>4</td>
</tr>
<tr>
<td>Democratic Party (SD)</td>
<td>159017</td>
<td>01.4</td>
<td>1</td>
</tr>
<tr>
<td>German Minority (MN)</td>
<td>132059</td>
<td>01.2</td>
<td>7</td>
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<tr>
<td>Party of Christian Democrats (PCD)</td>
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<td>01.1</td>
<td>4</td>
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<tr>
<td>Party X (PX)</td>
<td>52735</td>
<td>00.5</td>
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<tr>
<td>Democratic-Social Movement (RDS)</td>
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<td>1</td>
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<tr>
<td>Peasant Election Alliance (LPW)</td>
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<td>1</td>
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<tr>
<td>Silesian Autonomy Movement (RAS)</td>
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<td>Krakow Coalition of Solidarity with the President (KKSP)</td>
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<td>1</td>
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<tr>
<td>Podhalan Union (ZIP)</td>
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<td>00.2</td>
<td>1</td>
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<tr>
<td>Polish Western Union (PZZ)</td>
<td>26053</td>
<td>00.2</td>
<td>4</td>
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<tr>
<td>Great Poland and Poland (WPP)</td>
<td>23188</td>
<td>00.2</td>
<td>1</td>
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<tr>
<td>Peasant Unity (JL)</td>
<td>18902</td>
<td>00.2</td>
<td>1</td>
</tr>
<tr>
<td>Electoral Committee of Orthodox Believers (KWP)</td>
<td>13788</td>
<td>00.1</td>
<td>1</td>
</tr>
<tr>
<td>Solidarity 80 (S 80)</td>
<td>12769</td>
<td>00.1</td>
<td>1</td>
</tr>
<tr>
<td>Union of Great Poles (UWL)</td>
<td>9019</td>
<td>00.1</td>
<td>1</td>
</tr>
<tr>
<td>Alliance of Women against Life’s Hardships (SKPTZ)</td>
<td>1922</td>
<td>00.0</td>
<td>1</td>
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</table>
### Table A.4: Election Results for the Polish Sejm, 1993.

<table>
<thead>
<tr>
<th>Party</th>
<th>Votes</th>
<th>Pct</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance of the Democratic Left (SLD)</td>
<td>2815169</td>
<td>20.4</td>
<td>171</td>
</tr>
<tr>
<td>Others</td>
<td>2186799</td>
<td>19.5</td>
<td>0</td>
</tr>
<tr>
<td>Polish Peasant Party (PSL)</td>
<td>2124367</td>
<td>15.4</td>
<td>132</td>
</tr>
<tr>
<td>Democratic Union (UD)</td>
<td>1460957</td>
<td>10.6</td>
<td>74</td>
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<tr>
<td>Labour Union (UP)</td>
<td>1005004</td>
<td>07.3</td>
<td>41</td>
</tr>
<tr>
<td>Confederation for Independent Poland (KPN)</td>
<td>795487</td>
<td>05.8</td>
<td>22</td>
</tr>
<tr>
<td>Non Party Reform Bloc (BBWR)</td>
<td>746653</td>
<td>05.4</td>
<td>16</td>
</tr>
<tr>
<td>German Minority of Opole Silesia</td>
<td>60770</td>
<td>00.4</td>
<td>3</td>
</tr>
<tr>
<td>Germans of Katowice Province (NWK)</td>
<td>23396</td>
<td>00.2</td>
<td>1</td>
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</tbody>
</table>

### Table A.5: Election Results for the Polish Sejm, 1997.

<table>
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<th>Votes</th>
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<td>Democratic Left Alliance (SLD)</td>
<td>3517866</td>
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<td>Others</td>
<td>1808674</td>
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<td>Freedom Union (UW)</td>
<td>1723811</td>
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<td>Polish Peasant Party (PSL)</td>
<td>900271</td>
<td>06.9</td>
<td>27</td>
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<td>Mvt for the Recn of Poland (ROP)</td>
<td>662668</td>
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<tr>
<td>German Social and Cultural Soc (MNO)</td>
<td>51027</td>
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### Table A.6: Election Results for the Polish Sejm, 2001.

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<th>Votes</th>
<th>Pct</th>
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</thead>
<tbody>
<tr>
<td>Democratic Left Alliance - Union of Labour (SLD-UP)</td>
<td>5342519</td>
<td>41.0</td>
<td>216</td>
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<tr>
<td>Citizens’ Platform (PO)</td>
<td>1651099</td>
<td>12.7</td>
<td>65</td>
</tr>
<tr>
<td>Self-Defence (SO)</td>
<td>1327624</td>
<td>10.2</td>
<td>53</td>
</tr>
<tr>
<td>Law and Justice (PiS)</td>
<td>1236787</td>
<td>09.5</td>
<td>44</td>
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<tr>
<td>Polish People’s Party (PSL)</td>
<td>1168659</td>
<td>09.0</td>
<td>42</td>
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<tr>
<td>League of Polish Families (LPR)</td>
<td>1025148</td>
<td>07.9</td>
<td>38</td>
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<tr>
<td>Solidarity Electoral Action Work (AWSP)</td>
<td>729207</td>
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<tr>
<td>Others</td>
<td>85582</td>
<td>00.6</td>
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<tr>
<td>German Minority (MN)</td>
<td>47230</td>
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Table A.7: Election Results for the Polish Sejm, 2005.

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<tr>
<td>Law and Justice (PiS)</td>
<td>3185714</td>
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<td>155</td>
</tr>
<tr>
<td>Citizens' Platform (PO)</td>
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<td>24.1</td>
<td>133</td>
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<tr>
<td>Self-Defence of the Republic of Poland (SRP)</td>
<td>1347355</td>
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<td>56</td>
</tr>
<tr>
<td>Democratic Left Alliance (SLD)</td>
<td>1335257</td>
<td>11.3</td>
<td>55</td>
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<td>Others</td>
<td>1128334</td>
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<tr>
<td>League of Polish Families (LPR)</td>
<td>940726</td>
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<tr>
<td>German Minority (MN)</td>
<td>34469</td>
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</table>

Table A.8: Election Results for the Polish Sejm, 2007.

<table>
<thead>
<tr>
<th>Party</th>
<th>Votes</th>
<th>Pct</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizens' Platform (PO)</td>
<td>6701010</td>
<td>41.5</td>
<td>209</td>
</tr>
<tr>
<td>Law and Justice (PiS)</td>
<td>5183477</td>
<td>32.1</td>
<td>166</td>
</tr>
<tr>
<td>Left and Democrats (LiD)</td>
<td>2122981</td>
<td>13.1</td>
<td>53</td>
</tr>
<tr>
<td>Polish People's Party (PSL)</td>
<td>1437638</td>
<td>08.9</td>
<td>31</td>
</tr>
<tr>
<td>Self-Defence of the Republic of Poland (SRP)</td>
<td>247335</td>
<td>01.5</td>
<td>0</td>
</tr>
<tr>
<td>League of Polish Families (LPR)</td>
<td>209171</td>
<td>01.3</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>208128</td>
<td>02.3</td>
<td>0</td>
</tr>
<tr>
<td>German Minority (MN)</td>
<td>32462</td>
<td>00.2</td>
<td>1</td>
</tr>
</tbody>
</table>

Table A.9: Election Results for the Polish Sejm, 2011.

<table>
<thead>
<tr>
<th>Party</th>
<th>Votes</th>
<th>Pct</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizens' Platform (PO)</td>
<td>5629773</td>
<td>39.2</td>
<td>207</td>
</tr>
<tr>
<td>Law and Justice (PiS)</td>
<td>4295016</td>
<td>29.9</td>
<td>157</td>
</tr>
<tr>
<td>Ruch Palikota (RP)</td>
<td>1439490</td>
<td>10.0</td>
<td>40</td>
</tr>
<tr>
<td>Polish People's Party (PSL)</td>
<td>1201628</td>
<td>08.4</td>
<td>28</td>
</tr>
<tr>
<td>Union of the Democrat Left (SLD)</td>
<td>1184303</td>
<td>08.2</td>
<td>27</td>
</tr>
<tr>
<td>Others</td>
<td>591279</td>
<td>04.1</td>
<td>0</td>
</tr>
<tr>
<td>German Minority (MN)</td>
<td>28014</td>
<td>00.2</td>
<td>1</td>
</tr>
</tbody>
</table>
A.2 Convergence Statistics

Figure A.1: Trace and Density Plots for Log-Probability (4 chains).
Figure A.2: Trace and Density Plots for Decay Parameter (4 chains).

Figure A.3: Distribution of the Potential Scale Reduction Factor for Estimated Latent Positions and Trajectories.
A.3 Source Code for Stan Model

```stan
// Latent Path Model: 2 dimensional
// Poisson
// fixed references
// decay
//
// Copyright (C) 2015: Jason W. Morgan <morgan.746@osu.edu>
//
// data {
int<lower=1> n;  // total number of nodes
int<lower=1> N;  // number of observed dyads
int<lower=1> T;  // number of time periods
int<lower=1> K;  // number of dimensions in latent space

// These arrays track the outcome and the associated time period and indices
// of the nodes
int<lower=1> t_idx[N];  // time period of observed outcome
int<lower=1> node1_idx[N];
int<lower=1> node2_idx[N];
int<lower=0> y[N];  // outcome
}
parameters {
vector[T] beta;
real<lower=0> decay;

// Piechota, lower-left quadrant (III)
real<lower=-5,upper=0> pos_x1;  real<lower=-5,upper=0> pos_y1;

// Komorowski, lower-right quadrant (IV)
real<lower=0,upper=5> pos_x2;  real<lower=-5,upper=0> pos_y2;

// Pawlak, upper-left quadrant (II)
real<lower=-5,upper=5> pos_x3;  real<lower=0,upper=5> pos_y3;

matrix[n-3,K] pos_raw;
matrix[n-3,K] traj_raw;
}
model {
matrix[n,K] pos;  // positions with constrained obs added
matrix[n,K] traj;  // positions with constrained obs added
matrix[n,K] positions[T];  // container for calculated positions

vector[N] D;  // container for beta - pairwise distances
row_vector[2] node1_pos;
row_vector[2] node2_pos;
real beta_mu;
```
// Priors --------------------------------------------------------------------

beta ~ normal(0, 1);
decay ~ normal(1, 1);

// Centered at the origin with a tight variance so that any differences
// are indicative of differences in latent position.
pos_x1 ~ normal( 0, 0.25); pos_y1 ~ normal( 0, 0.25);
pos_x2 ~ normal( 0, 0.25); pos_y2 ~ normal( 0, 0.25);
pos_x3 ~ normal( 0, 0.25); pos_y3 ~ normal( 0, 0.25);

for (k in 1:K) {
    col(pos_raw, k) ~ normal(0, 1);
    col(traj_raw, k) ~ normal(0, 0.5);
}

// Containers ----------------------------------------------------------------

// Constrained nodes
pos[1,1] <- pos_x1; pos[1,2] <- pos_y1;
pos[2,1] <- pos_x2; pos[2,2] <- pos_y2;
pos[3,1] <- pos_x3; pos[3,2] <- pos_y3;

// Trajectories for references are fixed at zero
traj[1,1] <- 0; traj[1,2] <- 0;
traj[2,1] <- 0; traj[2,2] <- 0;
traj[3,1] <- 0; traj[3,2] <- 0;

// Unconstrained nodes
for (i in 1:(n-3)) {
    pos[i+3,1] <- pos_raw[i,1];
pos[i+3,2] <- pos_raw[i,2];
    traj[i+3,1] <- traj_raw[i,1];
    traj[i+3,2] <- traj_raw[i,2];
}

// Model ---------------------------------------------------------------------

// Calculate positions for each node
positions[1] <- pos;
for (t in 2:T) { positions[t] <- pos + pow(t-1, decay) * traj; }

// Calculate pairwise distances for each observed dyad; adjusted for
// time-specific intercept (beta).
beta_mu <- mean(beta);
for (i in 1:N) {
    node1_pos <- positions[t_idx[i]][node1_idx[i]];
    node2_pos <- positions[t_idx[i]][node2_idx[i]];
}
\[
D[i] <- \text{beta}[t_{idx[i]}] - \text{distance}(\text{node1_pos, node2_pos});
\]

\[
y ~ \text{poisson_log}(D);
\]
Appendix B: Left-Right

B.1 Schwartz PVQ

<table>
<thead>
<tr>
<th>N</th>
<th>Variable</th>
<th>Schwartz value</th>
<th>Four values</th>
<th>Question description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ipcrtiv</td>
<td>Self-direction</td>
<td>Openness</td>
<td>Important to think new ideas and being creative.</td>
</tr>
<tr>
<td>2</td>
<td>imprich</td>
<td>Power</td>
<td>Self-enhancement</td>
<td>Important to be rich; have money and expensive things.</td>
</tr>
<tr>
<td>3</td>
<td>ipeqopt</td>
<td>Universalism</td>
<td>Self-transcendence</td>
<td>Important that people are treated equally and have equal opportunities.</td>
</tr>
<tr>
<td>4</td>
<td>ipshabt</td>
<td>Achievement</td>
<td>Self-enhancement</td>
<td>Important to show abilities and be admired.</td>
</tr>
<tr>
<td>5</td>
<td>impsafe</td>
<td>Security</td>
<td>Conservation</td>
<td>Important to live in secure and safe surroundings.</td>
</tr>
<tr>
<td>6</td>
<td>impdiff</td>
<td>Stimulation</td>
<td>Openness</td>
<td>Important to try new and different things in life.</td>
</tr>
<tr>
<td>7</td>
<td>ipfrule</td>
<td>Conformity</td>
<td>Conservation</td>
<td>Important to do what is told and follow rules.</td>
</tr>
<tr>
<td>8</td>
<td>ipudrst</td>
<td>Universalism</td>
<td>Self-transcendence</td>
<td>Important to understand different people.</td>
</tr>
<tr>
<td>9</td>
<td>ipmodst</td>
<td>Tradition</td>
<td>Conservation</td>
<td>Important to be humble and modest; not draw attention.</td>
</tr>
<tr>
<td>10</td>
<td>ipgdtim</td>
<td>Hedonism</td>
<td>Openness</td>
<td>Important to have a good time.</td>
</tr>
<tr>
<td>11</td>
<td>impfree</td>
<td>Self-direction</td>
<td>Openness</td>
<td>Important to make own decisions and be free.</td>
</tr>
<tr>
<td>12</td>
<td>iphippl</td>
<td>Benevolence</td>
<td>Self-transcendence</td>
<td>Important to help people and care for others well-being.</td>
</tr>
<tr>
<td>13</td>
<td>ipsuces</td>
<td>Achievement</td>
<td>Self-enhancement</td>
<td>Important to be successful and that people recognize achievements.</td>
</tr>
<tr>
<td>14</td>
<td>ipstrgv</td>
<td>Security</td>
<td>Conservation</td>
<td>Important that government is strong and ensures safety.</td>
</tr>
<tr>
<td>15</td>
<td>ipadvnt</td>
<td>Stimulation</td>
<td>Openness</td>
<td>Important to seek adventures and have an exiting life.</td>
</tr>
<tr>
<td>16</td>
<td>ipohppr</td>
<td>Conformity</td>
<td>Conservation</td>
<td>Important to behave properly.</td>
</tr>
<tr>
<td>17</td>
<td>iprsopv</td>
<td>Power</td>
<td>Self-enhancement</td>
<td>Important to get respect from others.</td>
</tr>
<tr>
<td>18</td>
<td>iplyifr</td>
<td>Benevolence</td>
<td>Self-transcendence</td>
<td>Important to be loyal to friends and devote to people close.</td>
</tr>
<tr>
<td>19</td>
<td>impenv</td>
<td>Universalism</td>
<td>Self-transcendence</td>
<td>Important to care for nature and environment.</td>
</tr>
<tr>
<td>20</td>
<td>imprad</td>
<td>Tradition</td>
<td>Conservation</td>
<td>Important to follow traditions and customs.</td>
</tr>
<tr>
<td>21</td>
<td>impfun</td>
<td>Hedonism</td>
<td>Openness</td>
<td>Important to seek fun and things that give pleasure.</td>
</tr>
</tbody>
</table>
B.2 Descriptive Statistics


<table>
<thead>
<tr>
<th></th>
<th>min</th>
<th>25%</th>
<th>median</th>
<th>mean</th>
<th>75%</th>
<th>max</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ</td>
<td>0.000</td>
<td>4.000</td>
<td>5.000</td>
<td>5.339</td>
<td>7.000</td>
<td>10.000</td>
<td>2.454</td>
</tr>
<tr>
<td>HU</td>
<td>0.000</td>
<td>4.000</td>
<td>5.000</td>
<td>5.378</td>
<td>7.000</td>
<td>10.000</td>
<td>2.341</td>
</tr>
<tr>
<td>PL</td>
<td>0.000</td>
<td>5.000</td>
<td>5.000</td>
<td>5.551</td>
<td>7.000</td>
<td>10.000</td>
<td>2.284</td>
</tr>
<tr>
<td>SI</td>
<td>0.000</td>
<td>3.000</td>
<td>5.000</td>
<td>4.743</td>
<td>5.000</td>
<td>10.000</td>
<td>2.325</td>
</tr>
<tr>
<td>SK</td>
<td>0.000</td>
<td>3.000</td>
<td>5.000</td>
<td>4.842</td>
<td>6.000</td>
<td>10.000</td>
<td>2.401</td>
</tr>
</tbody>
</table>

Note: Includes only those observations included in the item response models.

Table B.3: Summary Statistics for the Main Variables of Interest

<table>
<thead>
<tr>
<th>Value</th>
<th>Min.</th>
<th>1st Q.</th>
<th>Median</th>
<th>Mean</th>
<th>3rd Q.</th>
<th>Max.</th>
<th>NAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left-Right Agreement</td>
<td>0.000</td>
<td>1.080</td>
<td>2.170</td>
<td>2.594</td>
<td>3.786</td>
<td>9.471</td>
<td>26301</td>
</tr>
<tr>
<td>Conservation</td>
<td>0.000</td>
<td>0.457</td>
<td>0.966</td>
<td>1.134</td>
<td>1.635</td>
<td>6.633</td>
<td>0</td>
</tr>
<tr>
<td>Openness</td>
<td>0.000</td>
<td>0.437</td>
<td>0.926</td>
<td>1.116</td>
<td>1.587</td>
<td>6.326</td>
<td>0</td>
</tr>
<tr>
<td>Self-enhancement</td>
<td>0.000</td>
<td>0.441</td>
<td>0.922</td>
<td>1.118</td>
<td>1.582</td>
<td>6.435</td>
<td>0</td>
</tr>
<tr>
<td>Self-transcendence</td>
<td>0.000</td>
<td>0.461</td>
<td>0.963</td>
<td>1.129</td>
<td>1.625</td>
<td>5.927</td>
<td>0</td>
</tr>
</tbody>
</table>

B.3 IRT Model and Results

We have chosen to use IRT models instead of traditional data-reduction tools, such as factor analysis, because the method estimates factor scores directly instead
of treating them as “by-products” of the procedure and masking parameter identifying assumptions as is often the case with factor analysis (Treier and Jackman 2002, 2008). IRT also has the advantage of being easily extended to ordered discrete responses and of effectively incorporating missing responses. This last point is crucial in using the PVQ with the left-right self-placement measures as both sets of indicators contain high levels of missing data. Since factor analysis depends upon correlations between responses, missing data is a serious issue, and is typically dealt
with through list-wise or pair-wise deletion or with multiple imputation. IRT models, on the other hand, model individual responses, not correlations, and are thus able to handle moderate levels of missingness, while still estimating unbiased factor scores for those respondents. Finally, IRT models can include fixed or mixed effects to accommodate grouping in the data, which makes them ideal for inclusion in the mixed-effects model we employ in testing the heuristic hypothesis.

Respondents’ scores on each of the psychological dimensions were constructed from four separate item response models for each country. While a single model (per dimension) was estimated for each country, temporal heterogeneity was permitted by allowing the item slopes (discriminants) to vary by ESS round. Item intercepts were fixed to facilitate comparison across time. To ensure that we were assessing quality responses, respondents were removed from the analysis if they had failed to answer 5 or more of the 21 questions or if they provided the same answer for 15 or more of the questions.94

B.4 Coding Values from the CMP

Our indices included the following measures from the Comparative Manifestos Project:

- **Conservation**: *National way of life* (positive mentions – 601): appeals to national ideal, nationhood, history, patriotism, and even the suspension of some freedoms to protect the state against subversion; *Traditional morality* (positive mentions – 603): favorable mentions of traditional and/or religious moral values,

94IRT models were estimated with mirt package (version 1.6, Chalmers 2012) in R (version 3.2.0, R Core Team 2015).
Figure B.2: Mean Factor Scores for the Four Values Dimensions, ESS 2002–2012. The figure presents the mean factor scores for each of the four values dimensions for each country in the IRT analysis.

including censorship/prohibition of immoral behavior, support for religious institutions, and emphasis on family values; Law and order (605): favoring strict law enforcement, increasing support for police, cracking down on crime and
emphasizing domestic security; *Civic mindedness* (606): appeals for national solidarity and the need for society to see itself as unified, decrying “anti-social” behavior during times of crisis; *Multiculturalism* (negative mentions – 608): appeals for cultural homogeneity and the enforcement of cultural integration; *Economic planning* (404): favorable mentions of long-standing economic planning by the government; *Protectionism* (406): favorable mentions of extending or maintaining protections of internal market through tariffs, quotas, and export subsidies, etc.; *Controlled Economy* (412): support for direct government control of the economy (price and wage control); *Nationalization* (413): favorable mentions / advocacy of government ownership of business and land.

- **Openness:** *Governmental and Administrative Efficiency* (303): Need to make govt more efficient and cheaper, including calls for restructuring or cutting down on civil service and bureaucracy; *Protectionism* (negative mentions – 407): support for concept of free trade and open markets and for less market protection; *National way of life* (negative mentions – 602): opposition to use of patriotism and nationalism or negative references about national history or state; *Traditional morality* (negative references – 406): opposition to traditional and/or religious values, including support for divorce / abortion, support for “modern family composition” and calls for separation of church and state; *Multiculturalism* (positive references – 607): favorable mentions of cultural diversity and plurality within domestic society, including preservation of autonomy in terms of religion, education, language
• **Self-enhancement**: *Military* (positive references – 104): importance of a strong military and calls for increasing its size; *Internationalism* (negative references – 109): negative references to international co-operation, favorable mentions of national independence and sovereignty with regard to the manifesto country’s foreign policy, isolation and/or unilateralism as opposed to internationalism; *European Union* (negative references – 110): Criticisms of the EU/EC both regarding general integration as well as specific EU policies/actions; *Freedom/Human rights* (201): importance of personal freedom and civil rights, including freedom of press, freedom from state coercion and bureaucracy, and individualism; *Free Market Economy* (401): favorable mentions of laissez-faire economics and superiority of individual enterprise over state controlled systems; *Welfare state limitation* (505): limiting state expenditures of social services and mentions of social subsidiary principle (private care/accounts etc.)

• **Self-transcendence**: *Military* (Negative – 105): negative references to military power, spending, or the use of force; *Peace* (106): any references on the importance of solving conflicts (devoid of military intervention); *EU positive* (108): Favorable references to joining EU or expanding cooperation with EU/EC powers and competencies; *Market Protection* (403): calls for creating a more fair market through increased consumer protection, anti-trust, protecting small businesses against big corporations, and a social market economy; *Equality* (503): social justice and fair treatment of all people, including special protection for the underprivileged, removal of class barriers, ending discrimination; *welfare state expansion* (504): need to introduce or maintain any public service or social security scheme; *Underprivileged minority groups* (705): general
favorable references to underprivileged minorities defined neither by economic
or demographic terms (ie handicapped, homosexuals, immigrants)

B.5 Stan Code for Basic SUR Model

```stan
// Latent Path Model: 4 Dimensional SUR Model

// Copyright (C) 2015: Jason W. Morgan <morgan.746@osu.edu>
// Paul A. DeBell <debell.2@osu.edu>

data {
  int<lower=1> N; // number of respondents
  int<lower=2> P; // number of parties
  vector[P] conserve [N]; // distance on conservation
  vector[P] openness [N]; // distance on openness
  vector[P] enhance [N]; // distance on self-enhancement
  vector[P] transcend [N]; // distance on self-transcendence
  vector[P] y[N]; // response variable
}

parameters {
  vector[P] alpha; // intercepts
  vector[P] beta_c; // coefficient for conservation
  vector[P] beta_o; // coefficient for openness
  vector[P] beta_e; // coefficient for self-enhancement
  vector[P] beta_t; // coefficient for self-transcendence
  vector<lower=0>[P] sigma; // standard deviation
  corr_matrix[P] Sigma; // correlation matrix
}

model {
  matrix[P,P] Omega;
  Omega <- quad_form_diag(Sigma, sigma);
  Sigma ~ lkj_corr(2.0);
  sigma ~ cauchy(0, 2.5);

  // Coefficients
  alpha ~ normal(0.0, 2.5);
  beta_c ~ normal(0.0, 2.5);
  beta_o ~ normal(0.0, 2.5);
  beta_e ~ normal(0.0, 2.5);
  beta_t ~ normal(0.0, 2.5);

  vector[P] theta[N];

  for(n in 1:N)
    theta[n] <- alpha +
      (conserve[n] .* beta_c) + (openness[n] .* beta_o) +
      (enhance[n] .* beta_e) + (transcend[n] .* beta_t) +
      y[n];
}
```

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(enhance[n] .* beta_e) + (transcend[n] .* beta_t);

y ~ multi_normal(theta, Omega);
}