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The Geographic Distribution of Political Preferences

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Abstract

In order to address classic questions about democratic representation in countries with winner-take-all electoral districts, it is necessary to understand the distribution of political preferences across districts. Recent formal theory literature has contributed new insights into how parties choose platforms in countries with a continuum of heterogeneous districts. Meanwhile, increases in survey sample sizes and advances in empirical techniques have made it possible to characterize the distribution of preferences within and across electoral districts. This review addresses an emerging literature that builds on these new tools to explore the ways in which the geography of political preferences can help explain the parties that compete, the platforms and policies they choose, and even the rules under which they compete. Building on insights from economic and political geography, it pays special attention to electoral and policy biases that can emerge when there is an asymmetric distribution of preferences across districts.

INTRODUCTION

Voters cannot be regarded as scattered at random over the various constituencies. (Kendall & Stuart 1950, p. 188).

This article considers the implications of Kendall & Stuart's important but relatively obvious insight about British elections in the first half of the twentieth century. Through some process involving homophily, segregation, and socialization, voters are clustered into neighborhoods of individuals with similar political preferences and party orientations. In societies with a high degree of residential mobility, individuals sort themselves into neighborhoods with similar demographic, occupational, income, and ultimately political profiles. For the poor, residential choices in metropolitan areas are severely circumscribed by housing and transportation options. Even in traditional societies without much residential mobility, voters are often clustered into villages or neighborhoods where strong social ties reinforce similar political preferences and voting behavior among neighbors, and these often endure for generations.

In other words, Tobler's (1970) "first law of geography" is true of political preferences: "Everything is related to everything else, but near things are more related than distant things." Modern spatial statistics allows the quantification of this relationship, and it is relatively easy to show that voting behavior is spatially dependent: the probability that two randomly drawn individuals (or precincts) exhibit similar voting behavior is a function of the distance between their locations (Chen & Rodden 2009).

This is old news dressed up with new techniques. Political geographers and historians have long attempted to describe and analyze the historical roots of such clusters as the "red belt" in Italy (Bagnasco 1977) or the "black belt" in the U.S. South (Key 1949). More recently, empirical scholars have attempted to gain greater insights into the mechanism behind so-called neighborhood effects or contextual effects, whereby political socialization is thought to transmit values or behaviors to

newcomers and offspring (Johnston 1992, Cho et al. 2006).

Yet these observations have done surprisingly little to inform modern positive political economy. Scholars have learned to quantify the extent to which political behavior is geographically clustered and, with mixed success, attempted to explain why this is the case, but implications for elections and representation have not been fully explored. For the most part, when developing basic models addressing such crucial topics as platform choice, party systems, representation, and the transformation of preferences to policies, geography has been a blind spot for political scientists. This is an especially noteworthy oversight in former British colonies such as the United States, where legislative representation takes place via winner-take-all districts.

Beginning with Downs (1957), the spatial theory of elections provides the analytical foundation for most contemporary theorizing about representative politics. Policies are understood as points along a single issue dimension, where each voter can be characterized by an ideal point. Two candidates offer platforms designed to maximize their chance of winning the seat, and in the workhorse model, electoral competition forces them to converge to the ideal point of the median voter. The vast majority of theoretical work making use of this framework treats competition between two candidates in a single district the same way as competition between two parties in a national election. In order to sweep geography under the rug, this literature often makes one of two simplifying assumptions: Either each district contains an identical distribution of voter ideal points, or, perhaps more realistically, the overall distribution of individuals mirrors the distribution of district medians.

Perhaps these simplifying assumptions have been reinforced by challenges related to survey research. Scholars work hard to obtain representative national samples, but until very recently, they have not had the resources to aim for representative samples at lower levels such as provinces or electoral districts.

While students of parties and elections have applied a workhorse model with a blind spot for geography, political economists have done the same thing with their workhorse model of income and redistribution. Building on some of Aristotle's observations about democracy and the income distribution in the *Politics*, Romer (1975) and especially Meltzer & Richard (1981) lay the foundation for much modern political economy with a simple median-voter model in which the level of redistribution in a polity is driven by the difference between the income of the median voter and the average income across all voters. As in the Downsian literature, applications of this model generally ignore the details of representation through geographic districts, implicitly assuming that the distribution of income across individuals resembles that across electoral districts.

Such work has led to important insights, but it has left some nagging concerns. Above all, since we know that individuals are clustered into relatively homogeneous neighborhoods through some social process that is only dimly understood, the distribution of district-level ideal points or income might be different from the distribution across individuals. Though avoiding the notions of ideal points or ideology and focusing instead on partisanship, this is the central insight of some of the classics of British electoral geography (e.g., Taylor & Johnston 1979, Gudgin & Taylor 1979). These works viewed elections as two interacting spatial distributions—the pattern of party voters and the pattern of constituency boundaries—and demonstrated the many ways in which the superimposition of boundaries on the geography of party voters might generate distortions in the transformation of votes to seats.

Their insights have had surprisingly little impact on the work of contemporary political scientists and economists. Since the golden era of British electoral geography in the 1970s, geographers have largely turned away from mathematics and formal modeling, while political scientists have embraced them. Beginning with Hinich & Ordeshook's (1974) work on the electoral college, a handful of formal theorists have

approached these same questions, but in a different spirit: They are attempting to rectify the geographic blind spot of the Downsian model by developing theories of platform choice in which party leaders adopt a single national platform in a context where the relevant distribution of preferences or partisanship is across a continuum of districts rather than individuals.

While formal theorists have begun to develop some insights about how the geographic distribution of preferences affects the logic of platform choice, they have not asked even the most basic questions about what might be driving these distributions. Meanwhile, economic geographers and urban economists have planted the seeds for systematic theories of geography and political preferences by taking Tobler's Law very seriously. They have discovered that economic activity and residential choices are most certainly not random but follow distinctive patterns that are driven by agglomeration and urbanization economies, real estate markets, the political economy of zoning, and the logic of transportation infrastructure.

This article argues that by extending the nascent political science theory literature on platform choice in a way that highlights the insights of classic British electoral geography, adding some basic lessons from economic geography and urban economics, and taking advantage of new advances in data quality and empirical technique, it is possible to derive some surprising new insights into old questions about representation and the (imperfect) transformation of preferences into public policy. After we establish some basic facts about the distribution of political preferences in geographic space, and then explore the process through which plurality districts are drawn, it becomes clear that because of the way individuals cluster together in space, the overall distribution of individual preferences can have a different shape, and a different median, than the interdistrict distribution. Once we add details about electoral and legislative institutions, we can gain fresh insights into key questions about



party systems, platform choice, and the transformation of votes to seats and preferences to policies, as well as questions about the relationship between electoral rules and long-term cross-country differences in policies.

This article pays special attention to one such argument with roots in classic British political geography. There are good reasons to believe that in many industrialized democracies, the early postwar period featured a left skew in the distribution of partisanship across districts. Leftists were highly concentrated in industrialized urban districts and mining regions. This inefficient distribution across districts caused the parties of the left to suffer in the transformation of votes to seats, and perhaps even caused leftist ideologies to suffer in the transformation of preferences to policies. Moreover, the highly skewed distribution of socialists across districts around the turn of the century might help explain the strategies of the key players during the period of franchise expansion and institutional choice in Europe in the early twentieth century.

Although it is possible to use electoral data to show a long-term pattern whereby the support for labor and socialist parties is more concentrated than that of right-wing parties, it is important not to confuse the distribution of voting behavior across districts with the distribution of political preferences on some salient issue dimensions. The latter has been particularly difficult to measure because, in years past, surveys have not contained enough observations to support reliable inferences about preferences at the district level. Survey researchers have made slow, steady progress on this issue, however, and at least in the United States, it is now possible to get a relatively believable snapshot of district-level preferences on multiple issue dimensions. As with district-level vote shares for Republican presidential candidates, the distribution of median preferences across districts indeed has a pronounced left skew owing to the concentration of leftists in densely populated cities. This observation has some important implications for the translation of votes to seats, and possibly some more

controversial implications for the translation of preferences into policies. Moreover, the inter-district distribution of preferences might help resolve some other puzzles in the study of Congress.

These observations might also have implications for the more abstract literature in the Meltzer-Richard (1981) tradition that assumes political preferences are derived exclusively from one's place on the income spectrum. In many societies the poor live in higher density than the rich, such that the median voter in the median district is wealthier than the median voter in the society as a whole. Moreover, the distribution of income across districts will always be far less right-skewed than the distribution across individuals, and if the districts are large enough, the distribution will not be skewed at all. These simple observations have clear, as-yet-untested implications for redistribution. Putting together the arguments about the influence of leftist platforms and poor voters, political geography might be an important part of the explanation for the long-term differences between the policy profiles of countries with single-member plurality districts and those with proportional representation.

This article proceeds as follows. The first section reviews the theory literature on platform choice with heterogeneous plurality districts, highlighting recent progress as well as remaining holes, while paying special attention to the possibility of a skewed distribution of preferences across districts. The second section explains why the interdistrict distribution might indeed be unavoidably skewed in some societies, and explores implications for electoral and policy bias. The third section explains why it is important to distinguish between the interdistrict distributions of partisanship and political preferences, and explores efforts to measure political preferences and characterize their distribution within and across districts, paying special attention to the United States. Sections four and five are more speculative, focusing on implications and questions for further research in the American and comparative politics literatures, respectively.

POLITICAL COMPETITION WITH HETEROGENEOUS PLURALITY DISTRICTS

Symmetric Distributions of District-Level Preferences

Beginning with Hinich & Ordeshook (1974), a handful of theory papers have attempted to move beyond the single-district framework of Hotelling (1929) in order to address the fact that, at least in Britain and its former colonies, parties must set their platforms in a context of multiple, heterogeneous plurality districts.

Figure 1a displays the spatial distribution of preferences in a hypothetical society with five districts, where there is a symmetric, unimodal distribution of preferences within each district and a symmetric distribution of district medians. The medians of each district are marked with ticks on the horizontal axis. One of the first multi-district models was that of Hinich & Ordeshook (1974), which proves the analog of the famous single-district result: two competing parties converge to the ideal point of the median voter in the median district. In the symmetric example in **Figure 1a**, the median voter in the median district is identical to the median voter in the society.

Yet this type of model is somewhat unsatisfying, above all because we observe in practice that platforms do not converge, either at the district level or the national level (Ansolabehere et al. 2001). The parties might have to worry about entry by third parties in the extreme districts (Palfrey 1984). Moreover, given the heterogeneity portrayed in **Figure 1a**, it seems likely that parties will face internal tension between different constituencies, and this tension might not always be resolved in a way that leads to the adoption of the seat-maximizing platform.

The first problem is taken up by Callander (2005), who considers a uniform distribution of districts like that displayed in **Figure 1a**. Callander focuses on the competing needs of the two major national parties to appeal to moderates and win districts in the middle of the spectrum while deterring entry by third

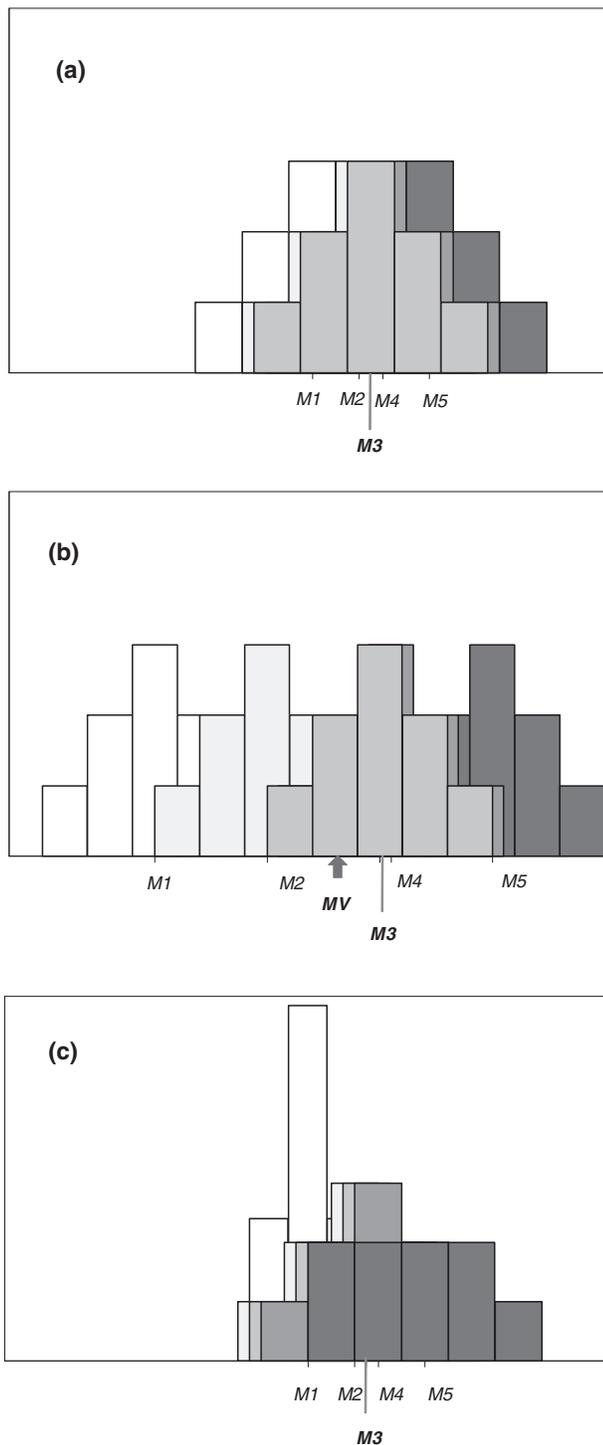


Figure 1 Hypothetical distributions of voters and districts.



parties in the extreme districts. In this model, a party enters only if it can win a district, so the entry-detering equilibrium platforms for the two parties in **Figure 1a** would be at the medians of the two extreme districts. This would stave off entry in the extreme districts while also barely avoiding the entry of a centrist party that adopts the median preference in the median district. Thus, in contrast to the Hinich & Ordeshook (1974) model, the platforms of the parties are quite far apart.

In Callander's model, party leaders are able to choose the most efficient platform for the party as a whole. This is not the case in Austen-Smith's (1984) account, where national party platforms are aggregations of the policy positions of individual candidates who care primarily about securing their own reelection, and where the mechanism through which party members' platforms are aggregated into party platforms might allow some individuals to be more influential than others. In a similar vein, Snyder (1994), Ansolabehere et al. (2005), and Leblanc (2007) model national party platforms as emerging from a process of collective choice among the party's legislative incumbents.

A key feature of the model developed by Ansolabehere, Leblanc, and Snyder is that it involves two periods. The platforms in the second period are determined by the median of the legislative incumbents elected in the first period, but the outcome of the initial election is affected by some exogenous valence shock (e.g., economic crisis or war) that favors one party or the other. To understand the logic, consider **Figure 1a** once again. In the initial election, simply apply the logic of Hinich & Ordeshook (1974) and assume that the parties converge to the preference of the median voter in the median district (that of district 3), such that neither party has an advantage on the ideological dimension. But imagine that the party of the right benefits from a valence shock, allowing it to capture the normally indifferent voters at the national median, which allows the party of the right to win districts 3, 4, and 5. In the second period, the party's platforms are chosen

by majority rule among the incumbents, whose induced platform preferences are their district medians. Thus, the platform of the right party, R , is the median of district 4, and the platform of the left party, L , is the average of the medians of districts 1 and 2. Thus, as the parties approach the next election, the R party is slightly closer to the national median than the L party, whose self-interested incumbents set the platform in a way that undermines the party's chances in the next election. Because they are uncertain about future valence shocks, they cannot afford to allow the party platform to wander too far from their district medians.

This intuition seems to match up quite nicely with reality. When times are good for a party, its platform is influenced by moderate voices that it has been able to bring into the fold. When times are bad, it becomes extreme and experiences a time in the wilderness, and it must wait for some exogenous good fortune, such as an unpopular war or a recession, to bring moderates back into the party.

Asymmetric Distributions of District-Level Preferences

Ever since Kendall & Stuart (1950), who presented a normal distribution of district-level partisanship as a kind of natural law of political geography, much of the literature considering the distribution of partisans across districts begins and ends with a symmetric, unimodal distribution.

However, consider the distribution of Republican presidential vote shares across U.S. congressional districts, displayed in **Figure 2** for each election since 1952. Largely because Democrats are highly concentrated in cities, the distribution demonstrates a pronounced left skew. In fact, a similar observation was made in the classic electoral geography literature about several first-past-the post countries in the decades immediately after World War II: Australia (Rydon 1957), Great Britain (Gudgin & Taylor 1979), New Zealand (Johnston 1976), and the United States (Erikson 1972).

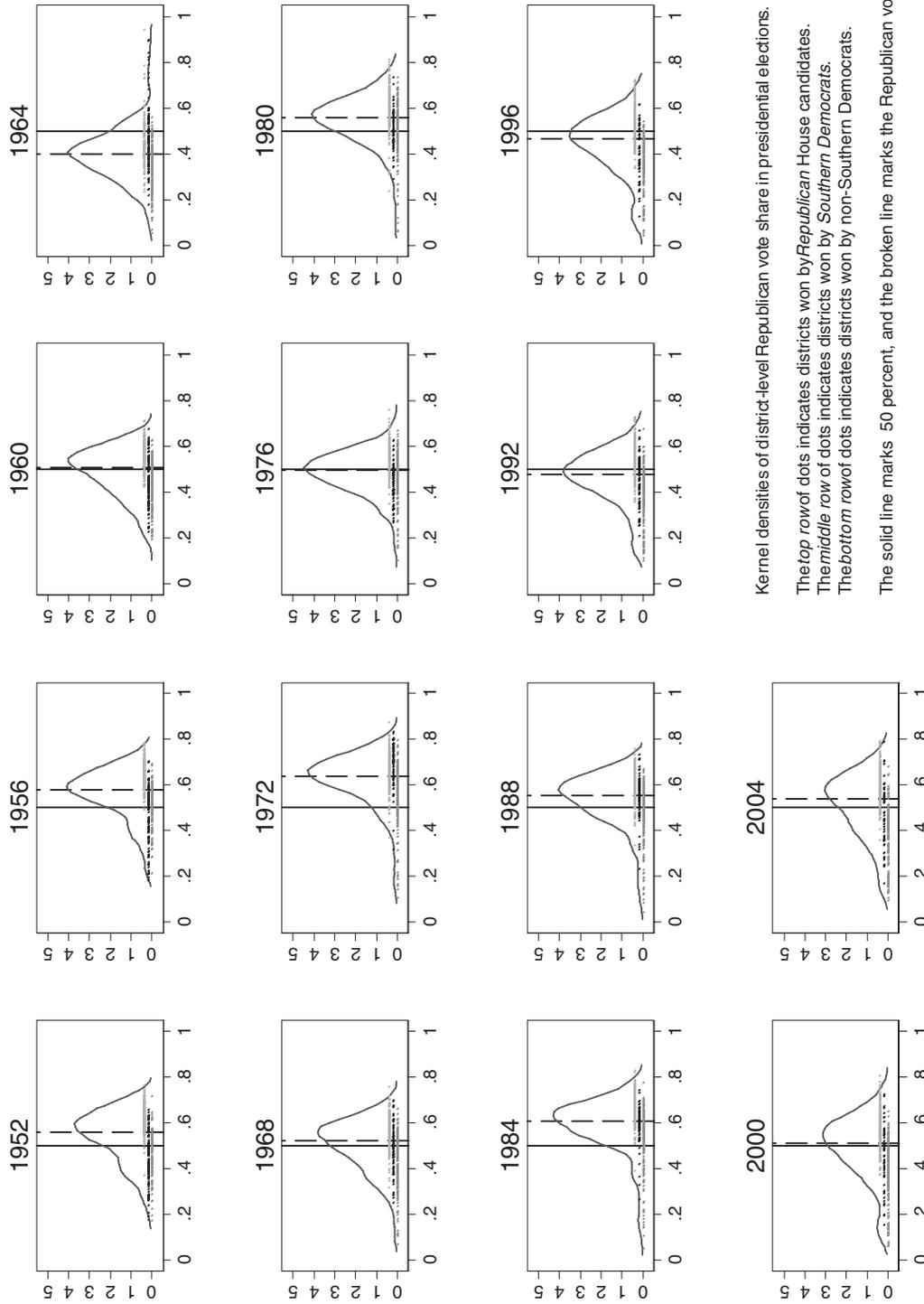


Figure 2
Distribution of support for Republicans in presidential elections across U.S. House districts. (From Rodden Warsaw 2009.)



Gudgin & Taylor (1979) demonstrate that when the distribution of partisanship across districts is skewed, the party competing on the side with the long tail is disfavored in the transformation of votes to seats, for the simple reason that it receives too many “surplus” votes in the districts it wins. Yet Gudgin & Taylor do not consider a spatial model in which voters have preferences on some issue dimension and set platforms. Rather, the partisanship of each individual is binary and exogenous.

By considering asymmetric distributions of cardinal district-level preferences (as opposed to binary partisanship) in spatial models with endogenous platform choice, it is possible to derive normative implications beyond electoral bias. Consider the distribution of preferences depicted in **Figure 1b**. Districts 3 and 4 are unchanged, but districts 2 and 5 have been pulled away from the median district, and district 1 has been pulled even further. Although each district contains a symmetric distribution of voters, the distribution of district medians now demonstrates a left skew.

Immediately, one can draw a striking implication from Hinich & Ordeshook (1974). If the parties converge on the ideal point of the median voter in the median district and transform it directly into policy, the policy profile will veer substantially to the right of that preferred by the national median voter (see also Leblanc 2007). By creating winner-take-all districts with a sufficiently skewed distribution of district medians, a society can create policy bias, such that plurality elections with a single national district or elections using proportional representation would yield different equilibrium policies.

Though not explicitly addressed in the paper, the logic of Callander (2005) also has interesting implications for countries with skewed distributions of district medians. In **Figure 1b**, if the party of the left attempted to move to the median of district 1 in order to stave off entry of a far-left party, it would not only have dim hopes of winning a two-party contest with the party of the right, it would be open to entry by a center-left party. The optimal strategy of the

party of the left is thus to cede district 1 to an entrant and focus on competing in districts 2, 3, and 4. The long-term policy implications are less clear, given that one would need a theory of coalition formation, but this might be a promising framework for understanding Westminster systems such as the United Kingdom and especially Canada. District-level competition there largely abides by Duverger’s Law and focuses primarily on two parties, but a different mix of parties competes in different districts, and at the national level the party system features three or more parties.

Ansolabehere et al. (2005) and Leblanc (2007) focus more directly on the possibility of an asymmetric distribution of district-level medians than others in the literature. Consider once again a starting point in the first election where the parties converge on the median of district 3. In the case of a small valence shock favoring the right, the platform of the *R* party in the next period would be the rather moderate median of district 4, but the *L* party would be stuck with the very extreme midpoint between the medians of districts 1 and 2. In this way, a party can suffer from a structural disadvantage such that it easily falls into a long-term electoral slump because its platforms are too extreme for voters in the pivotal districts, threatening to make it a “permanent minority.” In this case, the structural advantage of the *R* party will introduce policy bias if it faithfully implements the median of district 4, which is even further from the national median voter than the district 3 median that is favored in the simpler Hinich & Ordeshook model.

In short, an asymmetric distribution of district-level ideal points can bring systematic bias not only in the transformation of votes to seats but also in the transformation of preferences to policies.¹

¹A recent literature on optimal districting considers related questions about ideology, the vote-seat curve, and representation, but largely ignores the geography of preferences. Examples include Besley & Preston (2007), Coate & Knight (2007), Friedman & Holden (2008), and Gilligan & Matsusaka (2006).

Variations in Party Discipline

Is it really conceivable that political geography can cause a party to get stuck with an extreme position and lose well over 50% of elections over a relatively long period, as posited by Ansolabehere et al. (2005)? Do parties really have to worry about entry? Americans might have good reasons for skepticism, but the “long-term minority” implication of Ansolabehere et al.’s model might provide some insight into the persistent difficulties of Labor parties in Great Britain, Australia, and New Zealand in the early postwar period, when their supporters were highly concentrated in urban and mining districts. In fact, Iversen & Soskice (2006) document that left governments have been formed far more often under proportional representation than under plurality systems among OECD countries in the postwar period. If there is a left-skewed distribution of district-level preferences in Ontario, the Callander (2005) model might indeed help explain why the Liberals maintain a centrist platform in order to compete against the right in the pivotal suburban districts while allowing the New Democratic Party (NDP) a foothold in the left-wing industrial and extraction-oriented districts. And as “New Labor” has moved to the right in recent years in Great Britain in order to capture the pivotal suburban districts, it finds itself challenged from the left in some leftist districts by Liberal Democrats. In the past, perhaps Labor prevented entry in the leftist districts while allowing the Liberals a foothold in the moderate districts.

Although these models yield interesting insights in parliamentary systems, they seem to fall flat in the United States. For most of the past century, third-party entry has not been a major concern of congressional candidates. And though the distribution of partisans across districts displayed a pronounced left skew (Figure 2), it was the Republicans who spent most of the postwar period in the wilderness. Indeed, the models above implicitly assume something like a Westminster-style parliamentary democracy. All of these models assume that

the party imposes a single national platform that cannot be disavowed on the campaign trail by its members, and they implicitly assume strict party-line voting in the legislature, which in turn assumes that party leaders have at their disposal some effective carrots and sticks, like the threat of a no-confidence vote (Diermeier & Feddersen 1998) or the ability to nominate candidates in the districts and dole out campaign funds (Mayhew 1974).

In the United States, the executive does not rely on the maintenance of a partisan majority in order to stay in office, and majority party leaders do not have the threat of no-confidence votes at their disposal. Moreover, since the rise of primaries, they have not been able to control nominations in the districts. This allows considerable latitude to candidates in the districts to break with the party leadership and bring their platforms closer to the district median. For example, Southern Democrats can credibly offer progun and antiabortion platforms, since their voters know that the Democratic leadership has no way of forcing them to vote for gun control or relaxed abortion restrictions. In turn, Democratic party leaders are unlikely to bring such legislation to the floor in the first place. Because of parliamentary institutions and disciplined parties, a candidate of a center-left party cannot credibly make such promises in places like Alberta.

As a result of this slack in the party labels in the United States, Democrats can compete quite effectively in “Republican” districts and vice versa. By indicating the district won by Democratic and Republican candidates at the bottom, Figure 2 demonstrates that Democrats and Republicans win quite frequently on the ideological “turf” of the other party. Yet Figure 2 also suggests that the party label must mean something in congressional races, and convergence to the ideal point of the median voter in each district is clearly not complete, since Democratic and Republican wins are not randomly distributed across districts. Indeed, the empirical literature on candidate positioning (Ansolabehere et al. 2001, Burden 2004)



shows that there is always some space between the Democratic and Republican candidates in the districts, but there is also considerable leeway for both candidates to adapt their platforms to the ideology of the district.

Thus, the next step in the theory literature should be a refinement that allows for the weak (but not completely absent) party discipline and corresponding platform flexibility that emerge in a presidential democracy such as the United States. For example, it might be more realistic to model party platforms as something more like reputations that emerge from actual policies, which are determined through legislative bargaining (e.g., Baron & Ferejohn 1989) rather than the simple intraparty majority rule of Ansolabehere et al. (2005) or Leblanc (2007). Another possibility is provided by Eyster & Kittsteiner (2007), who consider a model in which parties set platforms, but candidates in individual districts can deviate from the platform at some cost.

Alternatively, a fruitful approach to the United States might be to dispense altogether with the notion of a national platform and focus on party primaries as the mechanism through which candidate platforms are chosen. Returning to **Figures 1a** and **1b**, consider the Democratic (Republican) primary constituency in any district to be all individuals with preferences to the left (right) of the district 3 median, and allow the median of each party's primary constituency to set the platform in each district. In the extreme districts, one of the party's platforms will be driven by a small number of marginalized voters (e.g., conservatives in Detroit, liberals in rural Alabama).² But in the districts right around the median district (e.g., districts 2 and 4 in **Figure 1a**), the primary constituencies are closer to symmetric, such that one party is only slightly closer to the district median than the other. This gives one party a slight ideological advantage, but one that could easily be

overcome with a modest valence shock. Such a model would correspond well with the findings of candidate positioning studies: platform divergence in each district with imperfect district-level tailoring. Such a model would also square nicely with **Figure 2**, in which Democrats and Republicans can win in districts on the opposite side of the national median, but their likelihood of doing so declines as the distance from the median increases.

GEOGRAPHY AND THE ROOTS OF ELECTORAL BIAS

The discussion above indicated that in Britain and its industrialized former colonies, supporters of the left have been more concentrated in space than supporters of the right, leading to a skew in the distribution of partisans across electoral districts. Before looking more closely at possible implications, it is useful to ask why this might be the case.

The Geography of Industrialization and Urban Form

Urban economics and economic geography have developed rich insights into the evolution of urban form and industrial location that have relatively clear implications for electoral politics. In the late nineteenth and early twentieth century, many countries experienced a dramatic transformation, as peasants, small farmers, and former slaves moved from the countryside to work in industrial jobs. Because of agglomeration and urbanization economies (Krugman 1991, Rosenthal & Strange 2004), these jobs were often highly concentrated in geographic space. In the places where the industrial revolution preceded the development of mass public transportation and automobile ownership, the erection of smelters, steel mills, and factories was accompanied by the construction of dense working-class housing that has proven to be extremely durable. A similar phenomenon occurred in mining areas. These dense working-class neighborhoods provided an opportunity for political entrepreneurs on the left, who worked with trade unionists to mobilize

²Note that in the highly skewed distribution of district medians in **Figure 1b**, there is simply no Republican primary constituency in the leftmost district. This might not be far from reality in the most urban U.S. congressional districts.

workers around an agenda of social insurance, public housing, workplace regulation, and the like. Even after the factories closed and the service economy emerged, the durable, affordable housing from the industrial revolution remained (Glaeser et al. 2005), along with some of the public transportation networks that eventually came into place, allowing the poor to reach service and other low-skill jobs without the expense of automobile ownership (Glaeser et al. 2007). Thus, even after deindustrialization, these neighborhoods have continued to attract poor migrants.

The industrial revolution cast a long shadow through the legacy it left on the built environment. Despite fascinating differences across and within countries (and across U.S. states and Canadian provinces), those that industrialized around the turn of the century generally still have dense urban neighborhoods that provide attractive targets to political entrepreneurs on the left. In the United States, factory construction often coincided with the initial growth of the city, so these neighborhoods are close to or directly in the city center; in Europe, the centers of the great cities predate the industrial revolution, so their industrial neighborhoods sprang up on the outskirts (Hohenberg 2004).

Since the industrial revolution, changes in transportation technology, from horse-drawn trams to the streetcar to automobiles and highways, have also allowed the rich and eventually the middle class to segregate themselves from the poor (Nas et al. 1998, Mieszkowski & Mills 1993), which often resulted in a metropolitan pattern where the poor live in higher density than the rich.

Cosmopolitan Versus Traditional Social Values

All of this suggests a straightforward political economy explanation for the positive correlation between population density and leftist voting observed in so many countries. Yet income, occupation, and social class might only be a part of the story. In cities where the nineteenth-century industrialists left

behind a sufficiently attractive legacy of amenities and cultural and consumption opportunities, Victorian-era working-class housing has been taken over not by poor immigrants seeking cheap housing, but by educated young professionals willing to pay a premium for consumption opportunities (Brueckner et al. 1999, Glaeser et al. 2001). In many countries, these voters are traitors to their class, and vote as reliably for the left as did their working-class predecessors (see Gelman et al. 2008 on the United States).

Even before the expansion of the franchise around the turn of the century in Europe, a contrast had emerged between the “orthodox-fundamentalist beliefs of the peasantry and the small-town citizens and the secularism fostered in the larger cities and the metropolis” (Lipset & Rokkan 1967, p. 12). Indeed, a noneconomic dimension of electoral conflict related to religious versus secular values has always been at least as powerful as class or income in predicting voting behavior in industrialized countries (Dalton 2006, de la O & Rodden 2008). If anything, the importance of this issue dimension seems to have increased in the United States in recent years (Gelman et al. 2008, Ansolabehere et al. 2006). Lipset & Rokkan’s observation still applies today in many societies: Secular orientation, progressive social values, and left voting are all highly correlated with urban residence.

Urbanization, Electoral Bias, and Tobler’s Law

Although there are many reasons to expect a correlation between population density and leftist preferences, this correlation does not explain why the distribution of voters across districts would be asymmetric. In the American literature, the preoccupation has been with the “clever political cartographer” (Ansolabehere et al. 2005, p. 23), such as Elbridge Gerry, Phil Burton, or Tom de Lay, who achieves a skewed distribution of partisans across districts by manipulating maps, and the assumption is that partisan bias emerges from attempts to “crack” and



“pack” one’s opponents, or as an outgrowth of minority-majority districts.

But by returning once again to the insight of Tobler’s Law, we see that in the presence of a tight correlation between population density and left voting, a left-skewed distribution of partisans across districts can emerge quite naturally without any partisan manipulation. Using geo-coded registration data from Florida, Chen & Rodden (2009) show that the probability that two randomly drawn individuals exhibit the same partisanship is a function of the distance between their residential locations. This implies that any districting scheme based on geographic contiguity and compactness, and requiring that each district be of equal population size, will tend to create small, homogeneous urban districts and sprawling, relatively heterogeneous rural districts. When urban districts are drawn, they bring together proximate individuals with highly correlated preferences, and in many societies, as discussed above, these are leftist preferences. Rural or exurban districts draw together individuals that live quite far from one another, and hence display more heterogeneous preferences. Though conservative on average, these districts might include liberal pockets of unionized school teachers, college towns, or small-scale mining or manufacturing operations.

Chen & Rodden (2009) use automated districting algorithms to draw compact, contiguous districts from the building blocks of precinct-level results of the notorious tied 2000 Florida presidential election, along with several other close statewide elections, and show that substantial pro-Republican electoral bias owing to excessive spatial concentration of Democrats is virtually impossible to avoid when carving Florida up into plurality districts. This helps explain why Florida statewide elections are extremely close, but the Republicans enjoy huge majorities in both chambers of the state legislature and the congressional delegation. Preliminary application of automated districting algorithms to other urbanized states demonstrates a strikingly similar pattern. The next steps in this research agenda are to see if the simulated

pro-Republican bias in different states links up with observed levels of bias in state legislative elections, and to establish the aspects of economic geography and urban form that explain cross-state variations in electoral bias.

Highly disaggregated, geo-coded election data are harder to come by in other countries, but in unpublished work, I have used district-level data going back to the turn of the century to show that votes for parties of the left have been more concentrated within districts than those of parties of the right—generally because of high concentrations of leftists in dense neighborhoods built to house manual workers—in Australia, Canada, Great Britain, France, and New Zealand. In each country, this has been associated with systematic electoral bias in favor of the right over the course of the twentieth century, but in most countries this trend has been declining throughout the century.

MEASURING DISTRICT-LEVEL PREFERENCES

Even if the distribution of district-level vote shares is skewed and one party can expect to receive 50% of the seats with less than 50% of the votes, this need not translate into policy bias. This situation might be troubling to the leaders of the afflicted party but does not necessarily imply a normative problem for representative democracy. To see this, examine **Figure 1c**. In this example, districts 2, 3, and 4 are identical to the symmetric case displayed in **Figure 1a**. Moreover, districts 1 and 5 have the same medians as in **Figure 1a**. Yet the left-wing (let us now call it urban) district now has a tighter, more leptokurtic distribution, while the right-wing (rural) district has a more platykurtic distribution. This hypothetical example flows directly from the discussion of urbanization and Tobler’s Law above. It could be the case that the ideological preferences of the median voter in urban districts are not especially far from the national median, but that voters in urban districts are merely more homogeneous in their preferences than those in rural districts. Whether one applies the platform-setting logic

of Hinich & Ordeshook (1974), Callander (2005), or Ansolabehere et al. (2005), the party of the left would win district 1 with a larger majority than that with which the party of the right would win district 5, which would create electoral bias as normally defined. Yet since the district medians are symmetrically arranged around the median district, there is no reason to expect policy bias.

Confronted with a distribution of district-level partisanship like that displayed in **Figure 2**, a crucial empirical question is whether the underlying distribution of preferences resembles **Figure 1b** or **1c**, or perhaps some combination of the two. Yet ever since Miller & Stokes (1963), survey researchers have suffered from a lack of sufficient observations within individual electoral districts to reliably characterize district preferences. To get around this problem, some researchers have used demographic variables in order to generate proxies for district preferences (e.g., Pool et al. 1965) or simulate them (Ardoin & Garand 2003). Other scholars have used electoral returns (e.g., Kernell 2009). Levendusky et al. (2008) use a Bayesian approach to estimate district-level partisanship that builds on the strengths of both approaches by combining election returns with district demographics and a variety of other factors.

Recently, scholars have been able to return once again to the survey-based approach of Miller & Stokes, taking advantage of surveys with much larger sample sizes obtained through random-digit dialing such that there is a reasonable number of observations in each district. They use self-identified ideology (Clinton 2008) or create scales out of multiple questions (Park et al. 2004, Bafumi & Herron 2007, Peress 2008; Gelman et al. 2008) in order to characterize state- or district-level preferences.

Warshaw & Rodden (2009) attempt to build on the strengths of these previous studies. Using the rich set of policy questions and reasonably large samples within districts afforded by the 2004 Annenberg National Election Study, they employ a Bayesian item response theory

model to estimate individuals' latent preferences on two issue dimensions—one related to economics and another related to moral values—and estimate a median for each district, using a Bayesian hierarchical model to address the problem of small sample sizes in some districts. This approach is a marriage of the survey and demographic approaches and borrows from the strengths of each, so that information can be drawn from the entire distribution of district preferences to make inferences regarding the median of each district. Warshaw & Rodden find that the distributions of both economic and moral-values medians across districts demonstrate a pronounced left skew, much like the distribution of presidential vote shares in **Figure 2**. A similar result is obtained for the one-dimensional partisanship estimates generated by Levendusky et al. (2008). As in the example of **Figure 1b**, Warshaw & Rodden's analysis suggests that the median voter on the economic dimension is slightly to the left of the median voter in the median district.

IMPLICATIONS FOR AMERICAN POLITICS

As empirical researchers provide a clearer map of political preferences across congressional districts in multiple dimensions, it is possible to approach some old questions from a new perspective.

Electoral Bias and Responsiveness

If a party can expect to win 50% of the votes but less than 50% of the seats, the gap is defined as electoral bias. This concept is not easy to measure, however, since tied elections are rarely observed, and as Kendall & Stuart (1950) pointed out, a party that wins even slightly more than 50% of the votes can expect a much larger majority of the seats.³ Estimation of bias is even

³To understand this “winner's bonus,” return to **Figure 1b** and consider the case where the platforms are set at the medians of the second and fourth districts, but a small valence shock allows one of the parties to win the votes right at the national median. The winning party would receive a slim majority of 53% of the votes, but 3/5 (60%) of the seats.

more difficult in the United States, where districts are frequently uncontested and incumbents rarely face serious challengers. To deal with these problems, Gelman & King (1991, 1994) have developed a Bayesian technique that analytically removes the impact of incumbency advantage and the existing configuration of incumbents and challengers. They demonstrate that although the dramatic pro-Republican bias that existed in the 1940s and 1950s decreased substantially after the courts became more involved in the districting process in the 1960s, much of the apparent disappearance of pro-Republican bias was driven by the fact that many safe Democratic incumbents were winning in seats that were not being contested by serious Republican challengers (see also Cox & Katz 2002). Yet underneath the surface, **Figure 2** underscores the argument of Erikson (1972, 2002) and Rodden & Warshaw (2009) that the asymmetric distribution of partisanship across districts generated a structural pro-Republican bias that manifests itself most clearly in close elections where neither party is benefiting from any clear valence shock or asymmetric incumbency advantage.

Yet such an argument sits uncomfortably with the fact that the Democrats have controlled the legislature for roughly three quarters of the sessions since World War II. Rodden & Warshaw (2009) argue that the skewed distribution of preferences across districts has a silver lining for Democrats. When the Democrats enjoy a valence shock in their favor, there are a large number of center-right districts for them to capture in the vicinity of the national median district, whereas a pro-Republican valence shock (such as Reagan's popularity) nets fewer seats because too many of the districts on the left of the national median are in the left tail of the distribution that is untouchable for Republicans. This allows Democrats to compete on the opposite side of the national median district more effectively than Republicans. A similar logic might also explain why the vast majority of "split" congressional districts in the postwar period, even outside the South, and even excluding seats contested by incumbents, have been

won by Republican presidential candidates but Democratic congressional candidates.

If Chen & Rodden (2009) are correct in asserting that the asymmetric distribution of partisanship across districts is unavoidable when compact, contiguous districts are drawn in some large, industrialized states because of the concentration of Democrats in cities, this has important implications for debates about redistricting. There is a strong push by advocacy groups for apolitical districting procedures that emphasize compactness, contiguity, and respect for municipal boundaries, and to the extent that the Supreme Court has signaled that it may eventually be willing to strike down egregious partisan gerrymanders, recent decisions betray a fondness among the pivotal justices for compact districts. Yet it may be the case that the only way to achieve nonbiased districting schemes in states such as Florida, Ohio, and Michigan is to draw relatively noncompact wedge-shaped districts that combine sections of cities like Miami, Cleveland, and Detroit with their surrounding suburbs.

Candidate Positioning

The emerging snapshot of the geography of preferences across U.S. congressional districts helps explain some observations from studies examining candidate positioning in congressional elections (Ansolabehere et al. 2001, Burden 2004). First, the left skew in the distribution of preferences helps explain why Democrats' party positions are more heterogeneous than those of Republicans. In order to win, Democrats must cover a wider ideological range. Moreover, these studies have found a greater correlation between district-level presidential vote and candidate positions for Democratic than for Republican candidates. This makes sense in light of the theory of primary constituencies laid out above: Republicans will find it difficult to field candidates with competitive platforms in leftist districts, whereas this is easier for Democrats in the right-wing districts that are relatively close to the national median. This logic also helps explain the observation

that the gap between candidate platforms appears to be larger in left-wing districts than in right-wing districts.

Multiple Issue Dimensions

One of the main advantages of survey-based approaches to measuring district preferences is that they make it possible to examine multiple policy dimensions. Warsaw & Rodden (2009), having looked at both an economics-related and a values-related dimension, show that more than one third of the districts are to the right of the national median on one dimension but to the left on the other. Moreover, though both distributions are unimodal, the distribution of moral-values medians across districts is much wider and more platykurtic than that of economic medians. These stylized facts might help provide a fresh perspective on several literatures. First, moral-values issues seem to have a greater impact on presidential than congressional voting patterns. One possibility is that given the much greater heterogeneity of preferences across districts on the moral-values dimension, strategic agenda control by party leaders keeps these potentially divisive issues off the congressional agenda. In turn, the lack of roll-call votes on these issues might allow candidates from both parties greater latitude in tailoring their platforms to the district medians. Differences between district-level preferences on two distinct issue dimensions might also help explain why districts split their presidential and congressional votes.

IMPLICATIONS FOR COMPARATIVE POLITICS

Electoral Regimes and Policy

As mentioned above, it appears that the relative concentration of left-wing votes owing to urban concentration was, and in some cases still is, a fairly widespread phenomenon in industrialized countries. At least in the early postwar period, this might help explain why left-wing parties found it difficult to win majorities

in parliamentary countries with single-member districts. It is tempting to take this logic further and argue that a bias against socialist and labor parties is responsible for the well-known difference in the extent of redistribution (Iversen & Soskice 2006) and social transfers (Persson & Tabellini 2003) that emerged over the course of the second half of the twentieth century between countries using proportional representation and those using plurality electoral systems. Yet, as demonstrated in the discussion above, an asymmetric distribution of partisans across districts does not necessarily move equilibrium policy away from the preference of the median voter. An examination of this argument would require data on the distribution of preferences across districts. A worthy goal for future research is to use demographic and survey data to estimate political preferences across electoral districts in other countries, although a difficult impediment is the frequent use of sampling techniques in surveys on political attitudes that leave large numbers of districts with zero observations.⁴

Perhaps a simpler and more data-friendly approach to explaining cross-country differences in redistribution would be to leave behind the notion of ideology and focus exclusively on the distribution of income, adding some geography to workhorse models of political economy in the tradition of Meltzer & Richard (1981). In these models, the right skew of the interpersonal income distribution shapes the incentives of the median voter to adopt a redistributive tax-transfer scheme. Yet an important implication of the discussion in this review is that individuals are clustered in space such that the interpersonal distribution of income is likely quite different from the distribution of district medians, and the latter is more relevant in countries with winner-take-all electoral districts.

⁴A successful attempt to analyze the impact of electoral bias on policy choice is provided by Besley & Preston (2007), who use data from English local governments to show that electoral bias allows parties to implement more extreme policies in favor of their supporters.



Specifically, one implication of the urban economics literature on metropolitan real estate markets and the political economy of transportation cited above is that, within metropolitan areas, the poor are likely to live in higher density and in conditions of greater income homogeneity than the rich. Thus, if plurality electoral districts are drawn according to traditional criteria of compactness and contiguity, the poorest voters might end up being highly clustered within homogeneous low-income districts, such that the median income of the median district is higher than the overall median. This logic seems most plausible in places where the poor live primarily in metropolitan rather than rural areas.

Striking evidence to this effect is provided by Bradbury & Crain (2005, table 1) for U.S. state legislatures. Using the 2000 census, they point out that for both legislative chambers in 43 out of 50 states, the median income of the median legislative district is substantially higher than the statewide median. The only exceptions are sparsely populated states in the West that lack concentrated pockets of urban poverty. From these facts, one might hypothesize that by focusing political competition on the median district rather than the median voter, the imposition of plurality electoral districts in urbanized societies tends to favor the interests of higher-income voters.

If the relevant distribution of income in plurality systems is that of the district medians, not only might the politically relevant median income be altered, but also the overall skew of the distribution that ultimately drives the tax-transfer system in the Meltzer-Richard model. The long right tail of the typical interpersonal income distribution cannot help but be shorn off in the distribution of district medians. The very rich are few in number, and as a result they are likely to end up in relatively heterogeneous upper-income districts where they are much wealthier than the median voter. As districts become larger and more heterogeneous, e.g., states and provinces used as plurality districts in upper chambers of federations, the

right skew of district medians can disappear altogether, as the rich and poor alike find themselves in very heterogeneous districts where the internal income distribution mirrors the overall national distribution. Rodden (2009) uses census data from the United States, Canada, and Australia to show that the right skew of district median income across lower-chamber districts is far less pronounced than that of the interpersonal distribution, and the skew of state or provincial medians disappears almost completely.

It is plausible that by artificially creating a more symmetric income distribution, the imposition of plurality districts undermines the political logic of redistribution, especially when the districts are quite large, as in senates. These possibilities merit further theoretical and empirical exploration.

In related work, Jusko (2009) argues that antipoverty policy is a reflection of legislators' incentives to be responsive to low-income voters, which are in turn shaped by the geographic distribution of the poor across electoral districts. She defines low-income voters as those who comprise the lowest third of the national market income distribution, and discovers that the geography of poverty and the map of district boundaries coincide such that there is substantial cross-national variation in the number of districts that might plausibly be won by a low-income voting bloc.

Using a set of OECD countries, she finds a correlation between the extent of poverty relief and the proportion of seats that might be won by a low-income coalition. One of the attractive features of this account is that it explains variations among countries that use plurality districts rather than focusing on the blunt distinction between plurality and proportional systems. For instance, Jusko estimates that the poor are distributed across the massive U.S. House districts such that they can be pivotal in less than one quarter of them. In contrast, the poor are distributed across France's relatively small districts such that they can be pivotal in almost half of them.

Endogenous Party Systems and Electoral Rules

A central theme of this article is that voters are arrayed in space such that, relative to proportional legislative elections or nationwide presidential elections, districted plurality legislative elections can lead to systematic differences in electoral and policy outcomes. If these impacts are sufficiently predictable, party leaders and ideologues should have clear preferences over institutions. This raises the possibility that electoral regimes do not directly cause cross-national differences in policies, since they are themselves outcomes of partisan battles and bargains. More specifically, it may be the case that the difference between proportional and plurality electoral rules at the heart of some empirical studies (e.g., Iversen & Soskice 2006, Persson & Tabellini 2003) is endogenous to battles between parties of the left and right at the moment of constitutional choice. This difference may reflect antecedent structural conditions favoring one group over the other.

Focusing in particular on the era of franchise expansion in industrializing countries of the early twentieth century, Boix (1999) applies the Downsian model, assuming that electoral competition under the old plurality systems took place within a single national district. In this story, the old bourgeois parties (conservatives and liberals) feared that the expansion of the franchise would allow entry by socialists who would quickly dominate the left end of the political spectrum, forcing the existing parties to split the votes on the right. Faced with a coordination problem, the best solution for the parties of the right was to advocate proportional representation.

One of the difficulties of this argument is that most socialist parties in Europe favored proportional representation, and there is little debate about the fact that they and perhaps their voters benefited from its introduction. Alesina & Glaeser (2004) go so far as to argue that proportional representation is a direct manifestation of revolutionary agitation by leftists.

Once again, it is useful to examine political competition as taking place in a continuum of districts, and again, it is crucial to understand the geographic concentration of leftists in manufacturing and mining areas. Socialists advocated proportional representation in large part because their geographic concentration in a small number of high-population districts led to dramatic bias in the translation of votes to seats. The socialists did not threaten to cross the majority threshold throughout the country but only in the proletarian districts. Rodden (2008) applies Callander's (2005) model of party entry and argues that in most countries (e.g., Belgium or the Netherlands) this created a coordination problem on the left. Socialists entered in the former strongholds of the liberals, thus raising the possibility of socialist-liberal splits that would hand districts to minority conservatives. This might help explain the oddity that conservatives sometimes pressed for franchise expansions over the objections of liberals. Moreover, it explains why in these countries, proportional representation was largely a response to the self-preservation efforts of liberals.

In other countries, such as Denmark, the cities had been the strongholds of the conservatives, and entry by the socialists threatened to squeeze them out of existence. In this smaller group of countries with a history of right-dominated cities, the case for proportional representation was made by an odd cross-class coalition of conservatives and socialists who stood to fare badly in the translation of votes to seats under plurality districts. (For a related argument about electoral bias and incentives for electoral reform, see Calvo 2009.)

The impact of geography on the origins and evolution of party and electoral systems is a rich area for further research. The anticipated geographic distribution of supporters is often a crucial factor in the strategies of parties at moments of constitutional deliberation over electoral institutions (see, e.g., Brady & Mo 1992 on Korea). Moreover, combined with models (e.g., Callander 2005) that allow for entry of new parties, an understanding of the geography

of preferences might help explain basic things about the nature of party systems, such as the different strategic decisions and long-term fates of liberal parties in New Zealand, Canada, and the United Kingdom over the course of the twentieth century. Alternatively, Jusko's (2009) focus on the geographic distribution of the poor might help explain the conditions under which left-wing parties develop platforms that focus on poverty relief.

CONCLUSION

After a period in which economic theory paid little attention to distance and space, economic geography experienced a revival in the 1990s, using novel theoretical and empirical tools to breathe new life into topics covered by Marshall (1920) and Myrdal (1957). Economic activity is not randomly distributed in space, and economists have developed theories and empirical techniques for understanding various patterns of spatial dependence. By building on these findings and taking advantage of rapid increases in the availability of geo-coded data and large surveys, political scientists have the opportunity to breathe new life into the issues addressed by Kendall & Stuart (1950), Gudgin & Taylor (1979), and Miller & Stokes (1963).

By developing maps of preferences and partisan proclivities across individuals, precincts, wards, and districts, it might be possible to gain better answers to old questions about democratic representation: Which parties compete, under what rules, with what platforms and what implications for policy?

This article has paid special attention to the impact of urbanization and the industrial revolution on the distribution of preferences and partisanship, focusing especially on Britain and its most industrialized former colonies. Attempts to obtain better measurements of political preferences in space are worthwhile in developing countries as well. Moreover, some of the issues raised in this review might be quite important in countries where taxation and economic policy are not the most salient issues. For instance, in much of the Middle East, there are large differences in political preferences between secular residents of major cities and religious voters in sparse rural areas. In much of Africa and in the Caribbean, some ethnic groups are more geographically concentrated than others, and parties are organized around ethnicity. As in early-twentieth-century Europe and the contemporary United States, battles over electoral rules and districting procedures in such settings are highly consequential.

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