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UNIVERSITY OF CALIFORNIA, SAN DIEGO

Representation, Competition, and Institutional Development in American Local Government

A dissertation submitted in partial satisfaction of the
requirements for the degree
Doctor of Philosophy

in

Political Science

by

Vladimir Kogan

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2012

The dissertation of Vladimir Kogan is approved, and it is
acceptable in quality and form for publication on microfilm
and electronically:

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2012

To my parents, Ilya Kogan and Olga Sverdlova, whose never-ending support and sacrifices were essential for helping me complete my academic journey.

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VITA

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"Redevelopment, San Diego Style: The Limits of Public-Private Partnerships." 2010. *Urban Affairs Review* Vol. 45, No. 5: 644-678. (With Steven P. Erie and Scott A. MacKenzie)

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ABSTRACT OF THE DISSERTATION

Representation, Competition, and Institutional Development in American Local Government

by

Vladimir Kogan

Doctor of Philosophy in Political Science

University of California, San Diego, 2012

Professor Thaddeus B. Kousser, Chair
Professor Mathew D. McCubbins, Co-Chair

Conventional accounts of local politics downplay the importance of constituent preferences in explaining democratic outcomes. Instead, they emphasize the overweening influence of elite interest groups, constraints imposed from above by higher levels of government, and the threat of jurisdictional competition as main policy drivers. Using analytical and methodological tools commonly applied in other subfields of political science, I challenge the standard account of urban exceptionalism. In the first empirical chapter, I adopt a statistical method known as multilevel modeling and post-stratification (MRP) to, for the first time, develop comparable measures of public opinion at the local level. I validate the method by showing that it can correctly recover known population

parameters by accurately predicting local election outcomes, and demonstrate that MRP improves on other existing tools for measuring policy-specific local opinion.

In Chapter 3, I combine MRP with a new dataset on food stamp enrollment in American counties. Using administrative program data, I document substantial variation in the degree of participation across counties, despite the existence of universal eligibility criteria. I then show that mass preferences for redistribution at the local level can account for a substantial amount of this variation.

Chapter 4 assesses the extent to which competition between government agencies influences local policy, and who stands to benefit when local governments compete with one another. The chapter analyzes variation in compensation of public employees, testing recent claims that interjurisdictional competition drives up the wages and benefits of specialized public employees. While I find that this is indeed true for certain classes of employees, I show that the effects are modest in size and vary across occupational groups.

The concluding chapter examines institutional development among American counties. My analysis challenges Banfield and Wilson's (1963) good-government account of Progressive reforms at the local level. Instead, I argue that reformers were motivated neither by public-regarding values nor desire for more efficient administration but rather by self-interest. Using new data on local economic inequality at the end of the 20th century, I show that wealthy interests pursued reform to insulate government from popular control and to prevent economic redistribution.

Chapter 1

Dissertation Overview

At any given time, more than 500,000 elected officials play an active role in policy-making across the United States.[1] Fewer than 20,000 — or less than 5 percent — are chosen by voters at the federal or state levels, with the remaining 480,000 working for cities, counties, local school districts, and other special-purpose agencies. These officials levy taxes, administer state and federal grants, and directly shape numerous aspects of day-to-day life for most individuals. Indeed, local governments play a critical role in the provision of the most essential government services, including law enforcement, protection of public health and safety, and education. Local agencies collectively spend more than $1.5 trillion each year, equal to roughly half of the federal budget. In 2010, local governments employed 14.3 million workers, almost double the combined 8.3 million employees at the state and federal levels.

Due to their size and the critical nature of their functions, local governments have the power to affect the quality of both public and private life in America. The extent to which they do so, and the forces that influence policy-making at the local level, remain far from understood, however. An overwhelming majority of the academic research in American politics — in particular, articles published in the discipline's most prestigious and widely read journals — continues to focus on the institutions of national government, including Congress, the presidency, and the courts. While much is known

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[1] In 1992, the Census of Governments counted a total of 513,200 elected officials across various levels of American government. Unfortunately, that was the last year in which a comprehensive census of elected officials was conducted.

about which factors shape the roll call behavior of individual members of Congress, and how the influence of these factors has waxed and waned over time, virtually nothing is known about voting on city councils, for example. Thus, to borrow the description used by Gilbertson (1917), local government continues to remain the "dark continent" of American politics.

My dissertation examines a number of different aspects of local politics in an attempt to shed light on how local governments make policy. It is made up of four empirical chapters — each motivated by distinct theoretical puzzles — that study the outcomes and processes in a variety of different policy spheres. The purpose of this short introduction is to explain how these chapters fit together. I hope to do so by briefly describing some of the leading debates within the subfield of urban politics and comparing key assumptions in these debates to similar work in what I describe as "mainstream" political science. My chapters revisit some of these urban debates by incorporating the empirical, theoretical, and methodological tools widely used in other parts of the discipline, but which are still largely absent from the study of local and urban government.

1.1   The Study of Local Politics

Contemporary urban research differs from other work in American politics in a number of critical respects. First, since at least Mayhew's (1974) pioneering book, public opinion has been viewed as one of the most important — if not *the* most important — constraints on the behavior of elected officials. The fact that policy change generally tracks shifts in public opinion has been well established at both the national (**?**) and state levels (Erikson, Wright, and McIver 1993). To a surprising extent, however, the study of elites rather than regular voters continues to dominate urban scholarship. Clarence Stone's seminal book, *Regime Politics* (1989), which represents the most important and influential work in urban politics in the last two decades, is an unambiguously top-down view of local politics. Elected officials and business leaders represent the primary actors in Stone's narrative, with ordinary voters relegated to the periphery of the analysis.

Second, urban scholarship generally places much greater weight on economic considerations as policy drivers than is the case in other policy-making venues. Peter-

son (1981), for example, conceptualizes local governments as single-minded seekers of mobile capital. Economic forces, including globalization and deindustrialization, are often cited as explanations for the social and political hardships faced by many major cities, the onset of fiscal crises in local government, and the decline of corporate citizenship (see, e.g., Hanson, Wolman, Connolly, Pearson, and McManmon 2010; Rusk 1993). Although economics plays an important role in other subfields — economic conditions are, after all, the most robust predictor of voting behavior after partisanship — the extent to which urbanists focus on economic relationships is unusual.

Third, empirical work in the urban subfield continues to rely on case studies and small-*n* comparisons, largely eschewing quantitative analyses. The local political context plays an oversized role in many theoretical and empirical studies. One advantage is that detailed local knowledge leads to richness in the narrative that is absent from many other forms of academic writing; the major limitation, however, is that a substantial number of theories remain tied to specific cities and cases and may not speak to broader questions of interest to the discipline as a whole.

Perhaps due to these three key differences, urban politics remains a distinct subdiscipline within political science. Sapotichne, Jones, and Wolfe (2007) conclude that "the study of urban politics resembles a black hole — no ideas escape the event horizon surrounding the study of urban politics. Furthermore, ideas developed outside rarely penetrate the subfield's borders" (p. 78). Both dynamics are clearly documented in Table 1.1, which reports relative citation counts for the most influential modern urban contributions (Dahl 1961; Peterson 1981; Logan and Molotch 1987; Stone 1987) and major works from the broader literature on American politics (Downs 1957; Campbell, Converse, Miller, and Stokes 1960; Riker 1960; Schattschneider 1960; Mayhew 1974). Data are compiled from numbers reported in Sapotichne, Jones, and Wolfe (2007). There are two striking patterns. Aside from Dahl's *Who Governs?*, the most heavily debated and cited contributions within the subfield have attracted very little attention among more general audiences. Similarly, the insights from the most influential literature on American politics originating outside of the subfield have not been incorporated into modern urban research.

Table 1.1: Relative Citation Ratios of Major Works Across Subdisciplines of Political Science

Journal Type	Dahl (1961)	Peterson (1981)	Logan and Molotch (1987)	Stone (1989)	Downs (1957)	Campbell et al. (1960)	Riker (1960)	Schattschneider (1960)	Mayhew (1974)
American politics	-1.2	-2.7	-10.5	-8.0	1.3	1.4	1.4	1.1	1.3
Urban Politics	1.5	2.6	3.8	3.6	-6.1	-16.8	-31.1	-4.9	-25.7
Public Policy/Admin.	1.3	1.5	-1.3	-1.1	-1.4	-4.1	-2.0	2.6	1.1
Federalism	-1.0	2.1	-5.5	-1.6	-1.5	-2.2	1.1	2.1	1.2

Table entries calculated using data reported in Sapotichne, Jones, and Wolfe (2007).

Positive entries indicate over-citation in subfield, while negative entries indicate under-citation.

Absolute value of entries capture degree of over- or under-citation compared to expected number of citations in subfield journals.

1.2   Inside or Out? Forces Shaping Local Policy

One explanation for the patterns documented in Table 1.1 is that local politics may simply be different from state and federal politics. As a result, the topics that attract the greatest attention from students of local government may find little overlap with other literatures. There is some evidence to support this contention. Due both to institutions like non-partisan and off-cycle elections and to their lower salience, local elections usually produce substantially lower turnout and participation than contests at higher levels of government (Hajnal and Lewis 2003). Moreover, while voters and non-voters do not appear to differ tremendously in their views on issues at the national level, existing research provides strong reason to believe that those who do turnout in local elections have systematically different preferences from those who stay home (Bridges 1997; Hajnal and Trounstine 2005). If we expand the analysis to include other forms of political participation — including contribution to campaigns, membership in government advisory bodies, and attendance at government meetings — the gap becomes even larger.

Scholars have posited that differential rates of individual participation reflect key factors influencing personal cost-benefit analyses. For the most part, individuals and groups whose personal fortunes depend on the decisions made by local governments have greater incentive to participate and face the fewest collective action barriers to doing so. This may be one reason why political and economic elites — who have the greatest personal incentive to become involved in local government — often become the focus of urban and local political analysis. These elites include traditional members of the "growth machine" (Logan and Molotch 1987), including local newspapers and developers whose own profits depend on the land-use decisions made at the local level. They also include public-sector labor unions, whose economic fate is in the hands of local public officials (Moe 2006), and other narrow special interest groups that have deep personal interest in the policy sphere overseen by local agencies (Berry 2009).

Another key distinction is that local jurisdictions have much more tenuous control over their own fortunes than either the states or the federal government. To a significant extent, local governments are constrained by forces that originate outside of their own borders and which limit the political discretion of local officials. As legal "creatures

of the state," local governments must often operate under rules written by others. Sometimes, political enemies in hostile legislatures actively interfere in local affairs (Gamm and Kousser 2010). In more recent decades, however, the role of the state has grown much more indirectly through the proliferation of tax and expenditure limitations that have eroded fiscal home rule and limited the ability of local governments to directly control their own budgets (Martin 2008; Saxton, Hoene, and Erie 2002).

Compounding the challenges of state control is the reality that local governments find themselves in a constant state of competition with one another. Although relatively few individuals relocate across state lines or outside of the country in any given year, residential migration is a fact of life at the local level. The fact that "exiting" poses relatively few costs means that local governments must actively work to attract and retain desirable residents. Although competition and the potential for residential sorting may improve the degree of alignment between policy and preferences (**?**), it also greatly limits the scope for local redistribution and raises the stake of economic development strategies designed to attract mobile capital (Peterson 1981). With their hands tied either by the states or by the threat of exit, local officials may simply have much less flexibility in shaping public policy, making the types of inquiries common at other levels of government simply less interesting at the local level.

1.3 Brief Overview of Dissertation

My dissertation, while acknowledging the unique institutional context of local democracy in America, generally challenges these conventional accounts of urban exceptionalism. Using analytical and methodological tools widely applied in the study of state and federal government, I show that local politics and policy-making follow many of the same patterns documented at higher levels of government. In the first empirical chapter, I adopt a statistical method known as multilevel modeling and post-stratification (MRP) to, for the first time, develop comparable measures of public opinion at the local level. I validate the method by showing that it can correctly recover known population parameters by accurately predicting local election outcomes, and demonstrate that MRP improves on other existing tools for measuring policy-specific local opinion.

In Chapter 3, I combine MRP with a new dataset on food stamp enrollment in American counties. Using administrative program data, I document substantial variation in the degree of participation across counties, despite the existence of universal eligibility criteria. I then show that mass preferences for redistribution at the local level can account for a substantial amount of this variation. The chapter documents not only that local agencies are responsive to constituent preferences — which may not be surprising to readers unfamiliar with the conventional account of policy-making that dominates the urban literature — but that such responsiveness occurs even in redistributive programs, where local governments are generally though to possess the least discretion, and despite national rules designed to standardize program adminstration in jurisdictions across the country.

Chapter 4 assesses the extent to which competition between government agencies influences local policy, and asks who stands to benefit when local governments compete with one another. The chapter analyzes variation in compensation of public employees, testing recent claims that interjurisdictional competition drives up the wages and benefits of specialized public employees. While I find that this is indeed true for certain classes of employees, I show that the effects are modest in size and vary across occupational groups.

The concluding chapter examines institutional development among American counties. My analysis challenges Banfield and Wilson's (1963) good-government account of Progressive reforms at the local level. Instead, I argue that reformers were motivated neither by public-regarding values nor desire for more efficient administration, but rather by self-interest. Using new data on local economic inequality at the end of the 20th century, I show that wealthy interests pursued reform to insulate government from popular control and to prevent economic redistribution.

Chapter 2

Measuring Local Public Opinion

2.1 Introduction

Understanding the extent to which public policies match the preferences of voters is at the heart of the study of politics. The degree of correspondence between electoral inputs — captured by voter or constituent public opinion — and government outputs — the behavior of individual policymakers and aggregate policy outcomes that emerge through the political process — provides the primary, albeit imperfect, metric for assessing the quality of democracy.[1] Although scholars generally agree that the "electoral connection" is quite strong at the national level (e.g. Mayhew 1974), there remains substantial disagreement about the degree and quality of popular representation within lower tiers of American government.

Over the last six decades, the study of "community power structures" and spirited debate over "who governs" at the local level have contributed to one of the most important and prolific research agendas within the subfield of urban politics. Although this research has resulted in an impressive corpus of classics (e.g. Dahl 1961; Domhoff 1978; Hunter 1953; Polsby 1963; Mills 1956), scholars have reached little consensus about whose interests actually get represented in local government and whose voices are

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[1]My discussion generally assumes the "delegate" model of representation, in which the actions of elected officials are expected to match the wishes of their constituents. An alternative, and arguably more paternalistic view, holds that public officials should instead act as "trustees" and adopt policies they think are in the best interest of their constituents — even if these constituents may themselves disagree. See Pitkin (1967) for an argument on behalf of the latter approach.

systematically excluded. One of the primary challenges to studying democratic representation at the local level is the absence of comparable data on public opinion. Without knowing what voters want, it is difficult for scholars and other observers to discern the extent to which government is responsive to their desires.

Existing research has dealt with the dearth of information about constituent preferences in a variety of ways. Early classics, such as Dahl (1961) and Hunter (1953), did not directly address the question of representation. Rather than studying whose wishes determined policy outcomes, these authors instead focused on the identity of decision-makers and the degree of popular participation in local government institutions. More recently, scholars have used a variety of variables to proxy for public opinion. Hajnal and Trounstine (2010), for example, used presidential election results as a rough gauge of local political sentiment. Craw (2010) relied on the racial and ethnic make-up of local communities to impute the ideological leanings of their voters. To capture pro-environmental attitudes among residents in Florida cities, Lubell, Feiock, and Rameriz (2009) turned to data on the number of individuals who pay voluntary surcharges to receive environmentally themed license plates. Although all of these approaches provide a workable "guesstimate" of local sentiment, they are insufficiently precise to directly test alternative theories of representation. For example, in the absence of direct measures of local support for specific policies, it is not possible to determine whether existing policy is congruent with the wishes of the majority of local voters.

In this chapter, I adapt recent innovations from the literature on state politics and multilevel modeling to develop and test a new method for estimating public opinion at the local level. My approach builds on a statistical technique known as multilevel modeling and post-stratification (MRP). First, I use data from national public opinion polls to estimate a statistical model of individual opinion, incorporating a large number of individual-level and community-level covariates. The estimates produced by this model are then used to simulate aggregate public opinion within specific communities. I show that simulations produced using MRP perform well in predicting local election outcomes and outperform other existing measures for quantifying local preferences on specific policy proposals.

I begin by laying out the central challenge of measuring local public opinion and

compare MRP to alternative methods of estimating opinion at the subnational level. I then validate my approach by comparing MRP-based estimates to actual county-level election results from the 2000 presidential election. In the following section, I estimate local public support toward a specific policy — government recognition of same-sex marriage — and demonstrate that my estimates accurately predict local votes on ballot measures outlawing same-sex marriage in nine states. In the final two sections, I extend the method developed in the chapter to estimate public opinion at the city level and discuss both the advantages and weaknesses of using MRP to develop measures of mass preferences that can be used to study representation at the local level.

2.2   Alternative Approaches for Estimating Public Opinion

Despite the advent of modern polling, there is currently no way to accurately and reliably measure public opinion across a large number of local jurisdictions. The problem is that most available commercial and academic polls are designed to capture *national* public opinion, which may diverge in significant and systematic ways from *local* sentiment.[2] Even very large national polls fail to include participants from every local jurisdiction, and rarely have enough participants from *any* jurisdiction to accurately estimate public opinion specific to that area. Although some level of polling is available in most major cities, these disparate surveys rarely use the same question wording or ask questions about the same subject matter, which greatly reduces their usefulness in comparative analysis.[3]

Given information about national public opinion, which one can easily estimate from existing surveys, the challenge is determining how local preferences diverge from

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[2]Thanks in part to the growing use of online opt-in samples, a number of recent surveys have been able to draw representative samples at lower levels of aggregation, such as states or congressional districts. However, these surveys suffer from many of the same drawbacks as national polls when the goal is to estimate public opinion at the county or municipal level.

[3]Hajnal and Trounstine (2005) also combine precinct-level election results with ecological inference models to construct data on public opinion across a small number of cities. While this method has a great deal of promise, it can only be used to compare opinion on issues or candidates that have appeared on the ballot in all cities that one is interested in studying. In practice, this greatly reduces the scope for its application.

national trends. It is useful to decompose the gap between national and local opinion into two parts. First, local preferences may vary due to significant differences in the demographic composition of the local electorates. In general, jurisdictions with a large number of minorities will be more liberal on most issues than areas that are homogenously white, due to well-known relationships between race and ethnicity and political preferences. Second, opinion may also vary due to other factors that can loosely be characterized as "local culture." It is highly unlikely that the typical high-school educated white man in San Francisco, Calif., will have the same views on political issues as a demographically identical individual in Houston, Texas, for example. Some existing methods effectively deal with each of these sources of local variation in opinion separately, but only MRP can incorporate both.

In a series of books and papers published in the 1960s and 1970s, researchers first proposed simulation-based techniques to combine national polls and Census data to estimate public opinion at the state level (Pool and Abelson 1961; Pool, Abelson, and Popkin 1965; Weber, Hopkins, Mezey, and Munger 1973). These techniques relied on national polls to model the relationship between voters' socio-demographic characteristics and their survey responses. Coefficients from these models were then applied to simulate the opinion of a large number of "synthetic" voter groups. Using Census data to calculate the proportion of the electorate falling into each group, these estimates could be weighted to calculate state-level public opinion. Although the simulation method was developed specifically for estimating public opinion in the states, Weber, Hopkins, Mezey, and Munger (1973) noted that "it could be adapted for other subnational units such as congressional districts, counties, and municipalities" (p. 549).

The primary weakness of these simulations, as early critics pointed out, is that the only source of spatial variation in opinion included in the models is due to demographic composition, thus ignoring other cultural forces that shape mass preferences. In other words, given two demographically identical jurisdictions, the models would predict identical public opinion. Erikson, Wright, and McIver (1993) demonstrated that demographic adjustments leave substantial variation in state-level opinion unexplained. Instead, these authors used a method known as disaggregation, which combines a large number of national polls and then calculates the relevant opinion percentages

only among respondents from the same jurisdiction. Miller and Stokes (1963) similarly turned to disaggregation to calculate constituent preferences at the level of congressional districts. Disaggregation, however, also suffers from a number of disadvantages. First, it requires the pooling of a substantial number of surveys across many years. On many social issues, for which public opinion has changed substantially over time, temporal dynamics are effectively lost and the resulting estimates may be imprecise. Second, disaggregation ignores clustering and other survey design factors that may make sub-samples unrepresentative of smaller jurisdictions. Third, the method does not directly address nonrandom survey nonresponse. Fourth, and most important for my purposes, it cannot be used at very small levels of aggregation. Too few national surveys include county- and city-level identifiers to make disaggregation possible, and pooling even a very large number of national surveys would still result in too few individuals from most local jurisdictions to make useful predictions.

2.2.1   MRP: A Conceptual Introduction

MRP combines the advantages of simulation and disaggregation methods, while helping address the weaknesses of each one. It was first introduced to political science in Park, Gelman, and Bafumi (2004). More recently, it has been used to estimate public opinion at the state level in Lax and Phillips (2009b) and Lax and Phillips (2009a), and at the legislative district level in Warshaw and Rodden (2012). Both Lax and Phillips (2009b) and Warshaw and Rodden (2012) demonstrate that MRP substantially improves on estimates constructed via disaggregation, especially for smaller jurisdictions. This chapter extends the method to estimate public opinion at the local level.

The intuition behind MRP is straightforward: Assuming that public opinion on specific policy issues varies as a function of individual-level demographics and of the local political context — the political culture of the area in which one lives — both sets of predictors can be incorporated into a single statistical model of individual opinion. Coefficients from this model can then be used to predict public opinion for each demographic-geographic voter type. In effect, MRP uses simulation to create "synthetic" voter types similar to earlier approaches but incorporates political context by dramatically increasing the number of voter types that are estimated. Opinion is pre-

dicted as a function of voters' personal characteristics and also of the geographic area in which they live. These predicted values are then combined by weighting each voter type in proportion to their presence in the local electorate.

MRP can be used to simulate public opinion at the local level via a three-step process. First, using available data from national public opinion surveys, individual responses are modeled as a function of each respondent's demographic characteristics and also his or her jurisdiction of residence. The appropriate level of pooling across jurisdictions is determined by the data itself through the use of a multilevel, or hierarchical, model. In effect, jurisdiction-level coefficients "shrink" toward the national mean in proportion to their variance (see Gelman and Hill 2007), improving the predictive accuracy of the estimates. Critically for my application, the contextual effects are themselves modeled as a function of observed variables, such as aggregate union membership and church attendance, and a random intercept, which soaks up unobserved factors that make up the remainder of the local "culture."

Second, the estimated model parameters are then used to predict public opinion — the probability of a particular response to a survey question — for each demographic-geographic combination. For example, the probability of supporting same-sex marriage can be calculated for a college-educated black man who lives in Lucas County, Ohio, using parameters estimated from an opinion survey in which respondents were asked their opinion on same-sex marriage. This calculation uses respondent-level coefficients for education, race, and gender, along with county-level coefficients and a random intercept specific to Lucas County. The random effect accounts for omitted county-level factors that were not explicitly measured and included in the regression model. In the final step, these probabilities are post-stratified, or weighted, in proportion to the size of each demographic group in that county. The final step makes use of population tabulations from the Census.

2.3   Estimation and Validation

To demonstrate that MRP can be used to accurately estimate the political preferences of local constituents, I begin with a simple validation exercise. The goal is to use

MRP to simulate local public opinion on a dimension for which alternative measures are available and to assess the method's performance in recovering the known values. In this section, I analyze results from the 2000 presidential election, comparing the estimated support for the two major candidates in each county calculated using MRP to actual county-level election results collected by Congressional Quarterly Press.

In the first step, I used data from the 2000 National Annenberg Election Survey (NAES) to fit a multilevel logistic regression predicting each respondent's probability of supporting Al Gore in the election.[4] Respondents were asked about their vote choice in the presidential election starting with the third wave of the Annenberg survey, which went into the field in late July. Thus, I combined the observations from the third through sixth waves of the survey. As the election approached, enumerators used different questionnaires depending on whether respondents had already taken part in the election using early voting, either by mail or in person. Those who had already cast their ballots were asked to recall who they had voted for in the election. Respondents who had not yet voted were asked a hypothetical question about who they would have supported if the election had been held on the day of the interview. In the analysis below, I combine responses to both questions and pool across different survey waves, resulting in a national dataset with responses from approximately 31,000 individuals.[5]

I created a new variable indicating whether the respondent said they supported Gore (coded as 1) or George Bush (coded as 0) in the election. The respondents' answers were then modeled as a function of their race (5 categories), gender (2 categories), and education level (7 categories) and their respective counties of residence:

$$Pr(y_i = 1) = logit^{-1}(\beta^0 + \alpha_{r_{[i]}}^{race} + \alpha_{g_{[i]}}^{gender} + \alpha_{e_{[i]}}^{education} + \alpha_{c_{[i]}}^{county}) \qquad (2.1)$$

The effects of race, gender, and education were modeled as random intercepts,[6]

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[4] As part of the estimation, I excluded all respondents who said they supported one of the minor candidates in the election. For the election results, I similarly use Gore's share of the two-party vote, rather than his share of the total vote in each county.

[5] Because demographic variables are used in the model, I dropped all respondents who had refused to answer all of the demographic questions.

[6] In the model, the effect of race, gender, and education were assumed to be constant across the country. That is, the effect of a college degree was assumed to produce the same marginal effect in San Francisco as in Houston. Warshaw and Rodden (2012) show that relaxing these assumptions and allowing these

with the assumption that these effects were drawn from three independent normal distributions with means of zero and variances estimated from the data:

$$\alpha_r^{race} \sim N(0, \sigma_{race}^2), \text{for } r = 1, ..., 5 \tag{2.2}$$

$$\alpha_g^{gender} \sim N(0, \sigma_{gender}^2), \text{for } g = 1, 2 \tag{2.3}$$

$$\alpha_e^{education} \sim N(0, \sigma_{education}^2), \text{for } e = 1, ..., 7 \tag{2.4}$$

The county intercepts in Equation 2.1 — designed to capture the impact of local culture on individual preferences — were modeled as a function of measured county-level predictors and a county-specific random effect, with the assumption that the intercepts were drawn from a single normal distribution with an unknown variance. At this level, I included the proportion of county residents who are union members (from Zullo 2008), the proportion of county residents who identify as either Mormons or Evangelical Christians (from the Association of Statisticians of American Religious Bodies), the proportion of residents who had served in the military (from the 2000 Census), and the share of the population living in urban areas (also from the Census). In addition, I included a separate intercept for each state:

$$\alpha_c^{county} \sim N(\beta^{union} \cdot UNION_c + \beta^{religious} \cdot RELIGIOUS_c + \beta^{vets} \cdot VETS_c +$$
$$\beta^{urban} \cdot URBAN_c + \gamma_{S_{[c]}}^{state}, \sigma_{county}^2), \forall c \tag{2.5}$$

By assumption, the state effects were modeled as draws from a normal distribution with a mean of zero and a variance estimated from the data:

$$\gamma_s^{state} \sim N(0, \sigma_{state}^2), \forall s \tag{2.6}$$

The model parameters from all three levels were then used to estimate the probability of supporting Gore for each race-gender-education combination in each county. In effect, I used the model coefficients to make an out-of-sample prediction for every possible demographic-geographic voter type. This yielded a total of more than 200,000 predicted probabilities. For counties with no respondents in the NAES data, I utilized the

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coefficients to vary does not add substantial explanatory power, although it does make it far less likely that the model converges.

available coefficients for union membership, religious affiliation, share of military veterans, and urban population while setting the county-specific random intercept to zero. This has the effect of moving the predictions for these counties closer to the national average. However, because the measured individual-level and county-level variables, rather than the unmeasured county random effects, explained the greatest share of variation in the survey data, the level of pooling was not substantial and relatively precise estimates were calculated even for these counties. Finally, the predicted probabilities were weighed by the observed population frequencies taken from the 2000 Census, resulting in a single number summarizing the proportion of the adult population in each county that was predicted to have supported Gore.

More formally, let each demographic subgroup be indexed by z and let θ_z represent the average predicted probability of Gore support among respondents in subgroup z. Using Census data, we can calculate the number of people falling into each demographic group, represented as N_z. The estimated level of Gore support in each county can then be calculated across all zs in county c:

$$y_{counties}^{MRP} = \frac{\sum_{z \in c} N_z \theta_z}{\sum_{z \in c} N_z} \tag{2.7}$$

How well did the MRP-based estimates recover the actual local election outcomes? Figure 2.1 plots the predicted rate of Gore support against the true share of the two-party vote that Gore won in each county. The figure is divided into three separate panels, plotting the relationship for small, medium-sized, and large counties separately. Each panel also includes two diagnostic measures for assessing the quality of the estimates. The first is a simple coefficient of correlation (Pearson's r) between the MRP estimates and true election results. The second is the mean absolute error (MEA) — on average, by how many percentage points did the MRP estimate diverge from the true outcome? Each panel also includes a 45-degree line, which corresponds to perfect predictions. Points located on the line represent cases for which the MRP estimates exactly matched the true election results.

Figure 2.1 provides strong evidence that the MRP method was successful in

estimating county-level public opinion. Although the performance was weakest in the smallest counties, with a population of under 50,000 residents, most observations were still clustered around the 45-degree line and the MEA was 7.3 percentage points. In other words, the MRP estimate was, on average, within 7.3 percentage points of Gore's actual vote share in the counties. The performance was substantially better in larger counties, with the MEA falling to 5.6 percentage points in mid-sized counties and 4.3 percentage points in large counties with a population above 100,000. Indeed, in the large counties, the MRP estimates were correlated with the true election results at 0.89 — a quite impressive degree of accuracy.
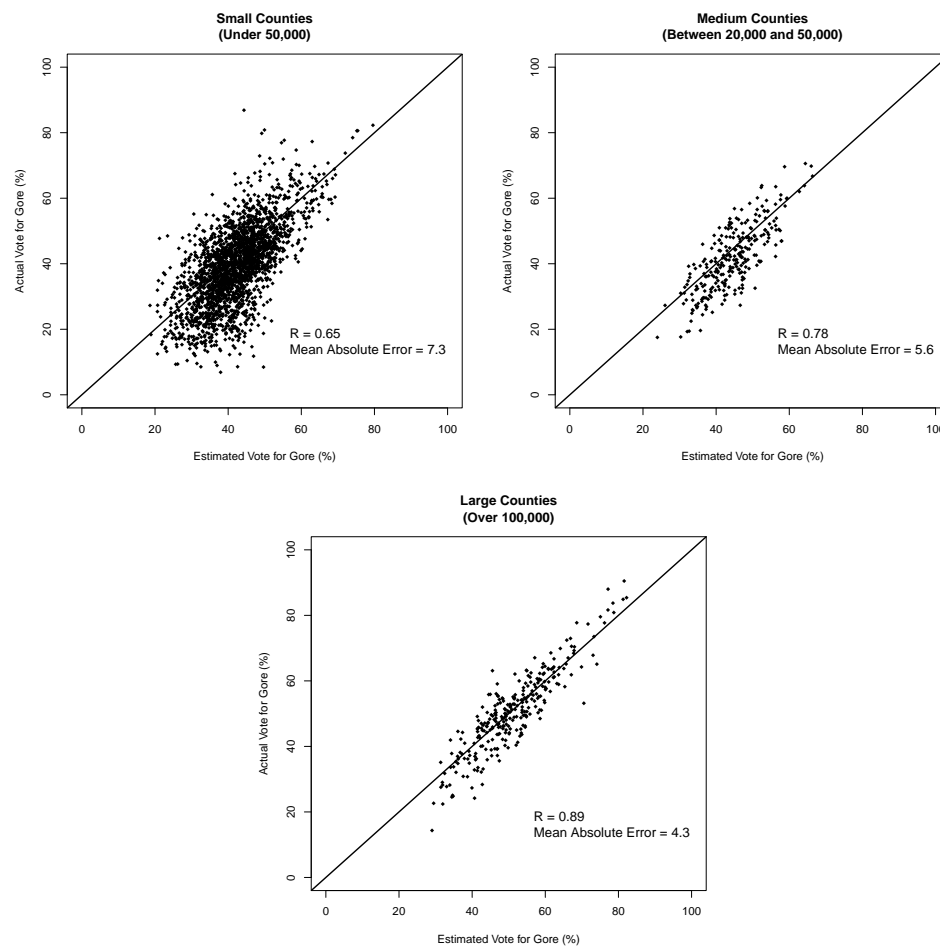
Figure 2.1: Comparison of public support for Gore estimated using MRP with Gore's actual vote share in each county during the 2000 presidential election.

It is worth discussing one likely source of error that can account for some of

the difference between the estimates and the actual election results. Note that the MRP estimates rely on population frequencies from the Census, which include all adults regardless of whether they are registered to vote or take part in the elections. By contrast, the election results reflect only the opinions of those who participate. To the extent that the decision to vote is correlated with political preferences — and to the extent that some portion of the population may not be eligible to vote due to citizenship or other restrictions — the opinions of voters will diverge from the opinions of all voting-age adults. Although this should not be a particularly large problem in national elections, the gap may become substantial in local elections that are not timed to coincide with other contests (see Bridges 1997, Hajnal and Lewis 2003, and Hajnal and Trounstine 2005). In some ways, this is both a limitation and a strength of the MRP approach. By providing the analyst an accurate measure of opinion among all potential voters, it allows one to study how institutional factors — such as election timing — affect the quality of representation at the local level. On the other hand, the MRP method may fall short when the quantity of interest is opinion among only those who actually voted in the election when the level of participation is particularly low. As explained above, the level of measurement error will depend on the extent to which voting (and not voting) is correlated with an individual's opinion on the issues.

2.4 Application: Local Opposition to Same-Sex Marriage

Of course, one does not need MRP when actual election results are easily available. The primary benefit of the method is to provide a way to estimate policy-specific public opinion at the local level when direct measures do not exist elsewhere. In practice, scholars usually rely on indirect metrics — such as share of two-party vote won by the Democratic or Republican presidential candidate — as proxies for local sentiment in individual policy spheres. In this section, I demonstrate that the MRP method works well in estimating policy-specific opinion and indeed outperforms traditional proxy measures.

Specifically, I examine local variation in public support in favor of same-sex mar-

Table 2.1: Statewide Constitutional Amendments Concerning Same-Sex Marriage

State	Year	Measure
Arkansas	2002	Constitutional Amendment 3
Georgia	2004	Constitutional Amendment 1
Louisiana	2004	Constitutional Amendment 1
Michigan	2004	State Proposal 04-02
Missouri	2004	Constitutional Amendment 2
Ohio	2004	State Issue 1
Nebraska	2000	Constitutional Amendment 1
Nevada	2002	Question 2
North Dakota	2004	Constitutional Measure 1

riage. My analysis focuses on same-sex marriage because it is an issue that has been the subject of proposed state constitutional amendments in a variety of states over the course of the last decade. Thus, county-level results from these statewide contests provide an excellent opportunity to validate the performance of MRP in estimating policy-specific opinion.[7] My review of election results in all 50 states led to identification of ballot measures in nine states that sought to outlaw same-sex marriage — or to codify existing bans through amendments to the state constitutions — and for which county-level results were available. I specifically sought out measures that appeared on the ballot near the 2004 election, because this is the period for which comparable public opinion data are available. The included states, and the corresponding ballot measures, are listed in Table 2.1.

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[7]I borrow the idea of using ballot measures to validate MRP estimates from Warshaw and Rodden (2012).

To estimate local opposition to same-sex marriage, I used the MRP method described above with two modifications. First, the public opinion data used for the first stage of the estimation came from the 2004 NAES. The survey asked respondents if they supported or opposed allowing same-sex marriage in their state, thus providing a direct and timely measure of opinion for a very large number of respondents. Like the 2000 survey, the 2004 NAES also coded county identifiers for each respondent. Second, I modified Equation 2.5 by adding the share of the two-party vote in the county won by John Kerry in 2004. The inclusion of this additional covariate was designed to improve the precision of the estimates for the county-level effects. As before, I then estimated the model and used the resulting coefficients to calculate the predicted probability of opposition toward same-sex marriage for each demographic group-county combination. These probabilities were then weighed in proportion to the frequency of residents falling into each demographic category in each county . The final step used the same population frequency tables from the 2000 Census. Although these data were somewhat dated by 2004, they were the most accurate available for the largest number of counties.

How well did MRP predict county-level election results on the same-sex marriage bans compared to other available proxy measures? The first panel of Figure 2.2 plots the correlation between county public opinion calculated with MRP and the election outcomes separately for the counties in each of the nine states. It also compares these correlations to the performance of presidential vote share, the standard proxy for ideology and policy preference used most frequently in the literature. Overall, my public opinion estimates were correlated with actual election results at or above 0.8 in most of the states. The predictive power of MRP outperformed presidential vote share in every state. The second panel similarly plots the MEA for the MRP estimates and presidential vote share. On average, my estimates came within 6 percentage points of the actual share of the vote cast in favor of the same-sex marriage ban in almost every state. This represented a substantial improvement on presidential vote share. The degree of improvement may be surprising, since the MRP estimate is based on the opinion of all adults while presidential vote share, by definition, is based only on the opinion of people who actually voted in the 2004 presidential election.

The low correlations in Arkansas and Georgia are explained by the lack of signif-

icant variation in the county-level election results in these states. Even slight measurement error in these states produces the wrong rank-ordering of counties in their support for the marriage bans, resulting in the low correlation. However, when one examines the average prediction error — how far away the estimated public opinion was from the actual voting results in each county — MRP performs well in these states, with estimates that were, on average, within 4 percentage points away from the actual vote in Arkansas and within 7 percentage points in Georgia. By contrast, the presidential vote was off, on average, by more than 20 percentage points in both states.

2.5   Extension: Public Opinion at the City Level

Although my focus to this point has been on counties, in principle, the same method can be used to estimate public opinion at the city level. In practice, however, applying MRP to the cities presents two additional challenges. While a number of national surveys include information about the respondents' county of residence, I know of no major survey that also codes what city each respondent lives in. This prevents us from directly modeling the effect of the local city culture on mass preferences. The second challenge is that far fewer covariates are available at the city level for inclusion in the model. For example, the lowest available level of aggregation for data on union membership and church attendance is the county.

The implications of these limitations are clear. Although it is relatively straightforward to adjust national opinion estimates to reflect demographic differences across cities, directly incorporating the effect of local culture becomes more difficult. To partially address these shortcomings, I modify the MRP approach in several ways. As before, I use the national survey data and estimate a multilevel model using individual and county-level variables. However, in the second stage, I apply these coefficients to city-level data — when it is available — to make the prediction. For example, although the initial model uses the percent of population of the *county* living in an urban area, I take the URBAN coefficient and multiply it by the percent of the population of the *city* that lives in an urban area for the prediction stage. When city-level data are not available, I match each city to the county that contains it and use the measure from the
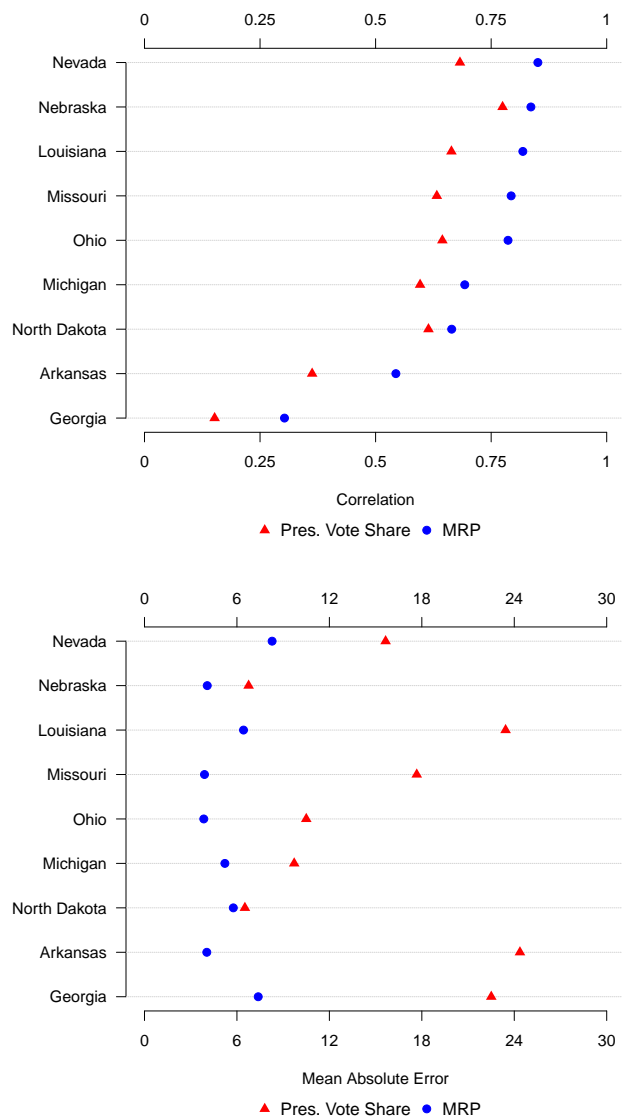
Figure 2.2: MRP outperforms presidential vote share in predicting public opinion on specific policies.

appropriate county.

These modifications make several potentially problematic assumptions. The first is that the effects calculated using county data have the same magnitude and direction at the city level. In other words, I assume that making a respondent's county 10 percent more urban will induce the same change in opinion as making her city 10 percent more urban. In reality, this assumption will almost certainly not be correct. Second, for

variables available only at the county level, I assume that distribution of individuals within the cities does not vary substantially from their distribution in the county as a whole. In reality, it may indeed be the case that the rate of union membership is higher in incorporated cities than in the unincorporated portions of the county, while the rate of church attendance may be higher in areas further away from the urban core. This would bias the city-level estimates toward a more conservative direction. Although neither assumption is likely to be satisfied in most settings, it is unclear the degree to which their violation actually produces bias in the estimation.

Unfortunately, most states do not report election results at the city level, thus precluding a full validation of the method. Instead, I used data from California, where election results are available for political jurisdictions within every county, to carry out the validation. Overall, I was able to collect election data for approximately 450 California cities, ranging in size from just a handful of voters to cities with hundreds of thousands of residents. In this section, I assess the extent to which the MRP method — with the two modifications described above — succeeded in recovering estimates that match the true election outcomes in these cities. As with the counties, I focus on the 2000 presidential election.

In Figure 2.3, I plot the election results predicted using the modified MRP method against the true share of the two-party vote won in each incorporated city. As before, I present these results in three panels, corresponding to small cities (fewer than 25,000 residents), mid-size cities (25,000 to 50,000 residents), and large cities (more than 50,000 residents). As the figure makes clear, the results are clearly encouraging. Although the city-level MRP estimates are less precise — which can be seen by the larger average error — the method is very successful at recovering the correct ordering of the cities from least to most Democratic. Even for the smallest cities, the correlation between my estimates and the true election results was high (r=0.68). Among the largest cites, the correlation rose to approximately 0.9. However, the figure also suggests that the method does produce biased estimates at the city level. This is most easily seen in the second and third panel of Figure 2.3. For both groups of cities, more observations fall above the 45-degree line than below it, indicating that the MRP was more likely to underestimate Gore's actual support within the cities than to overestimate it.
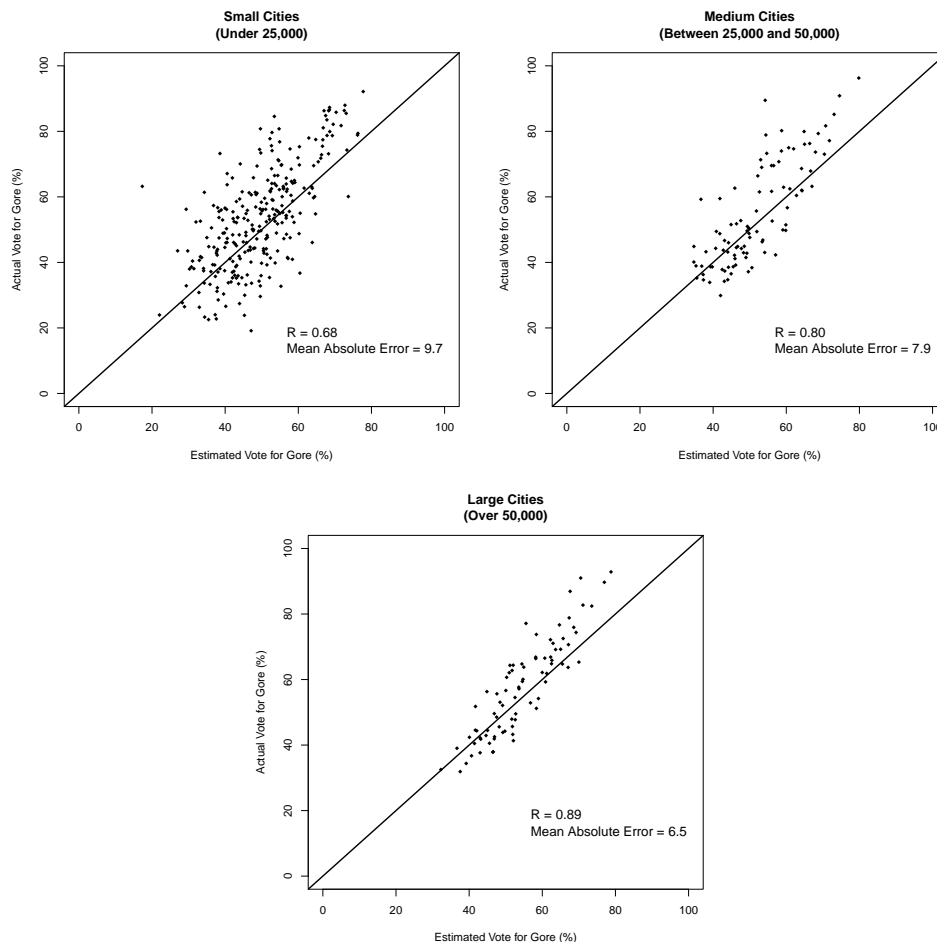
Figure 2.3: Assessing MRP performance in predicting 2000 election outcomes among California cities.

2.6 Discussion

Despite this small conservative bias, the high degree of correlation between the MRP estimates and actual election results highlights the great potential and utility of the method for the study of representation at the local level. Although CQ Press has compiled a full set of presidential results at the county level, there currently exists no similar source of data on election outcomes within American cities. The absence of some measure of constituent preferences — even one as blunt as presidential vote share — has made comparative analysis of policy processes in American cities very difficult. The benefit of MRP is that the method can produce comparable measures of mass opin-

ion for thousands of cities. These measures can capture not only local levels of support for national candidates with surprisingly high levels of precision, but also allow for the creation of much more fine-tuned metrics that focus on public opinion within specific policy spheres.

The limitations of MRP are clear as well. Overall, the validation exercises reported in this chapter indicate that MRP performs best when the goal is to estimate opinion for relatively large jurisdictions (more than 50,000 residents). For smaller cities and counties, the estimates are less precise, although when the quantity of interest is a rank-ordering of jurisdictions, rather than precise levels of public opinion within them, MRP may suffice. The second limitation, one discussed briefly in this chapter, is that the MRP method should be used to estimate the opinion of all voting-age adults. In low-turnout elections, this may not match the opinion of those who actually vote. Thus, although MRP may be used with great success to study the relationship between *latent* public opinion and policy, it is not a good candidate for examining the preferences of voters, particularly when the levels of participation in local elections are especially low (e.g. Hajnal and Lewis 2003).

Chapter 3

The Local Politics of Redistribution

3.1 Introduction

Poverty and the social problems that it creates often appear at the top of the agenda for local governments. Local law enforcement officials, the quintessential "street-level bureaucrats," confront poverty-related crime and interact face-to-face with society's most vulnerable members on a daily basis. Public housing authorities work with the homeless to find transitional housing and promote programs that help end substance and alcohol abuse, two problems associated with financial hardship. School officials provide free and reduced-cost meals to needy students in an effort to end multi-generational cycles of dependency. When individuals and families apply for public assistance, county social workers usually represent their first — and often only — point of contact.

Yet, despite their work on the front lines of public efforts to alleviate chronic poverty, local officials are usually treated as junior partners in the academic literature on the welfare state. Cross-country and historical analyses that examine the political origins of welfare policy focus almost exclusively on national institutions and the forces that shape policy outcomes at the federal level (see, e.g., Berkowitz 1991; Berkowitz and McQuaid 1992; Cutright 1965; Derthick 1979; Hacker 2002; Katz 1986; Patterson 1994; Skocpol 1992; Weir, Orloff, and Skocpol 1988; Wilensky and Lebeaux 1965). A more recent literature, which has expanded dramatically since the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996,

has also studied state-level differences in the scope and generosity of redistribution (see, e.g, De Jong, Graefe, Irving, and Pierre 2006; Fellowes and Rowe 2004; Lieberman and Shaw 2000; Soss, Schram, Vartanian, and O'Brien 2001; for an overview, see Rodgers 2005).[1] By contrast, most scholars continue to view local officials as mere "pawns in the larger social welfare policy game" (Craw 2006, p. 364).

The emphasis on state and federal policymaking belies the historical importance of local government in welfare provision. Well into the 20th century, public programs designed to redistribute income and alleviate poverty remained under the control of local elected officials. Until the New Deal resulted in a major expansion in welfare spending at the federal level, financial support for the impoverished came primarily from county governments, which were historically responsible for "poor relief" programs (Gilbertson 1917; Snider 1952), and from local machine bosses who controlled many big American cities (Yearley 1970). To this day, local officials continue to play a pivotal role as the primary administrators of many state and federal welfare programs, although how they reconcile the priorities of higher-level governments with local needs and demands remains an open empirical question. Do the actions of these officials reflect the opinions of their constituents, or are they shaped primarily by competitive pressures (Peterson 1981), fiscal capacity (Craw 2010), or the threat of social disturbance (Sharp and Maynard-Moody 1991)?

In this study, I shift the focus away from state and federal institutions to examine how local political forces influence redistributive efforts among American counties. Using administrative records compiled from the federal Department of Agriculture and various state social service agencies, I explore variation in county-level participation rates in the national food stamp program, a federal welfare program administered at the county level in most states. Although food stamp benefits are funded exclusively by the federal government, and eligibility requirements were uniform throughout the country during my period of examination, the data document substantial differences between counties in the proportion of eligible individuals who actually became enrolled. By

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[1]It is important to note that a large literature on state-level redistribution also existed prior to the 1996 reforms. Important contributions include Barrilleaux, Holbrook, and Langer (2002), Brown (1995), Carmines (1974), Hanson (1984), Jennings (1979), Key (1949), Peterson and Rom (1990), and Plotnick and Winters (1985). The title of this paper is borrowed from Fry and Winters (1970), with apologies to the original authors.

combining these administrative records with new data that measure public support for income redistribution at the local level, I demonstrate that a substantial amount of this variation can be explained by the political preferences of local voters.

I begin by reviewing prominent political economy models (e.g., Oates 1972; Peterson 1981), which predict that economic and competitive pressures at the local level result in uniform — and usually uniformly stingy — redistributive effort among local governments. Although this hypothesis has been subject to some empirical testing, data limitations and the absence of accurate gauges of local public opinion have led to ambiguous and tenuous conclusions. To overcome these problems, I introduce and analyze two new datasets that provide more precise measures of both redistributive policy and public opinion at the local level. I conclude by discussing how accounting for local discretion in the implementation of redistributive policy can provide useful insights for related research agendas interested in other aspects of the welfare state. Specifically, I show that local heterogeneity in program implementation creates serious modeling and estimation problems for scholars who examine the effects of policy choice on migration patterns. Failing to account for important differences among counties within states has the potential to create significant bias in existing estimates of the effect of state policy on individual locational choices.

3.2   Local Redistribution: Motive and Opportunity?

Much of the existing literature on redistribution focuses on Congress and state legislatures because elected officials serving in these institutions are responsible for making key redistributive policy decisions. Control over most major welfare programs — such as Temporary Assistance to Needy Families (which replaced Aid for Families with Dependent Children in 1996) and Medicaid — is shared between state and federal lawmakers. While Congress defines general parameters for the programs and provides partial funding, state legislatures determine specific benefit levels, set eligibility requirements, and pay the remainder of the cost. Other programs — including Social Security and Medicare — are under the exclusive control of the federal government. Because coverage levels and eligibility rules are often used as dependent variables in empirical

studies, scholars have naturally tended to study the deliberative bodies where decisions over these policies are made. Local officials rarely control either dimension of welfare policy and have thus escaped close attention.

Although the study of formal program rules reveals much about the process of policy *formulation*, it ignores important differences that can emerge when welfare policies are actually *implemented* at the local level (see, e.g., Pressman and Wildavsky 1994). Many case studies in public administration have documented how welfare program administrators can exercise extraordinary discretion when they implement policies made by state and federal legislators (Cho, Kelleher, Wright, and Yackee 2005; Ewalt and Jennings 2004; Soss, Fording, and Schram 2008; Grubb 1984; Keiser 1999; Keiser, Mueser, and Choi 2004; Tschoepe and Hindera 1998; Weissert 1994). The risk that bureaucrats will act as unfaithful agents during the implementation process is particularly serious with respect to welfare policy. Local officials, who administer welfare programs in most states, are often elected independently and by different constituents than the legislators who make policy decisions at the state and federal levels. As a result, the electoral connection may pull these officials in a different direction than what the policy authors intended.

While bureaucratic discretion may create opportunities for county officials to tailor welfare policies to their constituents' liking, prominent models of local politics predict that they will rarely exercise this discretion. Peterson (1981) presents one such theory, based on the **?**) model of jurisdictional competition, to explain the apparent absence of partisan policy differences at the local level.[2] In Peterson's account, locally elected officials are not single-minded seekers of re-election but rather single-minded seekers of mobile capital. These officials work to attract outside wealth because it leads to the creation of jobs for constituents and, more broadly, advances the collective economic interests of their jurisdiction. "By contrast to national patterns," Peterson writes, "local politics do not typically fit the pressure group model. Instead, they are generally a quiet arena of decision making where political leaders can give reasoned attention to the longer range interests of the city, taken as a whole. Just as local policy is limited by the interests of cities [and other local governments], so political processes at the local

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[2]Although titled *City Limits*, the logic of the theory presented in Peterson's book makes it applicable to all forms of local government, including counties.

level are limited" (p. 109).[3]

Because attracting mobile capital requires competing with other jurisdictions that wish to do the same, Peterson argues that local governments largely eschew redistributive goals. A reputation for welfare generosity encourages the in-migration of the wrong kind of residents — the poor — and pushes away wealthy business owners, precisely the kind of interests local governments are trying to attract. Even in jurisdictions where constituents support redistributive programs, competitive pressures prevent local governments from changing public policies to reflect mass preferences. According to Peterson: "The politics of redistribution at the local level is thus an arena where certain kinds of citizen needs and preferences seldom become demands; an arena where redistributive questions, even when posed as major political issues, are treated by a variety of strategies designed to forestall, delay, and preclude their implementation" (p. 182).

Although these competitive constraints are less binding for federal welfare programs — because local governments do not have to fund the benefits out of their own tax base — the logic behind Peterson's argument is compelling in these instances as well. First, recipients of federal welfare benefits such as food stamps usually also apply for other forms of public assistance, including programs like General Assistance that *are* funded out of local coffers (Klerman and Danielson 2011). Second, a reputation for munificence in the administration of state and federal welfare programs can hurt local governments in indirect ways. If a large number of poor residents relocate to these "welfare magnets" (Peterson and Rom 1990) to take advantage of their generosity, changes in the composition of the population can create problems — lower property values, higher crime — that can incentivize wealthy taxpayers and business owners to move elsewhere. Finally, because redistributive policies create positive externalities that spill across jurisdictional boundaries, rational public officials should be reluctant to invest local resources in the costly effort needed to administer welfare programs and advertise them to potential beneficiaries since they will reap only a fraction of the resulting benefits while bearing the full cost (Oates 1972). In short, Peterson's model predicts

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[3]The predictions of Peterson's model have found some support in empirical analyses of local policy — in particular, revenue, expenditure, and employment patterns. For example, scholars have found that the partisan affiliation of local officials is a poor predictor of policy outcomes at the local level (Brazer 1958; Ferreira and Gyourko 2009; Gerber and Hopkins 2011).

that local administration of welfare programs should lead to convergence in the amount of redistribution observed across local jurisdictions at an equilibrium level well below those preferred by state and federal policymakers.

3.3   Overcoming Measurement Problems

Recent studies provide mixed support for the hypothesis of convergence in welfare policy. For example, Minkoff (2009) documents significant spatial correlation in local spending on redistributive programs, a finding that is consistent with the competition hypothesis. By contrast, Hajnal and Trounstine (2010) argue that — although competition constrains local spending on welfare — leadership, political considerations, and institutions all lead to important differences in local fiscal outcomes. Others find support for both sets of findings (Choi, Bae, Kwon, and Feiock 2010; Craw 2006; Craw 2010). The central problem, however, is that scholars often lack precise measures of either welfare policy or constituent preferences at the local level. Although the convention is to use local spending taken from widely available public reports as a proxy for redistribution, this approach is problematic in several respects. First, few of the standard spending categories available in public reports match up cleanly to actual policy types. For example, Ramcharan (2010) uses public expenditures on education as a measure of redistribution at the county level, although the relationship between the operational measure and the theoretical construct is at best tenuous. Second, measures built from fiscal data cannot clearly separate out purely economic factors factors such as need and ability to pay from potentially correlated political variables.[4]

More importantly, spending decisions represent only one very limited source of local influence over welfare policy. By most measures, local spending on programs with some redistributive impact totals only $50 billion to $100 billion annually (Craw 2010; Minkoff 2009). While sizeable, these investments are dwarfed by the three largest national poverty relief programs — TANF, Medicaid, and food stamps — which cost state and federal governments over half a trillion dollars each year. In most states, all three of these programs are administered at the county level, where caseworkers help

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[4]Hanson (1984) provides a general critique of using spending data to measure redistributive policy.

individuals access public assistance benefits. How local officials choose to implement these major welfare programs has a far greater impact on local redistributive outcomes than the spending decisions made in city and county budgets.

Similarly, existing studies have also gone without clear measures of public opinion at the local level. Hajnal and Trounstine (2010) and Choi, Bae, Kwon, and Feiock (2010) rely on presidential election results to infer support toward welfare spending across cities. On the other hand, Craw (2010) uses the size of the non-white population as a proxy for public preferences toward redistribution. Both measures are extremely imprecise and noisy and neither accurately taps underlying public opinion on redistributive issues. To overcome both sets of measurement problems, I make use of new data sources and methods that provide much more precise metrics of both welfare policy and public opinion at the local level.

3.3.1   American Food Stamp Program

In this study, I examine county-level *enrollment rates* in welfare programs — a variable that captures important aspects of local discretion in the administration of major redistributive policies. Specifically, I examine participation in the federal food stamp program, also known as the Supplemental Nutrition and Assistance Program (SNAP). SNAP benefits take the form of monthly transfers made to low-income households that can be used to purchase food. The examination of SNAP participation rates is motivated by both practical and theoretical considerations. While eligibility requirements for TANF and Medicaid vary dramatically across states, in large part due to policies adopted after the PRWORA devolution, SNAP eligibility standards have historically been the same across the country.[5] Uniform standards make it feasible to identify individuals eligible for benefits in each county, and thus to calculate participation rates that are comparable across counties.

Aside from this practical advantage, examining differences in SNAP enrollment is also useful on substantive grounds. As a result of new restrictions on TANF eligibility put into place after 1996, welfare rolls have shrunk dramatically over the past 15

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[5]As Klerman and Danielson (2011) report, however, this is starting to change. In recent years, federal officials have allowed individual states to experiment with eligibility standards. Since this development occurred after 2000, which is the period I examine here, it does not present a problem for my analysis.

years. By contrast, participation in SNAP has grown significantly since the late 1990s. According to Klerman and Danielson (2011), "SNAP is now the most common source of government-provided income support to needy families" (p. 885).

The data on SNAP participation comes from administrative records maintained by the federal Department of Agriculture, which houses the program. Every six months, each state and territory must file Form FNS-388A, which reports both the number of SNAP beneficiaries enrolled by each service agency in the state and the total value of SNAP benefits awarded. This information is used by the Department of Agriculture to ensure that SNAP benefits do not exceed the appropriation provided in the federal budget. In two-thirds of the states, actual administration of the SNAP program takes place at the county level and enrollment is reported within each county. I use data for these states taken from reports filed in 2000 and merge them with individual income breakdowns collected as part of the 2000 Census to calculate county-level participation rates. I identify the SNAP-eligible population in each county using Census income data, with further details available in Appendix A. I focus on SNAP enrollment in 2000 because it is a year for which both reliable income statistics and local public opinion measures (see next section) are available.

Figure 3.1 identifies the states for which county-level enrollment data were available from the Department of Agriculture. Overall, I was able to calculate food stamp participation rates for more than 2,500 counties spanning 36 states. These rates serve as the dependent variable for the analysis discussed below.

Figure 3.2 plots the distribution in SNAP participation; enrollment rates for individual counties are presented graphically in Figure 3.3. In the map, darker shades of blue correspond to higher levels of participation — that is, darker areas have a larger proportion of the eligible population enrolled in SNAP. Participation rates for counties shaded in red are not available. A simple visual inspection of Figures 3.2 and 3.3 reveals substantial variation in SNAP enrollment across the country and within individual states. The figures provides no evidence of convergence in redistribution levels across counties, as the Peterson model predicts.

Figure 3.1: States in blue administer the food stamp program at the county level.

3.3.2 Measuring Local Public Opinion

What can account for such substantial geographic variation in food stamp participation? One explanation, suggested by the previous research on state and federal welfare policy, is that the differences can be explained by the political considerations of the public officials who administer the SNAP program in each county and are responsible for helping eligible individuals enroll. Specifically, I hypothesize that participation rates reflect differences in underlying public support for federal redistributive efforts across the counties. If this hypothesis is correct, enrollment should be highest in areas where economic redistribution has the greatest support from voters. In these counties, faithful implementation of redistributive programs thus provides the greatest electoral benefits. Alternatively, enrollment should be lowest where redistribution is a political liability for public officials.

Testing this hypothesis empirically, however, presents important practical challenges. No national opinion survey includes respondents from every county, and few include enough participants from *any* county to provide a representative sample at the local level. To overcome these challenges, I make use of a new method that utilizes

SNAP Participation Across Counties

Figure 3.2: Variation in SNAP participation across counties.

national opinion surveys and local demographic data to estimate public opinion at much smaller levels of aggregation. The method, known as multilevel regression and poststratification (MRP), was introduced by Park, Gelman, and Bafumi (2004) and used by Lax and Phillips (2009b) to estimate public opinion in the states (see also Lax and Phillips 2009a, Lax and Phillips 2011). Although MRP was first applied to state politics, Warshaw and Rodden (2012) show that the method can accurately estimate public opinion for smaller political districts within individual states.

To measure public support for redistribution across counties, I combine public opinion data from the 2000 National Annenberg Election Survey (NAES) with demographic statistics from the Census. The Annenberg survey is ideal for this application because it includes more than 25,000 respondents who were asked about their opinion toward redistributive policy and also because the survey provides a county identifier for each respondent. I use answers provided by the respondents to the following question: Should the federal government "[t]ry to reduce the income differences between rich and

Food Stamp Participation Rate

- 0 - 10%
- 10% - 25%
- 25% - 40%
- 40% - 55%
- 55% - 70%
- 70% - 85%
- 85% - 100%
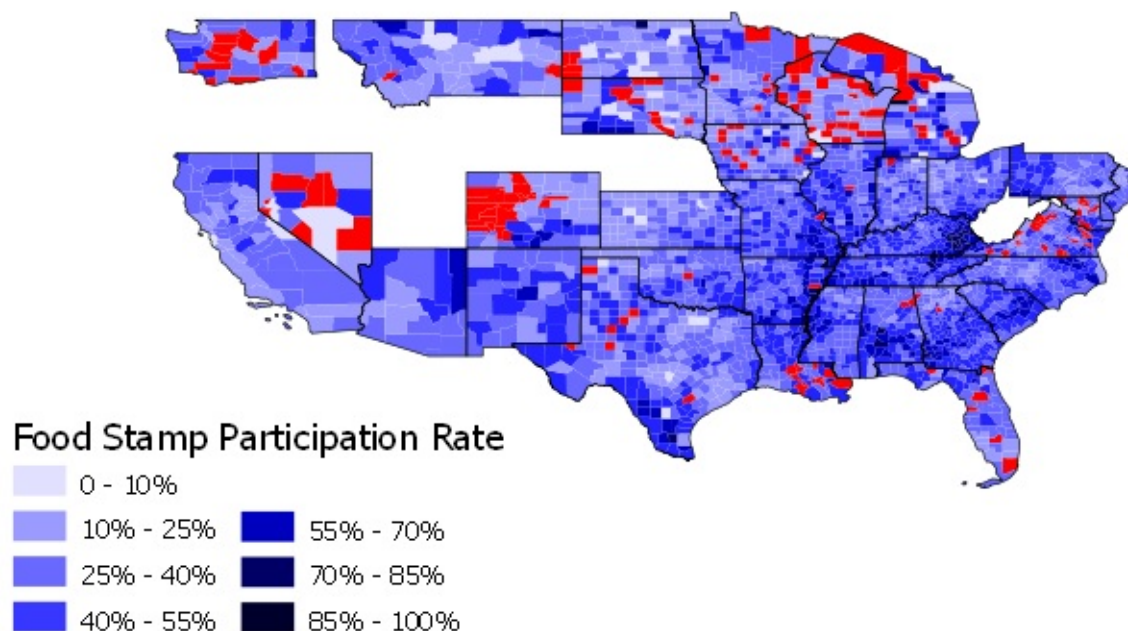
Figure 3.3: Darker shade of blue indicates that a greater proportion of eligible population is actually enrolled in food stamps. Participation rates are not available for counties in red.

poor Americans?" Using MRP, I estimate the proportion of adults in each county who believe the federal government should pursue public policies to reduce income inequality. Figure 3.4 presents a map of public opinion in each county, with darker shades of green corresponding to higher levels of support for redistribution. The map reveals significant amounts of local variation.

3.4   Empirical Strategy

My hypothesis is that SNAP participation rates will be highest in areas where maximizing enrollment produces the highest net electoral benefit for local officials. The political payoff should depend, in large part, on the political, demographic, and economic factors unique to each county. I test this logic by estimating a series of regression models that predict SNAP participation as a function of county-level variables.

My primary hypothesis is that enrollment in the food stamp program will in-
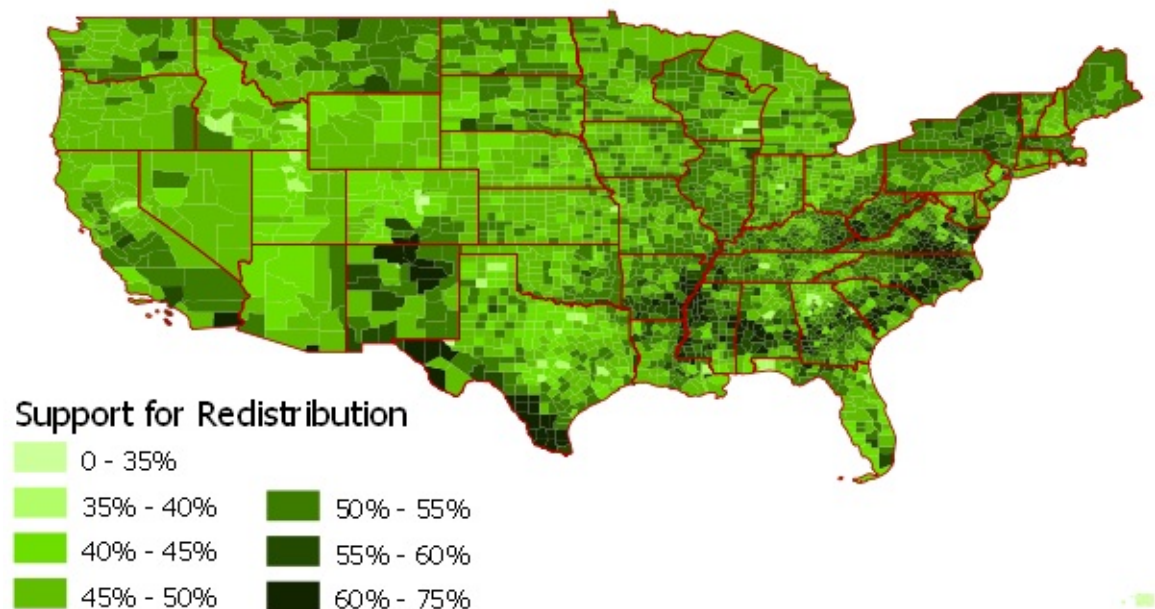
Figure 3.4: Darker shades of green indicate higher support for income redistribution.

crease with local political demand for redistribution. In counties where a larger share of the electorate supports an active federal role in closing the income gap between the rich and the poor, candidates will be able to attract more votes by enthusiastically implementing federal welfare policies. For the same reasons, we should expect that participation rates will be higher in areas where SNAP-eligible people represent a larger share of the total population. As the relative number of people who are net beneficiaries from redistribution increases, so does their share of the votes.

By contrast, other factors have been linked to public opposition to redistribution in the literature on welfare policy and state politics. First, scholars have found that popular opposition to welfare programs can be traced to the racial and ethnic profile of the beneficiaries. States that implemented the most stringent limitations on TANF after 1996 were those with the largest minority populations and the highest proportion of people on public assistance who were people of color (Fellowes and Rowe 2004; Soss, Fording, and Schram 2008; Keiser, Mueser, and Choi 2004; Soss, Schram, Vartanian, and O'Brien 2001). Because the literature is ambiguous about whether it is the overall size of the minority population or its share of the potential pool of welfare beneficiaries

that matters the most, I include both as independent variables in the models below. I measure the former as the percent of non-white residents out of the total population in each county, while I estimate the latter as the percent of individuals with incomes below the national poverty level who are minorities. I also include median income in the county. As the median income rises, a greater number of residents become net losers from federal redistributive programs, and so support for welfare should decline (see, e.g., Acemoglu and Robinson 2006).

In addition, I control for the median housing value in the county and the proportion of housing units that are occupied by owners. Areas with more expensive real estate, and where a greater share of the population owns the home in which they live, may be reluctant administrators of federal welfare programs because they have the most to lose from generous treatment of welfare recipients. If a reputation for being a "welfare magnet" leads to a large in-migration of poor people from nearby jurisdictions, the resulting decrease in property values (Peterson and Rom 1990) represents the greatest threat in affluent communities with a larger share of owner-occupied housing. For renters, by contrast, the immediate impacts are far less salient.

Plotnick and Winters (1985) also suggest that political support for redistribution may be related to population density: "[T]he urban poor [are] probably easier to organize than the rural poor for reasons of proximity and lack of informal social control. However, it is also reasonable to hypothesize that citizens in states with large urban populations have more direct contact with the urban poor and therefore more direct knowledge about their condition. All too often the destitute are in the streets, directly visible to the urbanite" (p. 462). To capture this logic, I include a variable measuring the proportion of each county's population that lives in an urban area.

Finally, all of the models also control for the local unemployment rate, non-citizens as a percent of the impoverished, and the total population of each county. Higher unemployment should lead to greater redistribution because it increases both the number of beneficiaries and the salience of economic hardship for other voters. By contrast, a larger number of non-citizens should lead to lower participation rates as a result of restrictions written into PRWORA. Although food stamp eligibility has historically been based primarily on income, PRWORA limited participation to American citizens. Be-

cause my estimate of the SNAP-eligible population is based on income, a larger number of poor but ineligible non-citizens results in a lower calculated participation rate.[6] The literature does not provide clear expectations on the effect of population size. Descriptive statistics for all of the variables are summarized in Table 3.1, which also lists the hypothesized relationships between them, as well as the data sources used to generate the variables.

3.5   Results

Table 3.2 reports the results from a series of regressions in which the independent variables described above are used to predict SNAP participation in each county.[7] Although the dependent variable must fall between 0 and 1, the table presents OLS coefficients to aid substantive interpretation. Estimates using a more sophisticated model, which accounts for the limited nature of the dependent variable, are not substantively different. Model 1 represents the baseline estimate, which includes local public support for redistribution as the sole predictor. Model 2 also includes the full battery of variables listed in Table 3.1, but does not include state-level fixed effects. By contrast, Model 3 includes all of the variables and a fixed effect for each state in the dataset.

For my primary variable of interest — public opinion toward greater income redistribution — the effect is consistently strong and statistically significant in the predicted direction. Across all three models, higher level of public support for redistribution is associated with a large increase in SNAP participation among eligible individuals. Although the magnitude of the effect is somewhat smaller in Model 3, it is still substantively significant. In Figure 3.5, I use the coefficients from Model 3 — the most conservative estimates — to plot the predicted SNAP participation rates across the full range of public support toward redistribution observed in the sample. All other variables are set at their mean in this simulation, and the coefficient for the modal state is used. Overall, greater voter support for redistribution is expected to produce a substantial increase in SNAP enrollment — an increase in 12 percentage points when support

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[6]SNAP eligibility for permanent residents was again restored by Congress in the 2002 Farm Bill.

[7]To reduce influence of outliers, counties with participation rates below 5% or above 95% are excluded from the analysis. However, this does not substantively affect the results.

Table 3.1: Summary of Variables

Variable	Source	Mean	Min	Max	Prediction
Dependent variable					
SNAP Participation Rate	USDA, 2000 Census	36.9	5.1	90.9	
Independent variables					
Support for Redistribution (%)	Author Calculations	50.9	34.4	72.4	+
SNAP-Eligible Population (%)	USDA, 2000 Census	19.05	3.5	59.7	+
Unemployment Rate (%)	Bureau of Labor Statistics	4.3	1.4	17.5	+
Urban Population (%)	2000 Census	39.9	0	100	+
Non-White Population (%)	2000 Census	20.1	0.5	98.0	–
Non-White Beneficiaries (%)	2000 Census	32.1	0	99.1	–
Median Income ($1,000s)	2000 Census	34.7	16.1	81.0	–
Median House Value ($10,000s)	2000 Census	8.1	2.2	51.5	–
Owner-Occupied Housing (%)	2000 Census	74.4	27.9	89.5	–
Non-Citizens Below Poverty (%)	2000 Census	4.1	6.2	44.5	–
Total Population (100,000s)	2000 Census	0.9	0	95.2	–/+

for redistribution is increased from the minimum in the sample (34%) to the maximum (72%).

Predicted Effect of Public Opinion on SNAP Enrollment
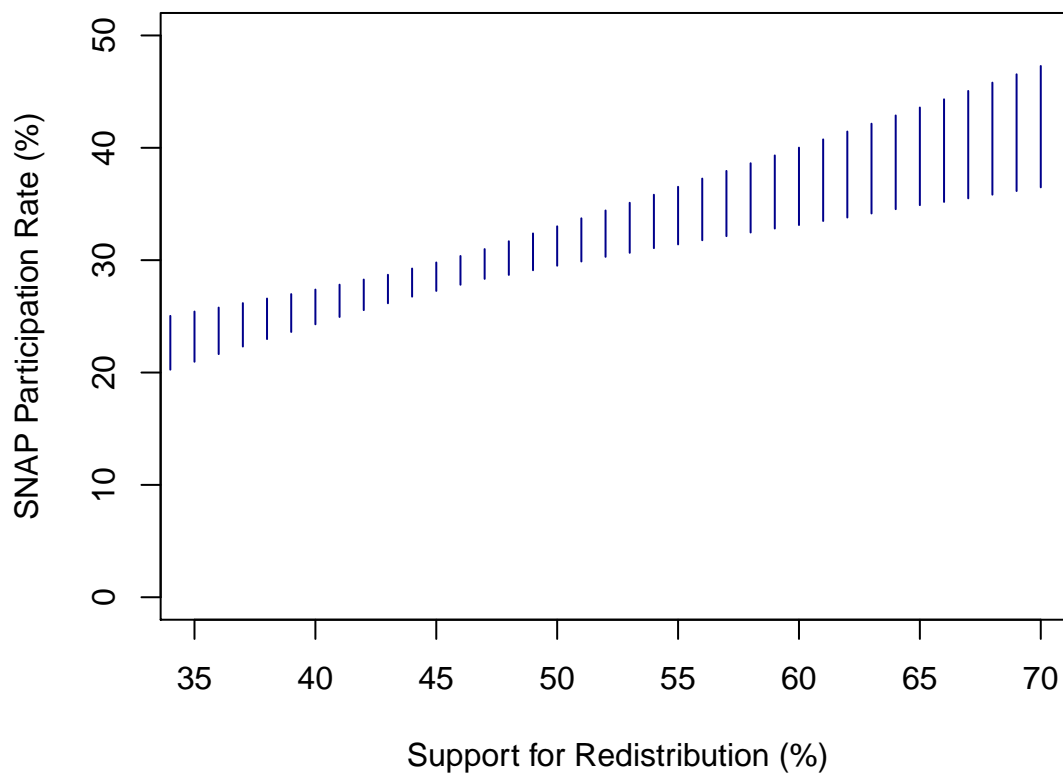
Figure 3.5: Effect of public opinion on SNAP enrollment.

As predicted, the relationships between SNAP participation and the relative size of the SNAP-eligible population, unemployment, and share of population in urban areas are also all consistently positive. When the number of potential voters who are beneficiaries from federal redistribution increases, so does local county success in getting them enrolled in the food stamp program. The negative coefficient on the variable measuring the share of poor who are non-citizens is also consistent with predictions. Due to legal restrictions on eligibility, these individuals do not qualify for food stamps, resulting in a lower enrollment rate.

By contrast, the results for the other variables are more mixed. While the size of

Table 3.2: SNAP Participation Rates Across Counties in 2000 (OLS)

	Prediction	Model 1	Model 2	Model 3
Support for Redistribution	+	**1.27*****	**1.05*****	**0.53*****
		(0.05)	**(0.06)**	**(0.11)**
SNAP-Eligible Population	+		**0.66*****	**0.47*****
			(0.08)	**(0.07)**
Unemployment Rate	+		**0.91*****	**1.67*****
			(0.18)	**(0.18)**
Urban Population	+		**0.18*****	**0.12*****
			(0.01)	**(0.01)**
Non-White Population	–		**-0.30*****	**-0.18****
			(0.05)	**(0.05)**
Non-White Beneficiaries	–		**0.19*****	**0.23*****
			(0.03)	**(0.03)**
Median Income	–		**0.17****	0.13
			(0.06)	(0.07)
Median House Value	–		-0.09	**-0.34*****
			(0.09)	**(0.10)**
Owner-Occupied Housing	–		**0.13****	**0.09***
			(0.04)	**(0.04)**
Non-Citizens Below Poverty	–		**-0.72*****	**-0.74*****
			(0.04)	**(0.04)**
Total Population	–/+		0.04	0.07
			(0.04)	(0.04)
Constant		**-28.69*****	**-53.24****	**-22.08****
		(2.3)	**(5.52)**	**(7.20)**
State F.E.		No	No	Yes
RMSE		12.0	10.3	9.0
Adjusted R^2		0.23	0.43	0.57
No. of Counties		2,527	2,527	2,527

Robust standard errors in parentheses

* significant at $p < .05$; ** $p < .01$; *** $p < .001$ in two-tailed test

the total minority population in each county is negatively correlated with SNAP participation, as is predicted by the literature on the relationship between racism and welfare attitudes, minority share of the *SNAP-eligible* population actually produces the opposite effect. It is far from clear why this would be the case. In addition, contrary to the initial hypothesis, the relationship between median income and SNAP participation is actually positive, although the effect is not significant in the full model that includes state fixed effects.

The models also produce mixed evidence that fear of becoming a "welfare magnet" results in lower enrollment in welfare programs. While higher median property values do appear to reduce local participation (significant only in Model 3), the effect of home ownership has the opposite sign.

3.6 Identifying the Mechanism

Although the cross-sectional analysis provides compelling evidence that local welfare policy outcomes are tied to mass political support for income redistribution, the data do not shed light on the causal mechanism at work. Three possibilities exist. First, poor people who live in communities with strong opposition to federal redistribution may avoid enrolling in welfare programs for fear of attracting social stigma from their neighbors. Second, the relationship between public opinion and SNAP participation may be indirect. Interviews with low-income people show that information is the primary barrier to food stamp participation. Many individuals do not realize that they are eligible for public services, and so never bother to apply (Desponte, Sanders, and Taylor 1999; Doe 1983). Local officials from counties with little popular support for welfare programs may simply invest less effort and fewer resources in outreach to eligible populations to disseminate information about the programs. Fewer applications, in turn, result in lower participation rates.

The final explanation is that public opinion influences how local administrators actually process applications from people who apply for SNAP benefits. Social workers in counties where opposition to welfare is high may take steps to make it particularly difficult for low-income individuals to submit successful applications for public assistance.

For example, social workers may choose to schedule mandatory in-person interviews at inconvenient times or in locations that are not easily accessible using public transportation. This type of active discouragement would be much more troubling from both a policy and a normative standpoint than "benign neglect."

Because all three explanations would produce the same observed relationships in the data — lower participation rates in counties where the voters oppose redistribution — the SNAP enrollment data cannot reveal which of these forces are at work. The key difference is that the first two mechanisms alter the behavior of potential beneficiaries — affecting their decision about whether or not to apply for benefits — while active discouragement takes place after an application has been made. Thus, to identify which mechanisms are at work, analysis must turn to the behavior of local officials. In this section, I provide evidence that active discouragement is indeed responsible for some of the observed disparities in participation rates across counties.

Although the federal government does not collect information on how county officials process SNAP applications, such data is recorded by social service agencies in some states. Through personal contact with state officials, I was able to compile data on food stamp application numbers and approval and denial rates at the county level for ten states, highlighted in red in Figure 3.6. Denial rates are based on records from fiscal or calendar year 2006 — depending on state record-keeping practices — because it is the most recent data available from the largest number of states prior to the start of the Great Recession, when both SNAP applications and enrollment rose dramatically as a result of growing economic hardship.[8]

The histogram in Figure 3.7 plots the distribution in denial rates. Although the variation here is somewhat less dramatic than in the participation rates, there are substantial differences among counties. The average county food stamp office rejects about 26 percent of SNAP applications, with a standard deviation of 11 percent.

Evidence of active discouragement would manifest itself in a negative relationship between denial rates on applications for food stamp benefits and the level of local

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[8]While the data on applications are from 2006, my public opinion measures are still from 2000. This can bias results if public opinion during this six-year period changed at different rates across counties. If such change occurred, however, it would introduce measurement error and should thus reduce the size of the coefficient on the variable measuring public support for redistribution, biasing the results toward the null hypothesis.
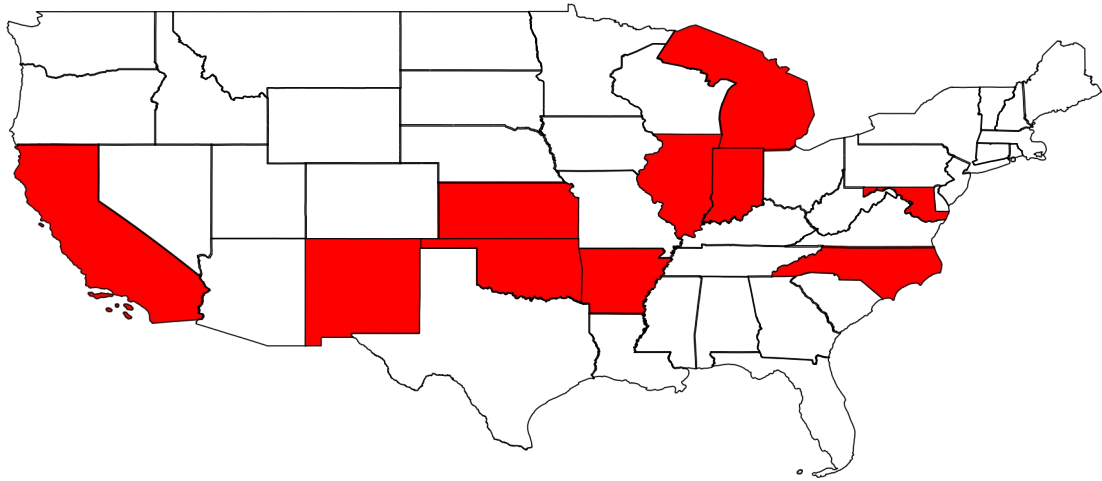
Figure 3.6: States with available county-level data on SNAP application processing.

public support for redistribution. Indeed, the predicted relationships should all have the opposite signs compared to the estimates of participation rates — because higher denial rates translate into lower enrollment. Using data from approximately 750 counties in these ten states, Table 3.3 re-estimates the previous models using denial rather than participation rates as the dependent variable. The results reveal that public officials in unsupportive counties do indeed reject a higher proportion of SNAP applications, with the coefficient on public support for redistribution consistently negative and highly significant.

Figure 3.8 plots the predicted denial rates across the observed levels of public opinion. Using the coefficients from the full model with state fixed effects, increasing public support for redistribution from the minimum in the data to the maximum level translates into a 12.5 percentage point decline in denial rates. Given the average magnitude of the actual denial rates in the data, the effect of public opinion is substantial.

Among the other variables, only the size of the SNAP-eligible population, share of the residents in urban areas, and the number of non-citizens below poverty are consistently significant predictors of denial rates. For all of these variables, the direction

SNAP Application Denial Rates
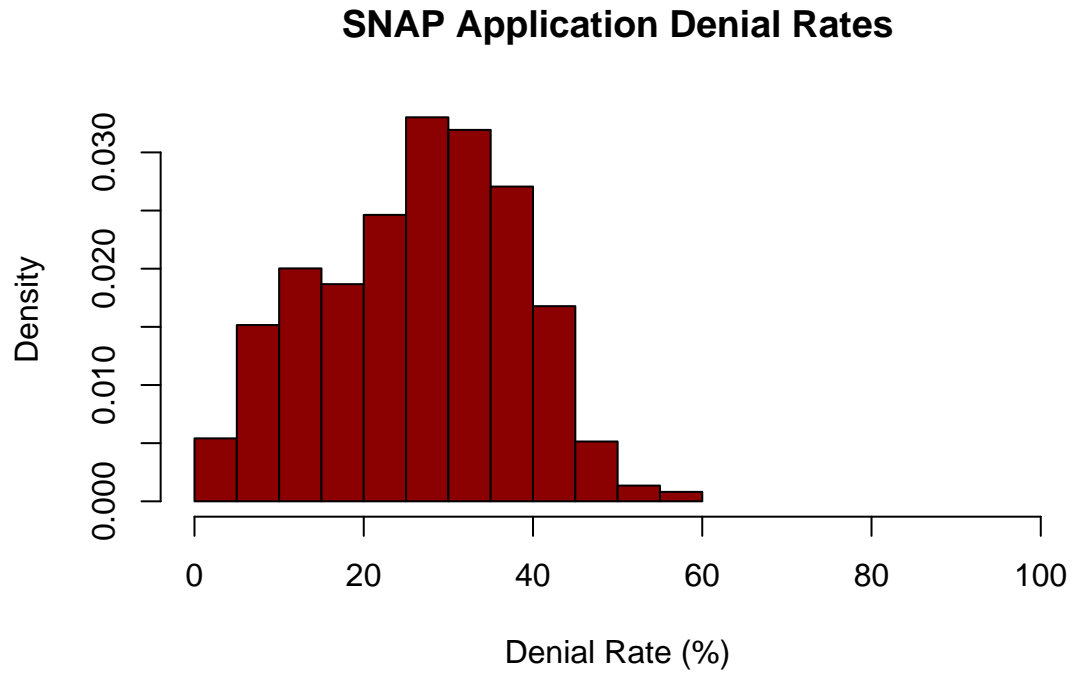
Figure 3.7: County-level variation in SNAP application denial rates.

of the effects is consistent with the prediction of politically-motivated redistribution and the logic outlined above.

Table 3.3: SNAP Application Denial Rates in 2006 (OLS)

	Model 1	Model 2	Model 3
Support for Redistribution	-0.99***	-0.86***	-0.36*
	(0.07)	(0.12)	(0.15)
SNAP-Eligible Population		-0.44**	-0.19*
		(0.13)	(0.09)
Unemployment Rate		-0.6*	-0.22
		(0.23)	(0.22)
Urban Population		-0.03	-0.04*
		(0.02)	(0.01)
Non-White Population		0.58***	-0.12
		(0.07)	(0.06)
Non-White Beneficiaries		-0.41***	-0.02
		(0.05)	(0.03)
Median Income		-0.03	0.04
		(0.09)	(0.06)
Median House Value		-0.15**	-0.05
		(0.05)	(0.06)
Owner-Occupied Housing		0.39**	-0.09
		(0.08)	(0.05)
Non-Citizens Below Poverty		0.30***	0.18***
		(0.06)	(0.05)
Total Population		0.04	0.01
		(0.04)	(0.03)
Constant	77.15***	114.49**	55.12**
	(3.7)	(10.34)	(10.06)
State F.E.	No	No	Yes
RMSE	10.5	9.58	5.5
Adjusted R^2	0.17	0.32	0.78
No. of Counties	739	739	739

Robust standard errors in parentheses

* significant at $p < .05$; ** $p < .01$; *** $p < .001$ in two-tailed test

**Predicted Effect of Public
Opinion on SNAP Application Denial Rates**
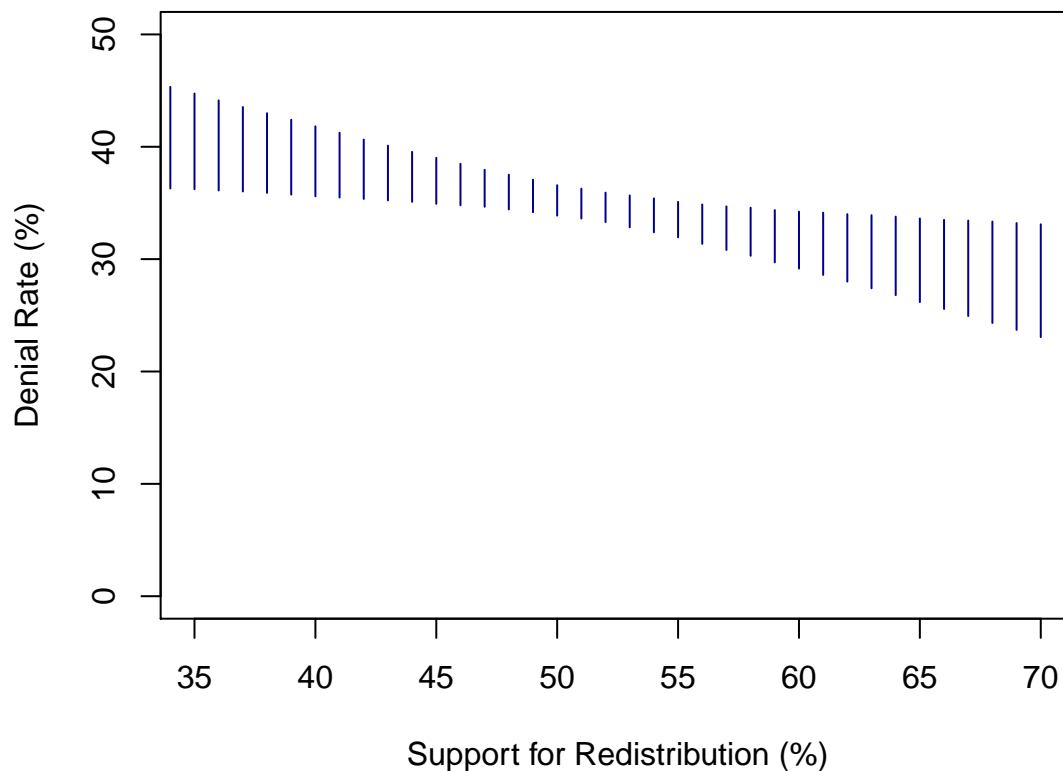
Figure 3.8: Effect of public opinion on approval of SNAP applications.

3.7   Implications for Models of Welfare Migration

Major differences across counties in how local officials choose to implement state and federal welfare programs create a problem for the literature on welfare migration. Motivated by the provocative argument made by Peterson and Rom (1990), scholars have examined whether states with relatively generous welfare regimes — measured in terms of spending, eligibility requirements, and benefit coverage — become "welfare magnets" that attract impoverished migrants from stingier neighbors. Existing empirical findings are mixed. While some studies uncover scant evidence that poor people move to states with generous safety nets to take advantage of public assistance bene-

fits (Allard 1998; Allard and Danziger 2000; Berry, Fording, and Hanson 2003), others find some statistically significant effects (Bailey 2005; Blank 1988; Borjas 1999; Enchautegui 1997; Peterson and Paul 1989). Even when they are present, however, the observed effects are substantively small.

If poor people make locational choices based on differences in actual welfare *outcomes* rather than formal welfare rules, however, then the primary focus should be on migration patterns between counties rather than across states. By ignoring substantial within-state variation, regressions that focus on population movement across states can introduce significant bias in estimating the effect of welfare policy on the decision to move. This point can be made clearly through a simple comparison of food stamp enrollment in the neighboring states of Kansas and Oklahoma.

Overall, it is somewhat easier to receive SNAP benefits in Oklahoma, where approximately 53 percent of eligible individuals are enrolled in the program, than in Kansas, where the participation rate is only 48 percent. Thus, observed migration among poor people from Oklahoma to Kansas would appear to be inconsistent with the welfare magnet hypothesis. If one instead compares SNAP participation rates in counties immediately adjacent to the border between the two states, however, the same migration patterns might support the opposite conclusion. Despite the aggregate state-level differences, there are many counties in Kansas that enroll more eligible participants in food stamps than some counties in Oklahoma. For example, Osage County in Oklahoma enrolls just 36 percent of eligible residents in the program. Adjacent Washington County enrolls even fewer — 29 percent. By contrast, Chautauqua County enrolls 48 percent directly across the border in Kansas. These three counties are identified in Figure 3.9 below. Individuals looking to maximize their probability of securing welfare benefits might indeed move from Osage and Washington counties into Chautauqua County and their behavior would provide confirmatory evidence in favor of welfare migration — but only if counties, rather than states, are the primary unit of analysis. By ignoring substantial within-state variation, studies of welfare migration that focus on state policies and make use of state-level migration data can lead to incorrect inferences about the key determinants of locational choice among the poor.
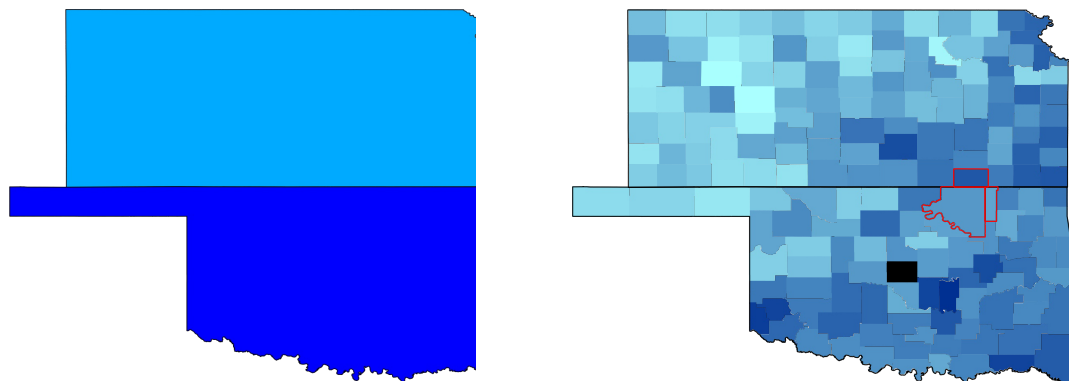
Figure 3.9: Testing "welfare magnets" hypothesis using state vs. county data can lead to conflicting results.

3.8 Discussion

In this study, I use two new data sources — administrative records from the national food stamp program and estimates of county-level public opinion — to document considerable variation in the level of redistribution across American counties. The data show that a substantial proportion of this variation can be explained by local voter sentiment toward welfare policy. Although local politics may indeed be "limited politics," as has been argued by scholars including Peterson (1981), the results suggest that local officials retain substantial discretion over redistributive policy and use it to further their individual electoral and policy goals. What is perhaps most striking is that such discretion extends beyond local budgetary decisions, where it might be expected, to how local officials implement major national policies.

This finding provides an important cautionary note for efforts that seek to devolve control over major policy decisions to the local level, a strategy that has been pursued both in the United States and many other developed and developing countries in recent years. Although it has been argued that decentralization improves the quality of representation by bringing key policy decisions closer to the constituents and encouraging participation from affected stakeholders, I demonstrate that local control can also

give rise to important geographic inequities. When local officials must act as agents of the central state, but owe their electoral future to the wishes of local constituents, they may face conflicting pressures that can complicate implementation of broader national policy objectives.

It is also likely that federal lawmakers, who must make a conscious choice to delegate responsibility for implementation of major national programs to state and local officials, anticipate that such delegation will give rise to regional variation. Indeed, precisely such expectations are at the heart of Lieberman's (1998) account of the politics behind the passage of the Social Security Act of 1935. The law gave rise to America's three largest and most well-known safety-net programs — old-age insurance, unemployment insurance, and aid to dependent children (which later became AFDC). One puzzle motivating Lieberman's analysis is why this law created different mechanisms for administering each program. A vast federal bureaucracy was created to oversee old-age insurance, while the unemployment and welfare programs were left in the hands of state and local officials.

His argument is that the design of each program reflected the political interests of conservative southern Democrats, who provided the pivotal votes needed to pass the legislation in Congress. Their support came on the condition that African-Americans would not become beneficiaries of these programs. For old-age insurance, a contribution-based program, this was achieved through rules that specifically excluded the primary black occupations of the era — housekeeping and agriculture. However, similar rules could not be designed for unemployment insurance and aid to dependent children for a variety of reasons. Southerners agreed to support these programs only on the condition that their administration be left in the hands of state and local officials, who could use their discretion to exclude otherwise qualified black applicants. According to Lieberman (1998):

> Where African-Americans were potentially included among a policy's beneficiaries, Southerners demanded institutional structures that preserved maximum local control. Conversely, strong, national social policy institutions were politically possible when African-Americans were excluded from the center (pp. 7-8).

Today, local control continues to be a source of substantial variation in the implementa-

tion of major welfare programs. The analysis presented in this chapter suggests that the losers, however, are not simply African-Americans but all disadvantaged people who happen to have the misfortune of living in areas where voters oppose federal redistribution.

Chapter 4

Who Benefits from Jurisdictional Competition?

4.1 Introduction

When local governments compete, do their constituents win? A long intellectual tradition in the study of local political economy, including classic works by ?) and Oates (1972), has suggested that they do. These and other scholars have argued that jurisdictional competition creates a quasi-market for public goods, allowing residents to move elsewhere when the quantity and quality of local services provided by public agencies diverge from their preferences. The "threat of exit" also creates a powerful constraint on the behavior of public officials, providing an incentive for improved efficiency and effectiveness of local government. The promise of Tiebout-style sorting was summarized well by the Advisory Commission on Intergovernmental Relations, which argued: "Just as market competition produces an economic system responsive to consumer needs, interjurisdictional competition can produce a government system responsive to voter desires"(Advisory Commission on Intergovernmental Relations 1991, p. 4).

Many political scientists remain unconvinced that most individuals possess the necessary information and ease of mobility to maximize the benefits of jurisdictional choice (see Lowery and Lyons 1989; Lowery, Lyons, and DeHoog 1995; Percy and

Hawkins 1992). Much of the existing research on locational decisions, for example, has found that factors like employment opportunities and proximity of family play a much more important role than local government performance in determining where individuals choose to call home, although local policies do appear to matter on the margins (e.g. Bickers, Salucci, and Stein 2006; Percy, Hawkins, and Maier 1995; Sheley and Koven 1993). Despite the weakness of the micro-level evidence, an impressive record of empirical research has documented that competition among local governments can indeed lead to increased efficiency and a closer nexus between constituent preferences and government policy (for a review of the empirical literature see Dowding, John, and Biggs 1994). For example, Banzhaf and Walsh (2008) found that local air quality is a powerful predictor of change in residential density. In a seminal article, Hoxby (2000) provided evidence that increased public school choice improves student academic performance and reduces the cost of teacher compensation.

However, other work has also identified a darker side to jurisdictional competition — the possibility that powerful interest groups will leverage the threat of relocation to win significant concessions from local governments and their constituents. In their fight to increase sales tax revenues, for example, local governments have wooed big-box retailers with the promise of significant property tax rebates and inducements (Lewis 2001). Similarly, Rosentraub (1997) showed how competition to attract professional sports teams has allowed wealthy team owners to extract substantial public benefits, including vast taxpayer subsidies for stadium construction, from cities across the country.

Building on both sets of findings, I examine the dynamics of jurisdictional competition — how the gains and costs of competition are divided among local constituents and narrow interests — in the context of public-sector wage bargaining. Public employee labor unions have long been recognized as some of the most powerful actors in local elections and urban politics (e.g. Moe 2006; Moe 2009). While the canonical Tiebout model should predict that jurisdictional choice can limit opportunities for rent extraction by public-sector employees by allowing residents to flee high-tax areas, I develop a new theory that explicitly considers how government workers can take advantage of competition — through its effects on the local labor market — to improve their bargaining position. The model predicts that well-organized government employees, rather

than voters, will be most advantaged by the existence of jurisdictional competition. I then test these competing predictions using survey data on employee compensation.

4.2   A Theory of Jurisdictional Competition and Wage Bargaining

Any model of decision-making, whether mass-level or elite-based, must begin with basic assumptions about the preferences of actors and the strategies available to them. In this section, I outline the primary assumptions and the basic intuitions and logic behind my theory of public-sector wage bargaining under the presence of jurisdictional competition.

Assumption 1: Elected officials seek to maximize their probability of re-election. They do so by minimizing the local tax burden and maximizing the quality and quantity of public services.

The first assumption states that elected officials are primarily concerned with their electoral fortunes. Because their ability to remain in office — and to move up to higher office — depends on the outcome of elections, the "electoral connection" forces policy makers to pay close attention to the needs and wants of their constituents (Mayhew 1974). To improve their electoral standing, local officials have control over two primary policy levers, the local tax rates and the level of public-service provision. In theory, officials can improve the quality of local services by reducing costs (enhancing efficiency) or by finding other revenue sources that do not impact the tax burden of residents. For example, officials may locate new shopping centers on the borders of their cities to raise sales tax revenues by attracting shoppers from nearby jurisdictions (Fulton 2001, Chapter 10), or they may encourage the construction of new hotels and convention centers to raise transient-occupancy taxes from visitors. Both strategies bring in new revenues by expanding the tax base, thus increasing how much officials can spend on local services without raising taxes. Alternatively, officials may also under-fund relatively low-profile services, such as the maintenance of public buildings, to free up money to pay for programs voters are more likely to notice and reward.

On the margin, however, elected officials face a tradeoff between minimizing local taxes and raising the revenue needed to fund public services. Depending on the preferences of residents, local officials may be willing to raise taxes if doing so provides for the maintenance or enhancement of services essential to meeting the demands of existing residents or attracting new ones. For vital public functions — such as safety and road repairs — higher taxes often pose a smaller electoral risk than under-provision of these essential services.

Assumption 2: Elected officials must bargain with public employees over the cost of local public-service provision.

Most political models assume that local governments are unitary actors. Although abstracting away from the actual organization of local government is useful in some contexts, doing so also ignores the bargaining that must take place within government between elected officials who set broad policy goals and their employees who translate these goals into actual policy outcomes. Although elected officials may guide public policy, they do not unilaterally control the per-unit cost of most basic public services. Instead, they contract the provision of services out to municipal employees. As with other types of market exchange, the salaries and benefits of the workers are set through negotiation and bargaining between the employer and the employees. Employers seek to minimize the per-unit cost, and thus keep their cities' tax burdens low, while employees seek to maximize their own compensation.

Assumption 3: Jurisdictional competition increases the bargaining leverage of public-sector employees.

In negotiating with local governments, public employees often argue that unless they win significant wage and benefit enhancements, experienced workers will leave for jobs elsewhere resulting in a brain drain and a reduction in the the quality of local services. However, this strategy is effective only if the employees can credibly threaten to exercise an outside option — that is, to find a job with a different employer.[1] The

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[1]Note that the set-up here flips the standard application of the Rubinstein model to wage bargaining, where it is often assumed that employers can credibly threaten to hire from their "reserve" workforce if the current workers do not accept their offer (e.g. Shaked and Sutton 1984).

credibility of their threat depends on the structure of the local labor market. In the most extreme case, an area where only one government agency provides law enforcement services, police officers cannot credibly threaten to leave if they do not secure their preferred pay, because their current employer is, quite literally, the only game in town. Indeed, recent research in the field of labor economics has found evidence that employers can, under certain conditions, exploit their market power to drive down wages of employees (Bhaskar, Manning, and To 2002; Staiger, Spetz, and Phibbs 1999). When employers act as "monopsony buyers," they can translate their dominant position into a substantial bargaining advantage. By enhancing labor market competition, an increase in jurisdictional choice weakens the bargaining power of each local government and makes the employees' threat to exercise the outside option more credible.

Increasing the credibility of employees' threat to leave is only one possible mechanism through which jurisdictional fragmentation may drive up compensation for public employees. A second possibility is that increasing the number of jurisdictions makes each government agency less likely to realize economies of scale in service provision.[2] Although a regional fire department needs only one fire chief and a single dispatch system, fragmented provision of fire protection is likely to result in substantial duplication of administrative functions, for example. Increasing the number of jurisdictions responsible for service provision thus increases the market demand for public employees, which translates into higher wages.

The third potential mechanism deals with the supply of public employees. Iversen and Soskice (2001) separate workers into two categories depending on the nature of their skill set. They argue that workers with "specific" skills "are valuable only to a single firm or a group of firms (whether an industry or a sector), whereas general skills are portable across all firms" (p. 276). Most jobs associated with the public sector — whether police officers, fire fighters, or engineers — are characterized by highly specific skills. Indeed, local governments often invest substantial resources in training programs like police and fire academies in order to develop the specialized knowledge their employees will need on the job. Agencies' willingness to pay the cost of training such

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[2]Indeed, one of the primary arguments made by advocates of "New Regionalism" is that government consolidation can produce substantial savings and efficiencies by taking advantage of economies of scale (see Parks and Oakerson 2000).

employees, however, will depend on how long they expect these workers to remain in their employ. Government fragmentation thus poses a substantial collective action problems for local agencies. Individual governments may seek to avoid spending local funds on training, and instead attempt to freeride on the investment of others by wooing away their skilled workers. Knowing that there is a high risk that their workers will leave for other opportunities after relatively short periods of time, other agencies will also be less willing to invest in training because they realize that they will internalize only a small part of the productivity gains that will accrue from their costly investment in improving workers' human capital. Both forces — incentive to freeride on the investment of other agencies and reluctance to invest in improving the skills of their own employees in anticipation of poaching by others — should thus reduce the supply of highly skilled public-sector employees, leading to higher compensation as agencies compete over the resulting smaller labor pool.

4.2.1 Hypotheses

In practice, it is difficult to identify which of the three mechanisms outlined above may actually be responsible for generating upward pressure on local government compensation. All three, however, point to an unambiguous prediction: Areas with greater fragmentation in local public-service provision should, on average, have more generous pay and benefits for public employees. This expectation is quite different from the hypotheses produced by the Tiebout model, which predicts that growing competition among cities should lead to lower wages for all government employees by increasing the threat of exit among residents discontented with higher taxes. In the following sections, I use data on worker compensation to test these competing hypotheses and to examine the relationship between jurisdictional competition and public employee pay.

In addition, it is possible that workers may differ in their ability to capitalize on government fragmentation to win more generous benefits. Using competition to their advantage requires individuals to possess substantial information about pay practices at other local agencies that employ similar classes of workers. Getting such information is costly and presents collective-action problems of its own. We should expect that workers who are members of unions — which often represent groups of workers with similar oc-

cupations across multiple agencies — will be more likely to overcome these problems. Indeed, anecdotal evidence suggests that public-sector unions invest great resources in collecting information about compensation practices at various local agencies, and use this as part of their negotiations. To examine whether the effect of competition is conditioned by worker membership in a collective-bargaining unit, I also test the interaction between local government fragmentation and worker union affiliation.

4.3   Preliminary Qualitative Evidence

I begin by presenting qualitative evidence that public employees do, indeed, exploit competition between local agencies to negotiate for more generous benefits. This evidence is drawn from my own interviews with union leaders in several California jurisdictions and a review of media coverage of specific contract negotiations that took place between local governments and their workers. In the summer of 2006, the city of Santa Barbara entered into talks with the union representing its police officers over the terms of a new contract. As part of its argument for substantial wage increases, the union presented the city council with statistics showing that a large — and growing — number of senior Santa Barbara officers were leaving the city for jobs in Ventura, a jurisdiction about 30 miles south that was known for its more generous law-enforcement compensation. After several months of very bitter negotiations, including a number of allegations of unfair labor practices on both sides, the city eventually agreed to double-digit pay increases for local police officers, largely out of fear that smaller increases would exacerbate Santa Barbara's recruitment and retention problems.

Several months later, the San Diego Police Officers Association warned that several years of pay freezes, necessitated by public revelations that the city faced a billion-dollar pension deficit and a serious budget crisis, had brought about a retention crisis at the department. As in Santa Barbara, the police union leaked data to members of the city council and the local press purporting to show that a substantial number of officers had recently left for jobs in nearby cities. After a city-commissioned study found the department's compensation packages to be in the bottom quartile when compared to competing jurisdictions in San Diego County, the city agreed to significant wage in-

creases. "San Diego is not alone in facing police recruitment and retention challenges," the San Diego mayor's office said in a press release issued at the time. "This has created a simple case of supply and demand. There is a greater demand for officers than there is supply. In such cases, compensation oftentimes becomes a determining criteria" (Sainz 2006). Within months, the union representing San Diego fire fighters made a similar appeal for higher pay, prompting the city to commission a study comparing its own compensation practices to these of nearby jurisdictions.

Similar dynamics appear to characterize the wage bargaining environment for a large number of local governments. In his provocative *Vanity Fair* article on California's budget challenges, for example, Michael Lewis pointed to unsustainable benefit increases prompted by public officials' fear of losing employees to nearby jurisdictions as a central cause of the state's public pension woes. Focusing on the city of San Jose, Lewis wrote:

> Over the past decade the city of San Jose had repeatedly caved to the demands of its public-safety unions. In practice this meant that when the police or fire department of any neighboring city struck a better deal for itself, it became a fresh argument for improving the pay of San Jose police and fire. The effect was to make the sweetest deal cut by public-safety workers with any city in Northern California the starting point for the next round of negotiations for every other city. The departments also used each other to score debating points (Lewis 2011).

4.4 Quantitative Analysis of Public Sector Compensation

Although these anecdotes provide some initial indication that public employees can indeed exploit competition between local governments to win better pay, the evidence is not definitive. It may be the case that competition simply provides public officials with a blame-avoidance opportunity, an effective public-relations strategy to justify benefit increases they would have given even in the absence of competition. Equally important, the qualitative cases do not allow us to calculate the precise premium produced by competition or to estimate counter-factual quantities of interest. To address

both weaknesses, I now turn to a more systematic analysis of public-sector compensation practices using data on salaries and wages of public employees collected as part of the 2000 Census. I merge these data with a measure of local government fragmentation and estimate a series of models that regress (logged) worker pay on a number of individual-level attributes and the institutional environment in which employees work.

Operationalizing the theoretical concept of jurisdictional competition requires the analyst to first define a geographic region within which local governments are thought to compete. While some existing work uses the county as the unit of analysis, this is usually a choice driven by convenience rather than theory. Because individual and family locational decisions are almost always constrained by occupations and careers, the optimal unit of analysis should be defined by commute patterns. Two cities can compete with one another only if a resident can realistically move between them at a relatively low cost — that is, if moving houses does not require residents to also change their jobs. For this reason, I use metropolitan statistical areas, developed by the Office of Management and Budget, as my primary units of analysis. Metropolitan areas are made up of adjacent counties that are marked by a high degree of "social and economic integration," measured by individual commute patterns (Office of Management and Budget 2000). A county is included in a metropolitan area only if at least 25 percent of its working residents are employed in the central city (or cities) at the heart of that metropolitan area. Metropolitan areas are also ideal from the wage-bargaining perspective because they include all local government jurisdictions to which employees could commute without having to move, the primary factor that constrains workers' employment options.

Jurisdictional competition, the key independent variable in the models presented below, is measured as the number of general-purpose governments found within a metropolitan area. I use metropolitan boundaries defined for the 2000 Census and calculate the number of local governments using records collected as part of the 2002 Census of Governments. General-purpose governments include cities (coded as "municipalities" in the Census of Governments); townships in nine states where these are territorially exclusive from municipalities (Berry 2008);[3] and the counties that contain them, as county governments are the primary providers of municipal services in unincorporated areas (Benton

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[3]These nine states are Maine, Massachusetts, New Hampshire, New Jersey, North Dakota, Pennsylvania, Rhode Island, South Dakota, and Wisconsin.

2002; Berman 1993). Figure 4.1 presents a simple histogram summarizing variation in jurisdictional competition across U.S. metropolitan and metropolitan areas areas. The mean region included more than 40 general-purpose governments, while the median metropolitan area covered 19 jurisdictions. Regions at the 25th percentile included 9 governments, while the 75th percentile had more than 40.
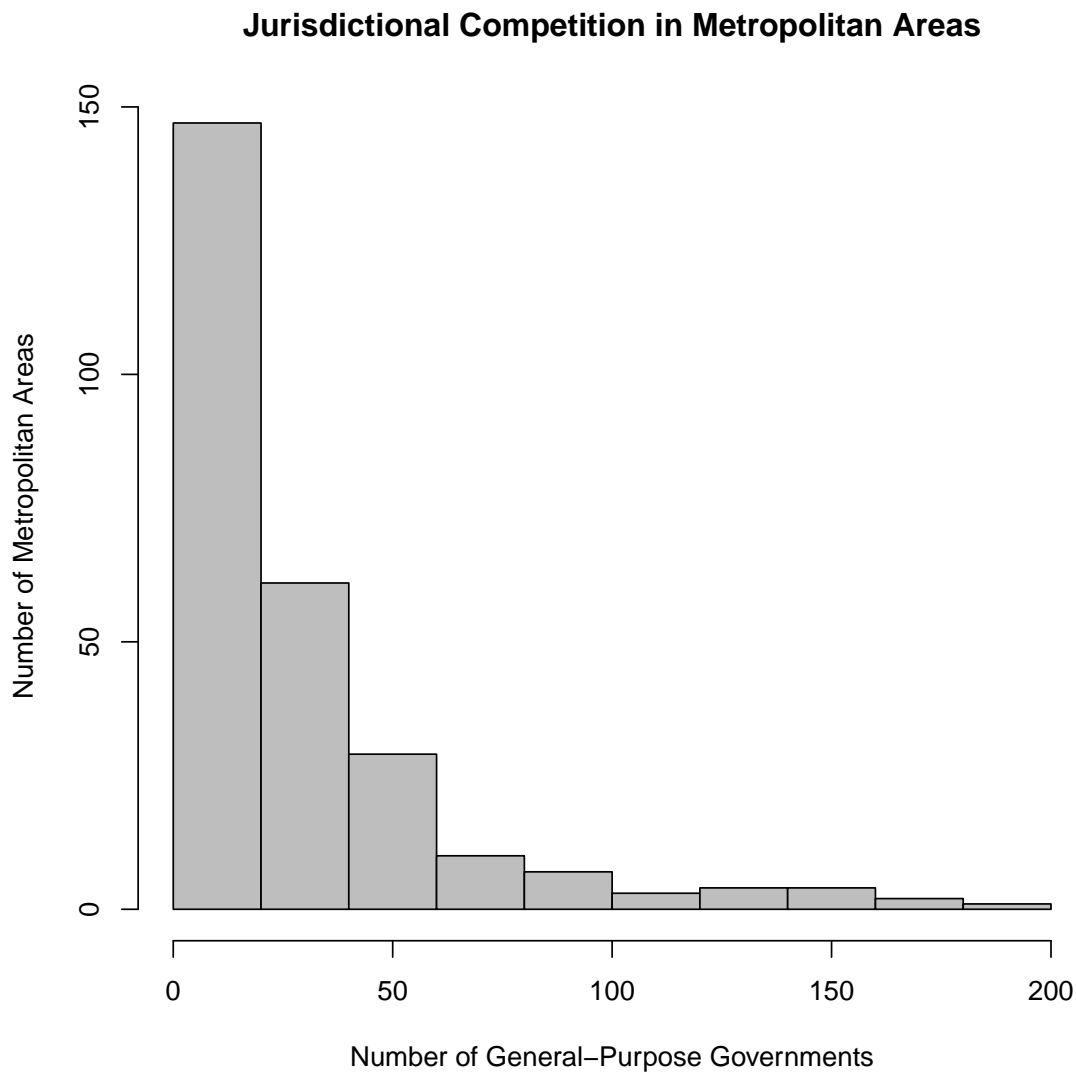
Jurisdictional Competition in Metropolitan Areas

Figure 4.1: Variation in jurisdictional competition across metropolitan areas.

4.4.1 Measuring Employee Compensation

Much of the existing research on public-employee compensation uses data from the bidecennial Census of Government Employment (CGE) (e.g. Booth and Vespa 2010; Matsusaka 2009). However, these data are problematic for two reasons. First, the CGE collects information only on aggregate payroll expenditures by category of employees, rather than data on the salaries of individual workers. Second, the payroll numbers do not include important information about worker-level attributes, such as their level of education or previous experience, which are highly correlated with compensation (e.g. Munnell, Aubry, Hurwitz, and Quinby 2011). To the extent that the composition of the local labor market differs significantly on these dimensions across metropolitan areas, such differences can confound inferences.

Instead, my analysis uses individual-level information collected as part of the 2000 Census. Specifically, I make use of the 5-percent Public-Use Microdata Sample (PUMS), a random sample that includes roughly one out of every 20 individuals who filled out the Census long form. This survey collected a variety of personal information about respondents, including the address of their employer, their occupation, and their self-reported salaries and wages from the previous year. The analysis focuses only on individuals who reported being employed by a local government[4] and excludes all respondents for whom the metropolitan area in which they worked could not be identified.[5] Consistent with the standard practice, I also exclude individuals who reported working for fewer than 20 weeks during the previous year. The final dataset included individual-level observations from approximately 30,500 local government employees from metropolitan areas across the country.

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[4]A fairly large number of individuals who reported that they worked for local governments were school teachers. Because schools are special-purpose governments and are unlikely to compete with cities and counties for workers, I drop these observations from the analysis.

[5]The key geographic identifier included in the PUMS data is the Public-Use Microdata Area (PUMA). While many PUMAs are made up of a single metropolitan area, some combine several areas or include regions that are not part of metropolitan areas. Individuals who reported working in the latter two types of PUMAs are excluded from the analysis.

4.4.2 Model Specification and Control Variables

To examine the relationship between jurisdictional competition and public employee compensation, I have run a series of models that use the natural logarithm of the reported weekly salary as the dependent variable. I model the weekly wage rate as a function of worker-specific attributes taken from the literature on labor economics and factors that vary across metropolitan areas. At the individual level, I include the respondent's gender, race, level of educational attainment, and previous work experience. Experience is calculated as the respondent's age minus eighteen and enters the model as both a linear and a squared predictor. This specification follows the approach used by Munnell, Aubry, Hurwitz, and Quinby (2011) and others. At the metropolitan level, the key independent variable is the number of general-purpose governments. My hypothesis is that greater jurisdictional competition — measured as the number of local governments in the region — should be associated with more generous compensation.

I also control for a variety of other metropolitan-level variables, including the area (in square miles) of the region, the logged median weekly income of all residents in the metropolitan area to capture variation due to differences in cost of living, and the percent of the two-party vote won by Al Gore in the region during the 2000 presidential election. The last variable is designed to capture broad differences in ideological composition of the electorate in the regions, which may be correlated with the generosity of public-sector pay. In most models, I also include a fixed effect for each state, to account for differences in state laws governing public-sector employees' collective bargaining rights and privileges. Finally, the pooled models include errors that are clustered on occupation, measured as three-digit Standard Occupational Codes.[6]

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[6] I also experimented with including random intercepts for each metropolitan area. Because the effects were very small — the standard deviation of the random intercepts was less than 0.05 — and their inclusion greatly complicated the estimation, with the model failing to converge in a variety of specifications, I do not include them in the analysis reported here.

4.5 Results

4.5.1 Basic Results

Table 4.1 summarizes the initial findings. Column 1 reports the results for the pooled model, while Columns 2 and 3 include only respondents who worked as local police officers and fire-fighters, respectively. For race and ethnicity, white respondents serve as the omitted category, and for educational attainment, respondents without a high school diploma represent the baseline. Most of the individual-level control variables perform as expected. Even in local government, women earned substantially less than their male counterparts, as did some ethnic and racial minorities in certain occupations. Among respondents, there also appeared to be significant returns to education and experience. In most occupations, employees with higher levels of educational achievements earned substantially more than other colleagues.[7] For the metropolitan area variables, only median salary was consistently and positively correlated with compensation. Local government employees working in areas with higher overall pay also tended to, on average, earn higher wages.

In general, I found little support for the Tiebout hypothesis. Higher levels of jurisdictional competition at the metropolitan level do not appear to reduce public-sector compensation for any category of workers. By contrast, the results provide modest support for the wage-bargaining model. Competition appeared to be correlated with higher pay for public employees. However, this effect was significant only for the pooled model — it fell well short of significance when the analysis was run on a subset of workers with public-safety occupations — and the coefficient was very small (0.0002). In substantive terms, moving from the 25th to the 75th percentile in competition translated into an increase in annual pay of approximately \$600 for full-time workers, or about 0.6 percent. Thus, although the effect of competition appeared to be positive, its substantive magnitude was very small.[8]

To what extent does collective bargaining condition the relationship between ju-

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[7]Fire fighters were the exception to this pattern. Among this occupation, there were no differences among respondents based on their level of education

[8]The effect is calculated by holding other variables at their mean (for continuous variables) or median (for ordinal variables) and assuming the hypothetical individual works in the state of California.

Table 4.1: Estimated Effect of Jurisdictional Competition on Logged Weekly Wages

	All Workers[†]	Police Only	Fire Only
(Intercept)	**2.97*****	**2.32*****	**3.71*****
	(0.51)	**(0.82)**	**(1.22)**
Male	**0.48*****	**0.18*****	**0.30*****
	(0.06)	**(0.02)**	**(0.06)**
Latino	**-0.08*****	**-0.08*****	-0.02
	(0.02)	**(0.02)**	(0.06)
Black	0.00	**-0.05***	0.00
	(0.03)	**(0.02)**	(0.04)
Asian	-0.10	**-0.18****	0.04
	(0.05)	**(0.07)**	(0.14)
Other Race	**-0.07****	-0.03	-0.09
	(0.03)	(0.05)	(0.10)
Experience	**0.06*****	**0.07*****	**0.06*****
	(0.00)	**(0.00)**	**(0.00)**
Experience^2	**-0.00*****	**-0.00*****	**-0.00*****
	(0.00)	**(0.00)**	**(0.00)**
High School Dip.	**0.21*****	0.04	-0.05
	(0.03)	(0.06)	(0.09)
Some College	**0.41*****	**0.16***	0.03
	(0.06)	**(0.06)**	(0.09)
College Degree	**0.62*****	**0.23****	0.09
	(0.06)	**(0.08)**	(0.09)
Advanced Degree	**0.91*****	**0.26*****	0.09
	(0.06)	**(0.08)**	(0.09)
Area (miles^2)	0.00	**0.00*****	**0.00*****
	(0.00)	**(0.00)**	(0.00)
Median Salary	**0.40*****	**0.63*****	**0.45***
	(0.05)	**(0.12)**	**(0.20)**
Gore Vote Share	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Competition	**0.00****	0.00	0.00
	(0.00)	(0.00)	(0.00)
State F.E.	Yes	Yes	Yes
No. of Observations	30,576	3,092	1,117
Adj. R^2	0.33	0.36	0.30

[†]Standard errors clustered on occupation in parentheses

* significant at $p < .05$; **$p < .01$; ***$p < .001$ in two-tailed test

risdictional competition and compensation? As noted above, it may be possible that it is only well organized public employees — those who are represented by unions — who are able to capitalize on competition to win more generous benefits. Although the Census survey did not ask workers about their union affiliations, I include an additional variable that accounts for state laws governing the ability of local government to bargain collectively with their employees. This information is taken from the NBER Public Sector Collective Bargaining Law Data Set. The new variable is equal to one for states where statutes authorize public workers to bargain collectively and zero otherwise. In Table 4.2, the collective-bargaining variable is interacted with jurisdictional competition. Because the collective-bargaining laws vary across occupations — some states allow most local workers but not public safety employees to join unions — I analyze the different occupational groups separately. In addition, because the laws do not vary within states, the models in Table 4.2 do not include state fixed effects, although they include all other control variables reported in Table 4.1.

Once again, the results were mixed, although weakly consistent with the theory. Among non-public safety employees, jurisdiction competition was associated with higher wages — but only in states that authorize collective bargaining. The magnitude of the effect was approximately 50 percent bigger than in the pooled model.[9] For fire fighters, there was no clear relationship between government fragmentation and pay. Among police officers, the results were more puzzling. Although the coefficient on the interaction between competition and permissive collective-bargaining laws was positive and highly significant, the main effect of competition was actually *negative*. Overall, competition did not appear to help police officers win higher wages. If anything, it was associated with lower pay, although membership in a union largely offset this effect. For both cops and fire fighters, union membership itself had a substantial positive effect on salaries, although no such relationship appeared to exist for other classes of local public employees.

An obvious weakness of the models in Tables 4.1 and 4.2 is that the regressions impose unrealistically restrictive linearity assumptions on the relationship between jurisdictional competition and employee pay. After all, it is highly unlikely that adding

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[9]Although the coefficient on the main effect of competition is negative, it is nowhere near statistically significant.

Table 4.2: Relationship Between Jurisdictional Competition and Logged Weekly Wages Conditional on State Collective Bargaining Laws

	Non-Public Safety[†]	Police Only	Fire Only
Competition	-0.0003	**-0.0007****	0.0000
	(0.0002)	(0.0002)	(0.0003)
Collective Bargaining	0.0311	**0.1010****	**0.2074**
	(0.0179)	**(0.0322)**	**(0.0476)*****
Competition * Collective Bargaining	**0.0003****	**0.0006****	-0.0003
	(0.0001)	(0.0002)	(0.0003)
State F.E.	No	No	No
No. of Observations	25,004	3,092	1,117
Adj. R^2	0.32	0.34	0.29

Note: Coefficients for control variables not included in table

[†]Standard errors clustered on occupation in parentheses

* significant at $p < .05$; ** $p < .01$; *** $p < .001$ in two-tailed test

one additional jurisdiction to a metropolitan area with little competition — 5 general-purpose governments, for example — will have the same effect as adding one more government to a relatively competitive area, with more than 70 general-purpose governments. For residents, the benefits of increasing jurisdictional choice are likely to show diminishing marginal returns. For employees, increased competition is likely to produce little effect in an already highly fragmented region. In addition, it may be that the Tiebout effect dominates at relatively low-levels of competition, and that the wage-bargaining advantage for specialized employees emerges only at moderate to high levels of competition.

To probe potential non-linearities, I separated the competition variable into quartiles and created a separate indicator variables for each level. I then included these indicator variables in place of the continuous measure. The results are reported in Table 4.3. In all models, the effects were in the predicted direction — greater competition was associated with higher wages — with the magnitude of the effect largest at lower levels of competition. Jointly, however, the competition variables were not significant at conventional levels in any of the models (see last row of Table 4.3).

Table 4.3: Non-linear Specification

	Non-Public Safety[†]	Police Only	Fire Only
Competition (25th-50th Percentile)	0.05	0.13	0.23
	(0.03)	(0.08)	(0.16)
Competition (50th-75th Percentile)	0.01	**0.18****	0.15
	(0.03)	**(0.07)**	(0.15)
Competition (Above 75th Percentile)	(0.06)	**0.20****	(0.27)
	(0.04)	(0.08)	(0.16)
State F.E.	Yes	Yes	Yes
No. of Observations	25,004	3,092	1,117
Adj. R^2	0.32	0.36	0.30
Joint F-Test (Competition Variables)	p=0.20	p=0.06	p=0.17

Note: Coefficients for control variables not included in table.

Metropolitan areas in the first quartile of competition serve are the omitted category.

[†]Standard errors clustered on occupation in parentheses

* significant at $p < .05$; ** $p < .01$; *** $p < .001$ in two-tailed test

4.5.2   Instrumenting for Jurisdictional Competition

There are a number of reasons to doubt that the regression coefficients reported above represent unbiased estimates of the effect of competition on public-sector pay. First, endogeneity or reverse causality may be responsible for the empirical trends. A number of authors have documented substantial evidence that residents in unincorporated areas located close to high-tax cities pursue a path of "defensive incorporation" to avoid annexation by their neighbors in an effort to prevent their own tax burden from rising (Burns 1994; Hoene, Baldassare, and Shires 2002; Miller 1981). If this is indeed the case, one may still see a positive correlation between the number of general-purpose governments and employee compensation, although the causal arrow would be reversed. In these regions, it is high wages in the urban core that lead to the creation of more suburban governments by residents hoping to keep their own taxes low.

Second, as with all other observational studies, there exists a threat of omitted variable bias. If another variable, which is correlated with both employee compensation and the level of jurisdictional competition, is omitted from the models, the regressions could produce an apparent relationship between competition and compensation where

none actually exists. Given the parsimony of the models presented in this paper, omitted variable bias remains a very realistic threat to causal inference.

To address both sources of potential bias, I make use of the instrumental variable framework, which can produce consistent estimates of causal effects through two-stage least squares (Acemoglu, Johnson, and Robinson 2001; Gerber 1998). In the first stage, the treatment variable of interest — in this case the level of jurisdictional competition — is regressed on an instrumental variable. In the second stage, the *predicted* level of competition from the first stage, rather than the observed value, is used as the key independent variable. When the instrument satisfies the necessary conditions — it is correlated with the treatment variable but is not correlated with the dependent variable, except through its effects on the treatment variable — the two-stage model provides an unbiased estimate of the causal effect (Gelman and Hill 2007). The instrumental variable approach successfully overcomes threats to inference arising from endogeneity, omitted variables, and bias due to measurement error.

In a number of previous studies, authors have used various measures of the geographic or natural environment as effective instruments, because these factors are almost always unambiguously exogenous to the treatment variable of interest. Because topography often serves as the basis for modern-day political boundaries, some element of the natural geography would be an ideal instrument for jurisdictional competition. While geography is likely to be correlated with the number of general-purpose governments in a metropolitan area, it is unlikely to produce an independent effect on the wages of government employees. Following Hoxby (2000), I use the total number of streams in a metropolitan area, derived from the Geographic Names Information System, as an instrument for the level of jurisdictional competition.[10] In the first stage, jurisdictional competition is regressed on the number of streams flowing through the metropolitan area.[11] The results from this regression are then used to predict the level of jurisdic-

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[10] I only count streams that are at least one mile in length. A stream is included both if it originates in the metropolitan area or if it flows through it, meaning that the same stream may be counted in multiple metropolitan areas. I thank Jesse Rothstein for sharing the streams data. It is available on his website at `http://gsppi.berkeley.edu/faculty/jrothstein/hoxby/documentation-for-hoxby-comment`.

[11] Following the recommendations in Stock and Watson (2007), I checked to make sure that the number of streams was sufficiently correlated with jurisdictional fragmentation to avoid the problem of weak instruments. It was — the F statistic for the streams variable in the first stage was more than 4,000, well above the critical value.

tional competition. These predicted values become the key treatment variable in the second-stage model, where employee compensation is regressed on jurisdictional competition.

Overall, the IV models produced largely similar results. Competition was positively and significantly correlated with compensation for non-public safety employees. The magnitude of the effect mirrored the results of the regular OLS regressions. However, competition was not related to compensation for either police or fire fighters. When I re-estimated the interaction effects between competition and state collective bargaining laws, the signs of the effects were similar to the OLS models, although the interactions fell just short of significance at conventional levels. Collectively, the results provide limited support for the wage-bargaining hypothesis. Competition between government agencies does appear to sometimes produce higher wages for public employees, although the effect is very small and varies across different occupations.

4.6   Discussion

In an era of record unfunded liabilities in public pension systems, the question of public-sector compensation is gaining new attention from voters, elected officials, and policy analysts. Although many commentators point to the political influence of public employee unions — as sources of campaign donations and get-out-the-vote manpower — for what some see as the excessive generosity of the wages and benefits promised to local government employees, the theory developed in this paper identifies an alternative force that may result in higher public-sector compensation. In their effort to attract and retain essential employees, local governments may engage in "bidding wars" that drive up the cost of public services. The theory suggests that, when local governments compete, it may be their employees, rather than their constituents, who come out on top.

The implications of the theory are tested by examining the variation in the self-reported salaries of local government employees. The findings, although mixed, provide some weak support for the hypothesis. To the extent that jurisdictional competition appears to have a relationship with wages, the effect is positive, although not significantly so for some occupation groups. In substantive terms, the effect is also very small, in-

dicating that the wage premium produced by the bidding wars is not substantial. Perhaps most puzzling, the effect of competition was most pronounced among the ranks of non-public safety employees — even as anecdotal and press accounts suggest that competition is most fierce when local governments fight to attract police officers and fire fighters. None of the results appeared to be consistent with the conventional scholarly account of competition, which posits that fragmentation provides residents with credible exist options and thus forces greater efficiency in local service provision.

It is important to note that the empirical analysis presented in this chapter suffers from three serious limitations, which may explain the null findings and substantively small effects reported here. First, the Census data only include information on salaries and wages. In practice, public employees also receive generous non-wage compensation, including paid time off, medical leave, and a variety of retiree benefits. On average, the Bureau of Labor Statistics (BLS) has estimated the cost of these fringe benefits to exceed 34 percent of public employees' salaries. To the extent that competition among local governments translates primarily into increases in non-wage benefits — for example, the granting of more generous pensions and retiree health care coverage — these effects would not be captured by the data used in my analysis. There is some limited evidence to suggest that this is indeed the case. In a previous version of this chapter, I analyzed a separate set of survey data taken from the Employee Compensation Survey (EAC) carried out by the BLS. The main weakness of these data — and the reason why I do not use them here — is that the public-sector sample is much smaller, covering fewer than 200 general-purpose jurisdictions. The advantage, however, is that the EAC includes the total cost of employee compensation, including all forms of fringe benefits. My analysis of the EAC data found substantially greater effects of competition on total compensation than those reported here.

Second, the current analysis leverages cross-sectional variation in local government fragmentation to make inferences about the effect of competition on public-sector wage-bargaining. Although *increasing* the number of local governments appears to produce relatively small effects on worker salaries, this does not imply that competition itself is not important. Even in relatively centralized metropolitan areas, marked by a small number of local jurisdictions, the threat of competition may loom large dur-

ing negotiations between public officials and their employees. Indeed, if public officials generally believe that local employees can make a credible threat to find work elsewhere — even if there are, in objective terms, few other nearby employment options — they will grant employees more generous benefits. Because the credibility of such a threat would not depend on the level of jurisdictional competition, its effects would not show up in the cross-sectional analysis reported in this chapter.

Finally, competition may produce other more nuanced effects. In regions where union membership among public employees is not universal — for example, in states where the law authorizes but does not mandate collective bargaining — we should expect that the concessions won by unions will spill over into nearby non-unionized jurisdictions. Because all public agencies in such areas must hire from the same labor pool and actively compete against each other to attract quality workers, the premium of unionization likely spills across jurisdictional boundaries.

Chapter 5

The Economic Origins of County Reform

5.1 Introduction

In the late 19th and early 20th centuries, political institutions at all levels of American government underwent substantial change due in large part to the efforts of Progressive reformers. Indeed, the Progressives represent one of the most important and successful political movements in American history, and many of their institutional innovations remain the central organizing principles of our government to this day. However, despite the universal or near-universal adoption of the secret ballot, party primaries, and the direct election of senators, the movement's record of success at the state and local level was far more mixed. Efforts to bring about direct democracy bore fruit only in states where the alignment of mass preferences (Bridges and Kousser 2011) and the nature of party competition (Smith and Fridkin 2008) proved amenable to the Progressives' political goals. Across the country, municipal reformers pushed for new city charters that included nonpartisan, at-large, and off-cycle elections; yet they succeeded only in cities where the number of immigrants and turnout among working class voters were both low (Bridges 1997; Bridges and Kronick 1999), primarily in the South and the West.

Although the diffusion of Progressive institutions at the state and municipal level

has attracted significant attention from political scholars, far less is known about reformers' efforts at the *county* level. In most states, counties serve as intermediate administrative units, with a jurisdiction that includes greater swathes of area than individual cities but still covers only a fraction of the entire state. Historically, counties have served as providers of critical public services and, even today, continue to play an important role in the governance of the criminal justice system, law enforcement, and the administration of various state and federal welfare programs, among other public functions.

During the early part of the 20th century, counties appeared immune to reforms carried out in the cities, such as the adoption of civil service rules. H.S. Gilbertson's classic treatise on county government — which he called the "dark continent" of American politics — noted that "the [machine] boss flourishes so bountifully in the county," (Gilbertson 1917, p. 50). Yet, within a few years, reformers achieved widespread success, particularly with their proposal to replace the direct administration of county departments with elected commissioners with professional, appointed administrators.

In this chapter, I focus on explaining the spatial pattern of county reform, which differed in important respects from Progressive successes at the state and city levels. Although reformers brought about change in county institutions in many states, their ideas achieved universal adoption in few of them. This pattern, I argue, reflected the incentives and economic interests of businessmen and relatively wealthy property owners, who provided the primary impetus for reform. Historian Samuel Hays has argued that, at the local level, the reform movement "constituted an attempt by upper-class, advanced professional, and large business groups to take formal political power from the previously dominant lower- and middle-class elements so that they might advance their own conceptions of desirable public policy" (Hays 1964, p. 162).[1] He noted further:

> Reformers, therefore, wished not simply to replace bad men with good; they proposed to change the occupational and class origins of the decision-makers. Toward this end they sought innovations in the formal machinery of government which would concentrate political power by sharply centralizing the process of decision-making rather than distribute it through more popular participation in public affairs.

Although Hays wrote primarily about municipal reform, upper-class voters and

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[1] Bridges and Kronick (1999) also note that municipal reform had a clear origin in class politics, but argue that middle-class voters were pivotal to Progressive successes.

property owners had particularly good reason to focus their attention on counties. Until the enactment of federal welfare legislation during the New Deal, county governments represented one of the focal venues for carrying out wealth redistribution in the United States (Gilbertson 1917; Snider 1952).[2] In many states, counties also played a critical role in the assessment of local property and the administration of property taxes, the primary source of revenue for local governments well into the 20th century.

Because class differences — and the desire to avoid economic redistribution and excess taxation — were a central motivating force for many Progressive reformers, the nature of local economic relationships should have been a key determinant of the effort reformers were willing to exert to bring about institutional change. More precisely, the greatest threat to the wealthy came from areas with the highest levels of economic inequality, because it was in these areas that the pivotal voter had the most appetite for redistribution (Meltzer and Richard 1981; Romer 1975). As a result, reformers had the greatest incentive to insulate county government from popular control in counties with the highest level of inequality, and it is in these counties that reform efforts should have been the most successful.

To develop a county-level measure of economic inequality from the late 19th century, I rely on data on property ownership collected in the 1890 Census. Using the Census data, I construct a Gini coefficient of inequality based on the distribution of farm sizes in each county (Ramcharan 2010). Consistent with the theory, I show that county "commission" government was most likely to be abandoned in favor of appointed administrators in areas with the highest inequality in property ownership. The relationship remains both statistically and substantively significant after controlling for a variety of other relevant social, political, and economic factors.

The economic origins of county reform present a serious methodological challenge to recent analyses that attempt to estimate the causal effect of political institutions on local policy outcomes (for an overview, see Benton 2003a; Benton 2005). Because the choice of county institutions was endogenous and represented a strategic elite-level decision based, in part, on expectations about voter policy preferences, simple cross-

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[2]This was especially true outside of major urban centers. As documented by Yearley (1970) and others, machine bosses in industrial Northern cities also served as an important source of redistributive spending.

sectional models that regress policy outcomes on measures of institutions likely produce biased estimates. For the analyst, the difficulty is in separating the effect of specific institutions from the political and economic conditions that gave rise to them in the first place (Diermeier and Krehbiel 2003).

5.2   Class Origins of Municipal Reform

Much of the canonical urban literature on machine politics has emphasized large-scale immigration during the 19th century as the central explanation for the emergence and dominance of machine bosses in major American cities. Bosses capitalized on the "private-regarding ethos" of new immigrants, Banfield and Wilson (1963) argued, trading patronage and particularistic benefits for votes. Reformers, in turn, rose up to challenge the bosses and clean up local government, ridding it of corruption.

More recently, however, scholars have noted that the immigrant-based explanations greatly understate the critical roles played by two other potent social events — the embrace of universal suffrage through the elimination of property-holding requirements and the Industrial Revolution. According to Bridges (1984), "the appearance of machine politics in the cities of the United States may be understood as the consequence of placing social conflicts attendant on industrialization in the context of widespread suffrage" (p. 8). The advent of commercial manufacturing swelled American cities with factory workers, transforming them into large urban centers and overwhelming traditional and largely informal mechanisms for delivering basic public services such as sanitation and water. Political bosses were able to capitalize on the confluence of shifting economic and political tides by courting the votes of the newly enfranchised and setting up new institutions to deliver the services they demanded.

In the process, bosses displaced previously dominant upper-class elites and business leaders, who later re-emerged to form the basis for the municipal reform movement. As historians have documented, many Progressive leaders were men of substantial means (Hofstadter 1955; Mowry 1951). According to Warner (1964), the movement was led by "men of inherited wealth and established businesses as well as men of prominence in the professions — lawyers, editors, preachers, and educators" (p. 22). These

individuals objected not only to their growing tax burdens, which supported the public services popular among lower class voters, but also the emergence of "new money" elites that included corporate leaders and railroad barons, whose wealth was stored in intangible assets like patents and franchises that largely escaped taxation in a public finance system, which depended almost exclusively on the assessment of physical property (Howe 1899; Warner 1964; Wright 1905).

To take back control of the cities from the poorer and less educated masses, these elites pursued several complementary strategies.[3] At the state level, they fought for municipal home rule and new restrictions on the power of cities to levy taxes and borrow funds. Believing that state legislative delegations were under firm control of the local machine bosses, reformers sought to limit the ability of state government to interfere in local affairs. Teaford (1984) wrote that "early advocates of municipal reform sought to liberate the city not from an unresponsive legislature but one that was all-too-responsive, that granted too much with too little thought. ...Municipal home rulers envisioned ending the mass of local legislation by creating an inflexible structure resistant to change and meddling, a structure that would not respond so readily to every demand of the urban constituency."

At the 1875 Missouri state constitutional convention, the first held after the end of Reconstruction, many delegates from St. Louis had close ties to the city's Taxpayers' League. The delegates succeeded in outlawing the enactment of "special" legislation — bills targeting specific parts of the state — by the legislature and won the inclusion of the nation's first constitutional guarantee for municipal "home rule" in the new constitution. Importantly, the home-rule provision specified that city charters had to be written by boards of 13 "freeholders" — owners of unmortgaged property — who had been qualified to vote for at least five years. "The freeholders," one scholar has noted, "stood at an important remove from the general voting population of the city, and they were responsible for detailing the scope of local legislative power in the charter" (Barron 2003). In addition, the new constitution "imposed an express and severe limitation on citywide property taxes" (Barron 2003).

The Missouri model provided an important template for reformers in other states.

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[3]The Progressive campaign to increase public control over — and taxation of — corporations and railroads followed similar political logic but included a political coalition that cut across class lines.

Four years later, California's constitutional convention considered a home-rule provision taken almost verbatim from the Missouri constitution, including a requirement that only freeholders get the power to draft city charters. The wording later also found its way into Washington's new state constitution (Kogan 2011).

At the local level, Progressive reformers proposed changes to electoral rules designed to discourage political participation among working-class voters, thereby limiting their political influence. The removal of party labels from city ballots, the decision to delink the timing of local elections from statewide and national contests, and the shift from district to at-large seats all worked to depress turnout among the poor and uneducated voters at the heart of the political coalition that empowered local party machines (Bridges 1997). In addition, reformers pushed for the elimination of elected mayors and for their replacement with the council-manager form of government, in which elected members of the city council appointed a professional city manager to oversee the day-to-day administration of city government. Like changes to electoral rules, the council-manager system sought to limit the direct influence of voters over local policy because "many reform leaders often implicitly, if not explicitly, expressed fear that lower- and middle-income groups had too much influence in decision-making." (Hays 1964, p. 164).

5.3   Bringing Reform to Counties

Many similar undercurrents motivated the efforts to reform county government. "The county," Gilbertson wrote in 1917, "is undoubtedly the strongest link in the whole nation-wide system of party organization" (p. 55). Because counties represented a critical source of advertising revenue for local newspapers, reformers argued that control over county budgets gave party bosses significant power to direct the coverage of local politics and thus exert undue influence over voters (Gilbertson 1917).

However, counties were important for two other reasons. First, until the middle of the 20th century, counties provided and funded a large number of programs designed to alleviate poverty. Indeed, poor relief was seen as one traditional role of county government (Snider 1952). "To the lot of the county, acting through the machinery and un-

der the influences which have been described, has fallen in the large part, the extensive and important government burden of looking after the poor who are always with us," Gilbertson wrote (p. 80). If the political empowerment of lower-class voters through universal suffrage increased the demand for redistribution, the counties represented the prime venue through which these political demands would get translated into public policy.

Second, counties were central to the administration of local property taxes, which provided close to 90 percent of all local revenue during the late 19th century (Paul 1975). The calculation of each property owner's tax bill involved two components — the tax rate and the assessed value of land and improvements on which that rate would be levied. Although individual cities set their own tax rates, the estimation of property values for taxing purposes was centralized at the county level in many states.[4] While imposing a cap on maximum tax rates through state constitutional provisions allowed reformers to control the first component, tax limitations did little to restrain elected assessors from increasing the assessed value of property owned by the wealthy. Indeed, assessors faced strong electoral incentive to do so — since collecting more revenue from business owners and the wealthier taxpayers would allow them to keep taxes low for middle- and working-class voters, whose support was pivotal to winning re-election. Although such a tendency to "soak the rich" would have surely violated state constitutional provisions guaranteeing uniform taxation, the general pattern of higher assessed valuations on businesses and other wealthy property owners is well documented in the historical literature on property taxation (Fisher and Fairbanks 1967; Hale 1985; Lowery 1982; Martin 2008; Paul 1975).[5] In some states where property assessment was not centralized, counties still played an important part in the process through county "boards of equalization," quasi-judicial bodies that heard assessment appeals from individual property owners (Carr 1965; Holbrook 1941).

The campaign to reform county government consisted of two main platforms.

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[4]In its 1963 study of property taxation, the Advisory Commission on Intergovernmental Relations noted that counties were the "exclusive assessment district" in 28 states (Advisory Commission on Intergovernmental Relations 1963).

[5]During much of the 19th century, the wealthiest property owners — railroad companies — successfully avoided local taxation and regulation with the help of a sympathetic Supreme Court (Bensel 2000). By the end of the century, however, strong public antipathy toward the railroads prompted many states to take more aggressive action (see, e.g., Bridges 2008.)

First, reformers sought to scrap the "commission" form of government in which elected supervisors and commissioners took charge of individual county departments.[6] Instead, they advocated for the appointment of county managers, akin to city managers, who possessed professional training and could oversee the day-to-day administration of the counties. Second, reformers pushed for the adoption of the "short ballot" by eliminating the many independently elected executive posts such as sheriffs, treasurers, auditors, and district attorneys commonly found at the county level.

5.4   Inequality and Redistribution

Bridges and Kousser (2011) showed that the adoption of direct democracy was most likely to occur in states where the Progressives had the greatest political incentive to invest scarce resources into the campaign for reform. At the local level, reformers had to make similarly strategic calculations. In the counties, I argue that wealthy reformers were most likely to invest their personal resources to push for institutional change where they anticipated they would receive the largest personal payoff from insulating county government from direct popular control. Their expected payoffs, in turn, were directly related to the local demand for redistribution.

To derive empirical predictions from the theory, I rely on the insights from the model of distributive politics proposed by Romer (1975) and developed by Meltzer and Richard (1981). In this section, I outline the intuition of the model, with a more formal treatment provided in Appendix B. In the model, each individual chooses her preferred tax rate to maximize her individual utility, taking into account the deadweight costs created by taxes that would have to be paid by herself and the benefits from the redistribution of revenues raised through taxes levied on others. Individual preferences over tax rates are aggregated into a single tax policy through elections, with the final tax rate being determined by the preferences of the median voter. The key insight is that the median voter's "taste" for redistribution will increase with economic inequality. This occurs because inequality increases the gap between the median and mean income in a society, thereby increasing the net benefits for the median voter produced by a higher

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[6]Ironically, the commission model was initially embraced by municipal reformers in the cities, although they soon abandoned it in favor of the council-manager model (Bridges 1997).

tax rate. The model predicts that the demand for redistribution, and thus taxes, will be higher in less equal societies.

In comparative politics, the prediction that inequality leads to greater political demand for redistribution has been used to explain the empirical finding that authoritarianism is more likely to survive in unequal societies (Acemoglu and Robinson 2006; Boix 2003). In these countries, democratization creates the greatest risk of expropriation for economic elites and encourages them to invest resources to protect the incumbent regime against revolution from below. In the United States, inequality did not pose a significant barrier to the adoption of a democratic constitution precisely because most states continued to limit political participation to property owners at the time of the American revolution (Keyssar 2000). When universal suffrage spread across the country in the 19th century, the response from economic elites was not to pursue the overthrow of democratically elected leaders, but rather to change political institutions to limit the influence and political voice of lower-class voters — thereby shifting the identity of the median voter to realize policies closer to their own preferences. As in the comparative context, the incentive to invest in institutional change for the wealthy was greatest in areas with the highest levels of economic inequality, where the threat of redistribution was most acute.[7]

5.5   Empirical Strategy

To test the hypothesis that institutional reform was most likely to occur in counties with the greatest levels of economic inequality, I begin by constructing a Gini coefficient of inequality using information on local farm ownership collected as part of the 1890 agricultural Census. This choice of measurement is motivated by both limitations in the availability of data and, more importantly, the history of tax policy at the local level. First, I measure inequality based on land ownership instead of income in part because systematic data on the distribution of income at the county level was not collected by the Internal Revenue Service until 1934, several years into the Great Depression.

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[7]The argument here is similar to the one made by Engerman and Sokoloff (2002) to account for the choice of political institutions in European colonies and by Engerman and Sokoloff (2005) to explain the timing of the abolition of property-holding requirements across the U.S. states.

Second, work by historians suggests that limited state capacity largely prevented local government from levying taxes on a basis other than the value of real property. Although property taxes, the primary source of revenue for states and local governments during the late 19th century, technically applied both to real estate assets and to personal property, local governments rarely succeeded in taxing the latter because identifying and assessing the value of personal property overwhelmed the limited resources of local tax assessors. Yearley (1970) documents how, by concealing personal possessions or dramatically underestimating their value, wealthy taxpayers effectively evaded the reach of the tax man. Largely as a result, land holdings represented the bulk of the tax base for local governments, and those with the most amount of property, rather than the most wealth, were most vulnerable to redistributive pressures at the local level.

As part of the decennial Census, enumerators counted the number of farms in each county and measured their land area, providing a useful metric of land-holding inequality. Because agriculture remained the predominant industry in most parts of the country during this period, and because limited access to financial instruments made farms an important way to store wealth, Ramcharan (2010) has argued that farm ownership represents a useful measure of broader economic inequality. During this period, three-fifths of all wealth in the United States consisted of farmland and the total wealth of individuals was highly correlated with farm holdings in most parts of the country (Vollrath 2008). Other scholars interested in the link between economic inequality and political institutions have also used measures of the former, based on land ownership (see, e.g., Boix 2003).

The Gini coefficient, which measures economic inequality on a scale that ranges between zero and one, serves as the key independent variable in the regression models discussed below. Higher values of the Gini coefficient indicate greater inequality, with one representing the abstract scenario in which a single individual owns all of the farmland in a county. Additional details about how the variable was constructed are available in Appendix C. Because the data on which the inequality variable is based come from the 1890 Census, prior to most Progressive reforms at the county level, we can be certain that reverse causality does not pose a problem in the estimation.

The data on county form of government come from the 1987 Census of gov-

ernments, the first year in which the Census Bureau collected data on the nature of local government organization.[8] Based on county responses to the Census survey, I constructed a dichotomous variable that was equal to 0 for counties that utilized the traditional commission structure — in which elected officials serve as directors of one or more functional departments — and 1 for counties with an appointed county administrator or manager. Using a measure of county institutional form constructed nearly a century after the height of the Progressive movement is clearly a second-best alternative. I am confident in this approach for several reasons. First, following the reform efforts during early decades of the 20th century, there were no other powerful and organized national campaigns to change county institutions. Among the counties that were run by an appointed administrator in 1987, the vast majority abandoned the traditional "commission" form of government sometime around the turn of the 20th century. Second, to the extent that change did occur after this period, it would result in measurement error on my key dependent variable of interest, leading to larger standard errors and thus making it more difficult to reject the null hypothesis. If I can show that inequality in 1890 continued to predict county institutions nearly 100 years later, the finding would provide strong support for the theory.

In addition, I include a variety of other control measures taken from the 1890 Census that capture relevant social, political, and economic variables that may have affected the ability of reformers to achieve success. Crucially, because party machines were most powerful in urban manufacturing centers, and opposition to reform was thus strongest in industrial areas, I include data on the number of manufacturers in each

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[8]About 15 percent of counties in 1987 had neither the commission system nor appointed administrators and instead elected "county mayors." These counties are excluded from the analysis for several reasons. First, county mayors appear to represent a relatively recent institutional innovation. In a survey of a sample of counties completed for its 1972 report on county government, the Advisory Commission on Intergovernmental Relations reported that just 2 percent of counties had elected executives, far fewer than the number reported by the Census Bureau just 15 years later (Advisory Commission on Intergovernmental Relations 1972). Because data on the form of government in place before the adoption of the county mayor structure are unavailable, I am forced to exclude these counties from the analysis below. Second, as noted by the ACIR, there is significant variation in the formal powers given to elected county mayors. While some possess strong executive authority, others are mere figureheads or presiding officers of the county board that delegate most direct control over county departments to appointed administrators. While the former system is more akin to the traditional "commission" government, the latter most closely resembles the appointed administrator form of government. In addition, Census data on farm ownership was not available for all counties, resulting in the removal of some observations from the sample.

county and total payroll in the manufacturing sector. I also control for the size of the county population, the total number of farms, the total value of farm products grown, the total value of the land and improvements in each county, and whether the county had home-rule status in 1987.

Although cross-sectional regressions provide one way to examine whether the patterns in county reform are consistent with the predictions of the theory, they do not rule out alternative causal mechanisms that could produce similar empirical regularities. While I argue that the success of Progressive reforms reflected the interests and strategic decisions of elites and their desire to avoid redistribution, it is also possible that local levels of inequality may have affected broader voter demand for institutional change. More precisely, because individual wealth is correlated with ideology and partisanship, it is possible that any relationship between inequality and reform institutions is mediated by mass preferences, an account that would produce the predicted correlation in the data but one that would be at odds with the theory presented here.

These two causal pathways are depicted graphically in Figure 5.1 below. In the figure, the gray dashed lines represent the indirect effect of inequality on county institutions, which is mediated by mass preferences. By contrast, the solid black lines represent the direct effect — one that would provide the strongest support for the inequality hypothesis (Imai, Keele, and Yamamoto 2010). To decompose the relationship between inequality and reform into its direct and indirect components, I also estimate several models that hold constant mass political preferences by including county-level results from the 1896 presidential election as an independent variable.[9] According to historians, the 1896 contest, in which populist William Jennings Bryan secured the Democratic nomination only to lose to Republican William McKinley, represented a critical "realigning election." Economic questions, including the fate of the national tariff and the gold standard, represented some of the most important issues dividing the two candidates (Bensel 2008). By controlling for county differences in political preferences revealed through votes cast in the presidential election, I can examine the extent to which the relationship between inequality and local political institutions is mediated by political ideology and how much of the association is due to a direct effect of inequality

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[9]The correlation between county inequality and the share of the votes won by William Jennings Bryan is 0.23.

on institutional reform.

Mass Political Ideology
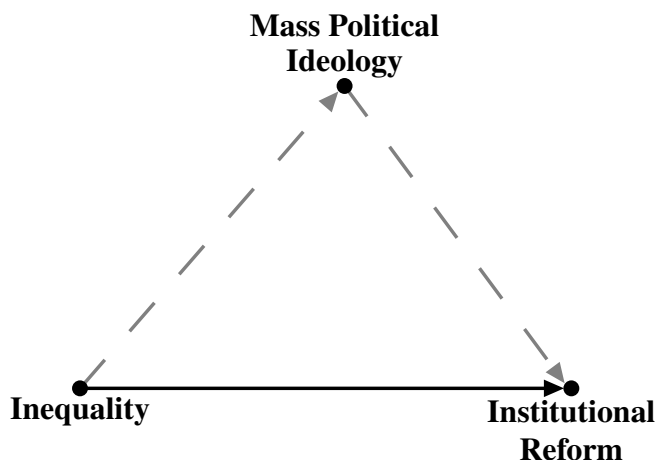
Inequality   **Institutional Reform**

Figure 5.1: Theoretical causal pathways linking inequality to institutional reform. Dashed gray lines reflect the indirect effect of inequality, mediated by political ideology, while the solid black line represents the direct effect.

5.6   Results

Table 5.1 below presents the empirical results. For each model, I regress the dichotomous measure of county government on local inequality and other control variables.[10] Each model reports robust standard errors that correct for potential heteroscedasticity across observations.

The first column of Table 5.1 reports the results from the baseline model, which includes only the Gini index. Overall, the regression coefficient for the inequality variable is highly significant ($p < 0.000$) and in the correct direction, with greater levels of inequality associated with a higher probability of reformed county government. In the second column, I include a fixed effect for each Census division — a geographic area within each Census region — to account for potential regional patterns in the adoption of reforms (Bridges 1997). Again, the coefficient on inequality remains positive and statistically significant.

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[10]The analysis excludes counties from states in which there is no variation on the dependent variable. However, including all counties for which data are available produces qualitatively similar results.

Results in the third column include the relevant control variables but exclude the regional dummies. The model in the fourth column includes both the control variables and the regional fixed effects. In each specification, the coefficient on inequality remains positive, although the significance level falls slightly in the full model ($p = 0.002$). To assess the substantive effect of inequality on institutional reform, I use the most conservative estimates in Model 4 to calculate the predicted change in the probability of appointed county administration as inequality increases from one standard deviation below the mean to one standard deviation above the mean, holding the other variables at their averages.[11] The results suggest that a two standard deviation increase in inequality would result in a 96 percent jump in the probability of seeing a reformed county institution,[12] a large and substantively significant effect.

Among the other included variables, home-rule status is consistently and positively correlated with reform institutions. Because home-rule powers allow counties to draft new charters without requiring permission from the state legislature, the existence of home rule greatly reduced the barriers to change for institutional reformers, making such changes easier to bring about. For counties lacking home rule, the move from elected commissions to appointed administrators was particularly challenging, because successful reform required favorable legislation from state officials closely aligned with local machine bosses who vigorously opposed Progressive reformers (see, e.g., Allard, Burns, and Gamm 1998; Burns and Gamm 1997).

The coefficients on the regional dummy variables suggest that county reform was more likely to occur in the South, the Southwest, and the West, in the same areas where municipal reformers saw their greatest success (Bridges 1997). As Bridges (1997) notes, these areas lacked entrenched political machines that could effectively mobilize voters to block institutional changes. In the absence of strong machines, however, the presence of working-class voters does not appear to have been an effective barrier to county reform. Indeed, the positive coefficient on the number of manufacturing establishments per capita and the negative coefficients on both the number of farms and the value of farm products per capita suggest that reformers were actually *more* successful in urban,

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[11]The predicted probability is calculated for the New England division for a county that has home-rule status.

[12]The predicted probability increases from 0.09 to 0.17.

Table 5.1: Estimated Effect of Inequality on County Institutional Reform (Logit Regressions)

	Model 1	Model 2	Model 3	Model 4
Gini Coefficient	4.25***	2.93***	4.90***	2.50**
	(0.47)	(0.67)	(0.67)	(0.81)
Home Rule			1.41**	0.93*
			(0.43)	(0.47)
Total Population[1]			-2.43	3.18
			(2.82)	(2.55)
No. of Farms[2]			-11.24***	-6.85**
			(2.54)	(2.57)
Value of Farm Products[2]			-0.01**	-0.01*
			(0.00)	(0.00)
Value of Land and Improvements[3]			2.42***	2.51***
			(0.52)	(0.62)
No. of Manufacturing Establishments[2]			87.51†	143.97**
			(46.27)	(46.17)
Total Manufacturing Payroll[2]			-0.02*	-0.01
			(0.01)	(0.01)
Census Division Fixed Effects	No	Yes	No	Yes
Log likelihood	-817.45	-727.36	-703.46	-630.42
Pseudo R^2	0.05	0.16	0.11	0.20
No. of Counties[4]	1,573	1,573	1,433	1,433

Robust standard errors in parentheses

† significant at $p < 0.1$; *$p < .05$; **$p < .01$; ***$p < .001$ in two-tailed test

[1]Total population measured in units of 10,000 people.

[2]Per capita.

[3]$1,000 per capita.

[4]Fall in number of observations reflects availability of covariates.

industrialized counties. These effects are consistent with the theory of strategic reform, because urban areas — where the number of poorer, working class voters was highest — posed the greatest threat of redistribution to property owners, thus giving upper-class interests the most incentive to invest in institutional change. While the coefficient on total manufacturing payroll per capita is negative and marginally significant, the substantive effect is small and the variable loses significance when fixed effects for each Census division are included. There is also little evidence that county size, measured in terms of population, was correlated with Progressive successes.

To assess the extent to which the relationship between inequality and county reform was mediated by mass political preferences, the models in Table 5.2 include the share of votes in each county won by William Jennings Bryan in the 1896 presidential election. Model 1 includes all other control variables reported in Table 5.1 but excludes Census division fixed effects, while Model 2 also includes a dummy variable for each Census division. Historical evidence suggests that the Progressive movement drew significant support from farmers who had previously supported the radical Populist Party (Nye 1959), so we should expect county reform to have been positively correlated with support for Bryan, who was running on a joint Democratic-Populist ticket in 1896. The evidence is consistent with this expectation, with Bryan's vote share significantly and positively correlated with appointed county administration.

By controlling for the election results, we can now interpret the coefficient on the inequality variable as the *direct* effect of inequality — excluding the indirect effect that is mediated by mass preferences (Imai, Keele, and Yamamoto 2010). In both models, the coefficient on inequality remains positive and highly significant. Although the magnitude of the effect is slightly smaller, it is still substantively large. For example, using the estimates from Model 2 in Table 5.2, a two-standard deviation increase in inequality would still predict an increase of 75 percent in the probability of reformed county government.[13] These results provide strong evidence that the observed relationship between inequality and reform represents a direct causal effect, one that is not mediated by mass political behavior.

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[13]The predicted probability increases from 0.12 to 0.21.

Table 5.2: Separating Direct and Indirect Effect of Inequality

	Model 1	Model 2
Gini Coefficient	**4.67*****	**2.22****
	(0.67)	**(0.82)**
1896 Democratic Vote	**0.01****	**0.01****
	(0.00)	**(0.00)**
Home Rule	**1.43****	**0.97***
	(0.43)	**(0.46)**
Total Population[1]	-3.27	2.50
	(2.82)	(2.45)
No. of Farms[2]	**-11.09*****	**-7.17****
	(2.52)	**(2.59)**
Value of Farm Products[2]	**-0.01****	**-0.01***
	(0.00)	**(0.00)**
Value of Land and Improvements[3]	**2.80*****	**2.57*****
	(0.55)	**(0.62)**
No. of Manufacturing Establishments[2]	**114.00***	**152.61****
	(45.94)	**(46.57)**
Total Manufacturing Payroll[2]	**-0.01**†	-0.01
	(0.01)	(0.01)
Census Division Fixed Effects	No	Yes
Log likelihood	-695.60	-626.49
Pseudo R^2	0.12	0.20
No. of Counties	1,428	1,428

Robust standard errors in parentheses

† significant at $p < 0.1$; *$p < .05$; **$p < .01$; ***$p < .001$ in two-tailed test

[1]Total population measured in units of 10,000 people.

[2]Per capita.

[3]$1,000 per capita.

5.7   Explaining Institutional Persistence

Although the empirical results suggest that reformers did indeed concentrate their efforts in areas with the highest level of economic inequality, they cannot explain why the new institutions remained resistant to change during the course of the next century. Since working- and middle-class voters greatly outnumbered the wealthy in the electorate, why did they not eventually mobilize to do away with institutional rules that limited their ability to achieve greater redistribution through the ballot box? As Bridges (1997) documented, such reversals did occur in the cities, especially after the passage of the Voting Rights Act.

The historical record points to two waves of change at the state and federal level during the middle and second half of the 20th century, which greatly weakened the political importance of county governments and encouraged advocates of redistribution to focus their attention elsewhere. First, the passage of New Deal legislation, and later the Great Society programs, gave the state and federal levels of government the primary responsibility for welfare policy. Although counties continued to administer many of these welfare programs at the local level, they retained little discretion over eligibility rules and benefit levels, which were set by Congress and state legislatures, and did not need to fund these programs out of local tax revenues.

Second, as documented by Martin (2008), state reforms designed to standardize, centralize, and professionalize property tax administration effectively eliminated local discretion in property assessment and taxation. By creating state boards of equalization, or expanding the powers of existing statewide agencies, and instituting formulas and procedures designed to produce uniformity in assessment practices across jurisdictions, these reforms limited the redistributive potential of property taxes. With the influence of county government on tax and redistributive policy largely circumscribed by changes at the state and federal level, the importance of institutional rules was greatly diminished.

5.8   Discussion

In their comparative historical analysis of European settlement in the Americas, Engerman and Sokoloff (2005) documented how initial factor endowments shaped

the path of development in the new colonies and produced varying levels of economic inequality. This inequality, the authors argued, helped determine the types of political institutions that arose in the region, with greater public participation in policymaking found in areas where inequality was lowest. However, such national-level analysis masks significant subnational and temporal variation in both economic conditions and political institutions. Although the United States may have been one of the most democratic countries in the Americas at the time of its founding, subsequent political and economic changes linked to the spread of universal suffrage and the rise of industrialization fundamentally reordered the nature of political organization. In areas where they faced the greatest threat of redistribution from newly empowered voters, previously dominant elites invested great resources to insulate local government from direct popular control and reduce its responsiveness to constituent preferences.

At the county level, the strategic nature of institutional reform helps resolve one of the central puzzles in the recent public administration research on county governments. Cross-sectional analyses comparing spending patterns across counties by Benton (2003b), Park (1996), and DeSantis and Renner (1994) have found that reformed counties — those with appointed administrators — have tended to spend more than counties with a traditional commission government. This finding is precisely the opposite of what one would expect based on the conventional accounts of municipal reform, which have emphasized the Progressives' focus on increasing government efficiency. Yet, if institutions were endogenous to local economic and political conditions — if reform was most likely to occur in areas where the demand for a muscular government was the greatest, precisely because it was there that reformers most feared direct popular control of county policy — the finding makes a great deal of sense. The proper counterfactual for examining the impact of reform institutions on local fiscal policy is not current spending levels in counties that maintained the traditional commission form government but rather what the reformed counties *would have spent* in the absence of reform. The results reported here suggest that, at least in the early part of the 20th century, the sum would have been much higher.

Appendix A

Measuring Food Stamp Program Participation

To qualify for SNAP benefits, individuals must have a gross monthly income that does not exceed 130 percent of the federal poverty line. Poverty alone is not enough to become eligible for the program, however. Federal law also limits the amount of assets applicants may possess and provides certain exemptions for special populations, such as people with disabilities. Able-bodied adults without dependent children may receive benefits for no more than three months during any 36-month period unless they work or participate in work-training programs.

In practice, it is impossible to precisely calculate an individual's eligibility status without access to detailed data on household composition, income, assets, and expenses. Yet, estimates of the aggregate size of the SNAP-eligible population that are made using only information about income are usually highly correlated with more complex calculations that incorporate the full gamut of legal qualifications. Research by the Food & Nutrition Service at the U.S. Department of Agriculture has shown that income-based eligibility projections correlate with more detailed estimates at 0.80 or higher (see Office of Analysis, Nutrition and Evaluation 2005, p.5).

Following the Office of Analysis, Nutrition and Evaluation (2005), I use the number of individuals with gross income below 125 percent of the federal poverty line as the estimate of the SNAP-eligible population in each county. This count is taken from the 2000 Census. The participation rate in each county is calculated by dividing the

number of enrolled beneficiaries reported on Form FNS–388A by the estimated number of eligible individuals.

Appendix B

Measuring Inequality

To construct a measure of county-level inequality, I created a Gini coefficient for each county using data reported in the 1890 agricultural Census, which collected information on the distribution of farms by size. Each farm was assigned into one of seven categories based on its total land area: under 10 acres; between 10 and 19 acres; between 20 and 49 acres; between 50 and 99 acres; between 100 and 499 acres; between 500 and 999 acres; and more than 1,000 acres. Because only aggregate counts within each bin are available, additional assumptions about the average size of farms in each category are needed to calculate the coefficients. I assume that, within each size class, the average farm area is the midpoint of size range (e.g. the average is 5 acres for the first category, 14.5 acres for the second, etc.). For the last group, I assume the average size is 1,000 acres. To calculate the total acreage of farm land in each county, I assume each farm has the same area as the average within its size class. However, the results are robust to alternative assumptions about average sizes.

Let i index each size category, with $i = 0$ representing a hypothetical category for farms with zero area, and f_i represent the share of all farms that fall into category i. Also, let a_i represent the share of the total farm acreage in each county that is represented by all of the farms that fall in category i. The function $F_i = \Sigma_{s=0}^{i} f_s$ accounts for the total proportion of farms that fall in category i or smaller. The function $A_i = \Sigma_{s=0}^{i} a_s$ denotes the share of total farm acreage in a county accounted for by farms that fall in category i or smaller. The Gini coefficient of inequality for each county, I, is then calculated using

the following formula:

$$I = 1 - \sum_{i=0}^{7} (F_{i+1} - F_i)(A_{i+1} + A_i)$$

Figure B.1 below presents summary statistics for land-holding inequality aggregated by each Census division, a geographic grouping of states created by the Census Bureau in 1910. I use Census divisions, rather than the larger Census regions — which are aggregations of divisions — to account for potential heterogeneity in different parts of the country due to omitted variables that may have been correlated with both inequality and the success of reform adoption. In the empirical models, such correlation is addressed through the use of fixed effects for each Census division, providing more precise estimates than fixed effects for each Census region.
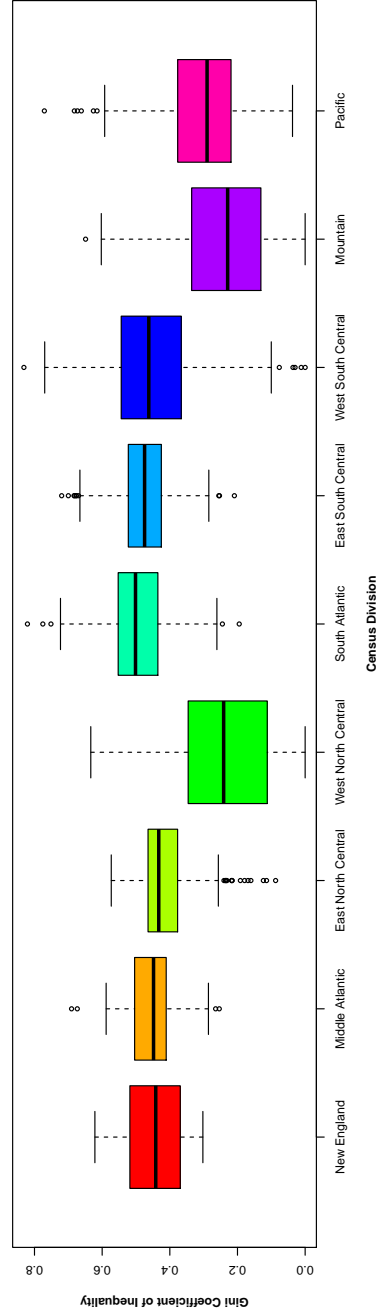
Figure B.1: Distribution of county inequality, based on farm ownership, by Census division.

Appendix C

Inequality and Redistribution

The hypothesized empirical link between local inequality and reform rests on the idea that higher inequality increases the political threat of redistribution for the wealthy. In this section, I outline the model behind the argument. The derivation builds on the canonical median voter theorem by Downs (1957) and the model of taxation popularized by Meltzer and Richard (1981), and follows closely the models presented in Boix (2003) and Acemoglu and Robinson (2006), although I make several additional assumptions that simplify the math but do not change the central features of the equilibrium solution.

We begin with a county that contains an odd number of n adult residents and guarantees universal suffrage, so every resident is also a voter. Resident $i = 1, 2, \ldots, n$ has income y_i. By ordering the individuals from poorest to richest, we can identify the person with the median income, represented as y_M. In addition, we can calculate the average income, $\bar{y}$, with the equation:

$$\bar{y} \quad = \quad \frac{1}{n} \sum_{i=1}^{n} y_i \tag{C.1}$$

Using a simple majority-vote decision rule, voters choose a proportional income tax rate τ, such that $0 \leq \tau \leq 1$. The revenue raised through the tax is then redistributed equally to all voters, so that the amount received by each voter, L, is the same as the amount transferred to every other voter. Taxation also results in deadweight losses in the form of $\tau^2 n \bar{y}$, so that the distortions and economic losses from taxation grow with both the tax rate and the overall size of the economy.[1] Assuming that the county balances

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[1]Acemoglu and Robinson (2006) prove that any deadweight loss function of τ that is concave and

its budget, it follows that

$$L \;=\; \frac{1}{n}\left(\sum_{i=1}^{n}\tau y_i - \tau^2 n\bar{y}\right) \;=\; \tau\bar{y} - \tau^2\bar{y} \tag{C.2}$$

Each resident votes for a tax rate that maximizes her individual consumption, which is equal to her post-tax income, $\hat{y}_i(\tau)$. Given the government budget constraint (Equation 2), the post-tax income of individual i at tax rate τ is

$$\hat{y}_i(\tau) \;=\; (1-\tau)y_i + L \;=\; (1-\tau)y_i + \tau\bar{y} - \tau^2\bar{y} \tag{C.3}$$

To solve for voter i's ideal tax rate, we take the derivative of her post-tax income $\hat{y}_i(\tau)$ with respect to τ and set it equal zero.

$$\begin{aligned}
\frac{d}{d\tau}\hat{y}_i(\tau) &= -y_i + \bar{y} - 2\tau\bar{y} = 0\\
\bar{y}(1-2\tau) &= y_i\\
(1-2\tau) &= \frac{y_i}{\bar{y}}\\
\tau &= \frac{1}{2}\left(1 - \frac{y_i}{\bar{y}}\right)
\end{aligned} \tag{C.4}$$

Equation 4, subject to the original constraint $0 \le \tau \le 1$, highlights the key role of inequality in the formation of individual preferences over taxes. Because each voter's optimal tax rate is negatively related the ratio of her income to the average income, wealthier individuals will prefer a lower taxes while poorer individuals will prefer a higher tax rate.

If the local tax rates are set through the democratic process with simple-majority voting rule, the final tax rate will be determined by the preferences of the median voter (Downs 1957). Thus the equilibrium tax rate in the county will be

$$\tau^\star \;=\; \frac{1}{2}\left(1 - \frac{y_M}{\bar{y}}\right) \tag{C.5}$$

As the level of inequality increases, the skew of the distribution of incomes in a county becomes increasingly positive. As a result, the ratio of the median to average income declines, resulting in a higher tax rate. By contrast, in a perfectly equal county

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twice differentiable will produce the same results as reported here.

where each resident has the same income as everyone else, the median income will be equal to the average income, and the equilibrium tax rate will be set at zero.

In practice, the tax base for local governments in the 19th century did not include all income. Although local property taxes technically included personal property, the difficulty in identifying and then calculating the value of such property generally limited the reach of local taxation to large, immobile physical assets (Yearley 1970). As a result, the inequality in local landholding likely represents the most relevant measure in determining the median voter's preference over local tax rates.

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