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**EVALUATING THE EFFECTS OF
DIRECT DEMOCRACY ON PUBLIC POLICY
California's Urban Growth Boundaries**

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This research addresses two interrelated questions about direct democracy: How does direct democracy affect public policy? And why do citizens and interest groups sometimes pursue policy change through direct democracy? We study these questions by testing for differences between urban growth boundaries (UGBs) that were enacted by city councils and by direct democracy in a large sample of California municipalities. We find that laws adopted at the ballot box are more extreme and are more difficult to amend or repeal. However, we also find that direct democracy does not result in less coherent or more fragmented policy regimes. In addition, we develop and test a model of the factors that lead political actors to pursue each strategy for policy change. Our results demonstrate that decisions to use the initiative process are largely a function of characteristics of local legislatures rather than citizen preferences for extreme policies.

Keywords: direct democracy; public policy; California; urban growth boundaries; direct legislation; initiatives

Events such as California's gubernatorial recall election have sparked renewed interest in the use of direct democracy, in which citizens act outside of traditional representative political institutions to replace elected officials (via the recall), ratify or reject legislation (via the referendum), or circumvent representative government altogether and pass laws directly (via the initiative).¹ History reminds us that although high-profile recalls of statewide elected officials are rare, many other forms of direct democracy are used frequently and

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increasingly. Recalls of county and local officials are commonplace, as is the use of citizen initiatives to enact new laws. These and other forms of direct democracy have become standard features of the American state and local political landscape. According to a recent count, more than half of all states and cities now provide for either the initiative or referendum, and greater than 70% of the population of the United States resides in a state or city that allows for some form of direct democracy (Matsusaka, 2004). Furthermore, with additional states regularly considering adoption of these direct democracy institutions, there is reason to believe that their importance will only continue to grow.²

The use of direct democracy has attracted scholarly attention on a range of critically important theoretical questions.³ In this study, we focus on one class of questions that deal with the impact of direct democracy on public policy outcomes. Specifically, we ask the following: Does direct democracy produce different public policy outcomes than does representative government? And why do citizens and interest groups sometimes circumvent traditional political processes and pursue policy change through direct democracy? Given our interest in policy outcomes, we limit our inquiry to the form of direct democracy that provides citizens with the most direct and immediate impact on policy—direct voter initiatives.⁴ The initiative process empowers citizens and interest groups to circumvent traditional representative institutions (e.g., legislatures, city councils, and county boards) and both propose and approve new legislation. As such, initiatives seek to entirely exclude elected officials and their staffs from the policymaking process.

This feature of initiatives troubles some observers, who maintain that regular citizens do not possess the expertise to understand and evaluate the ballot measures on which they are asked to vote (e.g., see Broder, 2000). In response, scholars have devoted much attention to the question of whether citizens are competent to decide public policy issues via direct democracy. These studies largely conclude that citizens can and do, in fact, understand the essential elements of ballot measures and cast votes that reflect their self-interests (Lupia, 1992, 1994; see also Bowler & Donovan, 1998; Gerber & Phillips, 2003). There remain, however, a number of related questions regarding the impact of citizen decision making on policy outcomes that have re-

ceived only limited scholarly attention. We focus on two in this study. First, we consider whether voters pass laws that are overly reactive or extreme, as some have argued (Cain & Miller, 2001). Second, we consider whether voters take into consideration the likely interactions between proposals and existing policies or whether they produce fragmented, incoherent, and contradictory policy regimes (Schrag, 1998).

Our approach is straightforward: We identify a policy that is common to a large number of jurisdictions and that has been adopted in some by legislative bodies and in others by direct democracy. We then test for differences across a number of dimensions between those versions of the policy that were enacted by each method.

As part of studying the effects of direct democracy on public policy, we also develop and test a model of the factors that lead political actors to pursue each strategy for policy change, that is, to pursue change through legislative institutions or the initiative process. We explicitly model this choice to isolate the effects of direct democracy institutions themselves from other potential causes of policy differences. Thus, if it turns out that citizens in communities that tend to use direct democracy are also different in other politically important ways, such as having larger or more diverse populations, then it could be that any observed differences in outcomes are caused by these more basic differences across communities and not by the institutions used to adopt policies. Our methodology allows us to capture and evaluate this possibility.

Our model of strategy choice also allows us to better evaluate the representational consequences of direct democracy by assessing whether differences in policy outcomes are deliberate or unintentional. On one hand, if policies adopted by initiative tend to be more extreme and communities with more extreme policy preferences use direct democracy to obtain policy outcomes that more closely match their preferences, then direct democracy enhances the representation of citizen preferences in policy. On the other hand, if citizens and interest groups turn to the initiative process not out of a preference for extreme policy but rather because representative institutions are unresponsive to their demands (see Gerber & Phillips, 2004), then the more extreme policy outcomes that may result are out of line with citizen preferences. This distinction is a crucial one. If citizen preferences are not causing observed differences between policies that are

adopted by direct democracy and those that are adopted by legislatures, then any such differences are probably unintentional consequences of direct democracy.

Our approach represents an important extension of the literature on the effect of citizen initiatives on public policy. Most existing efforts compare aggregate policy outcomes (such as per capita tax revenues or differences in abortion laws) in nations, states, and cities with and without the initiative process (see, for instance, Camobreco, 1998; Gerber, 1996a; Lascher, Hagen, & Rochlin, 1996; Matsusaka, 1995).⁵ By contrast, we identify the method of adoption and compare features of particular policies as a function of the adoption method.⁶ Furthermore, we integrate analyses of outcomes with an analysis of the strategic decisions made by political actors who must decide whether to work for policy change within or outside the legislature.

We focus our empirical analysis on a set of common and increasingly popular public policies: urban growth boundaries (UGBs). UGBs have been adopted in numerous communities for the purpose of managing and planning for future residential and commercial development. A growth boundary is a politically determined "line" that is drawn around an urbanized area outside of which new development is severely restricted or prohibited.⁷ For a number of reasons, growth boundaries provide an excellent setting for examining the effects of direct democracy on public policy. First, a substantial number of cities have some form of a growth boundary, making large-*N* analyses possible even within single states. Second, although most of these boundaries have been adopted by city councils, a substantial and increasing number have come into existence via citizen initiatives. This allows us to compare growth boundaries that are adopted by each method. Finally, UGBs are increasingly viewed as an important component of a community's growth management regime (see Knapp & Nelson, 1992; Nelson, 2002; Nelson, Dawkins, & Sanchez, 2004; Phillips & Goodstein, 2000). Studying UGBs in relation to other growth management policies will enable us to examine the relationship between a UGB's method of adoption and the extent to which it meshes with a city's growth management regime.

Overall, our analysis indicates that direct democracy has a systematic effect on the content of urban growth boundaries. We find that UGBs adopted by the initiative process tend to be more extreme in that

they move policy further from the status quo than do growth boundaries adopted by legislatures. In addition, UGBs enacted by direct democracy are more binding. These policies are rarely (if ever) altered and almost always require a vote of the people to do so—creating a very high threshold for future policy change. However, contrary to the claims of some critics, we do not find evidence that direct democracy results in fragmented policy regimes. In fact, we show that the method by which a growth boundary is adopted has almost no effect on that policy's relationship to other aspects of a city's growth management regime.

Finally, our analysis provides evidence that the decision by political actors to use direct democracy typically does not reflect a community preference for either more extreme or more binding policy. In our model of strategy choice, the variables that predict which communities will adopt a growth boundary are not the same as the variables that predict which communities will do so via direct democracy. Specifically, the intensity of local slow growth preferences does not play a decisive role in the method of adoption chosen. Interestingly, our measures of the policy preferences and other institutional features of the city council are the best predictors of method of adoption. In particular, we observe that growth boundaries tend to be enacted by citizen initiative when the city council is more professionalized and pro-growth in its orientation. Thus, extreme and binding growth boundary policies appear to be an unintended consequence of direct democracy.

In the following section, we describe our data sources and key variables. Next, we compare features of UGBs adopted by direct democracy and by city councils. Then, we describe our model of strategy choice and report and analyze our results. Finally, we discuss the implications of our analysis for our understanding and evaluation of direct democracy institutions.

CALIFORNIA UGBs

Communities across the United States are increasingly turning to UGBs as a means of managing and planning for future residential and commercial development. Surprisingly, however, there exists very little systematic data on their adoption and usage. Thus, to carry out our

study, we conducted an extensive survey of municipal planning officials in one state: California. Our survey was designed to identify cities with growth boundaries and to collect data about the means by which they were enacted, features of the boundaries, features of local political institutions and policy environments, and the nature of a community's complimentary growth management policies. By limiting our analysis to one state, there were fewer potentially mediating influences to control for, such as variations in state laws and political culture. We selected California in part because of the prevalence of citizen initiatives and because anecdotal evidence and newspaper accounts suggest that the use of UGBs is widespread.

The survey was conducted during 2002 and early 2003. It was administered by the Center for Local, State, and Urban Policy (CLOSUP) at the University of Michigan's Gerald R. Ford School of Public Policy and was carried out in three waves. In 2002, a link to an Internet-based version of the survey was e-mailed to the planning director, or other official identified as being responsible for planning functions, in 475 California municipalities. We used a mailing list compiled by the California Planners' Information Network (CALPIN) to identify potential respondents. Later that year, a hard copy of the same survey was mailed to those planning officials who had not completed the Internet-based version.⁸ In early 2003, nonrespondents were sent a second hard copy of the survey. Although none of the questions were of a sensitive nature, all participants were assured that their answers would remain confidential.

In total, we received usable responses from 290 cities, a response rate of approximately 61%. Completed questionnaires were returned to us from municipalities in 47 of California's 58 counties, and we received a large number of responses from each of the state's three major economic regions—Southern California, the San Francisco Bay Area, and the Central Valley. Moreover, the aggregate economic and demographic characteristics of the cities that responded to our survey closely match those of the state as a whole. Thus, we feel reasonably comfortable that our final sample is representative of California cities.⁹

The results of our survey confirm our suspicion that the use of UGBs by California municipalities is widespread and growing. Of the cities that responded, 85 reported that they have some form of growth

boundary. The responses show that UGBs have been adopted in each of the state's major economic regions and by at least one city in a majority of the state's counties.¹⁰ In addition, the data indicate that the rate at which these boundaries are being adopted has increased significantly in recent years. The earliest UGBs came into existence during the 1950s. Increasing numbers of growth boundaries were enacted in each of the proceeding decades, followed by an explosion in adoptions in the 1990s. In fact, 48 cities—more than a majority of the communities with UGBs—report adopting their boundary sometime between the beginning of 1990 and the end of 2002.

The survey results also allow us to develop a fairly clear picture of the features of these growth boundaries as well as the policy regimes in which they are nested. First, nearly one quarter of the growth boundaries were drawn to include at least 25 years of developable land, meaning that most cities with a UGB will be able to accommodate significant new residential and commercial development for some time to come.¹¹ Second, most of the state's UGBs can be expanded by a simple majority vote of the city council. However, in some cases, the approval of either the local electorate or an outside governmental entity (e.g., the county board) is required. Only a small fraction of growth boundaries have been altered since their adoption: 14% of municipalities with growth boundaries indicated that they had expanded their boundary, whereas 7% responded that their boundary had been contracted.

In addition, the surveys show that most of the cities in our sample (both with and without UGBs) have in place additional policies that may interact with a growth boundary. Urban growth boundaries, by definition, place a supply-side constraint on the availability of developable land. To the extent that this supply-side constraint is binding, it can potentially lead to high housing prices, *de facto* (and legal) residential segregation, overcrowding, infrastructure strain, and the loss of open space. In our survey, we asked local planning officials if their city had adopted a number of additional policies that could exacerbate the negative consequences of this supply-side constraint as well as policies that may offset or reduce the impact of restricted supply on the city's housing market.¹² Table 1 compares the incidence of each type of policy in cities that do and do not have growth boundaries in place.

TABLE 1
Growth Management Policies in
California Municipalities, 2002/2003

<i>Policy</i>	<i>Cities With Growth Boundaries</i>	<i>Cities Without Growth Boundaries</i>
Offsets supply-side constraint		
Open space set asides	80	62
Affordable housing	76	66
Traffic standards	67	64
Infill or redevelopment	61	40
Mixed-use development	58	43
Multifamily housing	34	19
Average number of offsetting policies	3.7	3.0
Exacerbates supply-side constraint		
Building permit limits	23	6
Multifamily housing limits	8	2
Population ceiling	12	8
Moratorium on new housing	6	14
Average number of constraining policies	0.5	0.3
<i>n</i>	85	205

NOTE: Values in percentages, except where indicated as a number. Results from authors' survey.

The top portion of Table 1 reports the policies that may help offset the impact of reduced supply, whereas the bottom portion reports policies that further limit supply. Although only a handful of UGB-adopting cities insist that developers provide multifamily housing, a majority require or provide incentives for new development to include affordable housing, infill and/or mixed-use development, and open space. In addition, two thirds require that traffic standards be satisfied before new development is allowed to occur. Compared to cities without growth boundaries, each one of these policies is more common in cities with growth boundaries.

The lower portion of Table 1 shows that very few municipalities have adopted supply-limiting policies, although most of these policies are slightly more common in cities that also have UGBs. A small minority of UGB-adopting cities have ordinances that limit the number of residential building permits issued in a single year, the number of multifamily dwellings that may be constructed, or the total population of the community. Furthermore, only 6% of these cities had a

moratorium on new housing construction at any point during the past 10 years.

To summarize Table 1, patterns of growth management policies are largely similar in cities that have and have not adopted UGBs. The surveys show that cities with growth boundaries are slightly more likely to have policies that offset the supply-side impact of UGBs but are also more likely to have additional policies that increase supply-side constraints.

In the next section, we analyze whether and how growth boundaries adopted by citizen initiatives differ from those that are legislated through representative institutions.

THE EFFECT OF DIRECT DEMOCRACY ON UGBs

We begin our statistical analysis by testing for differences between growth boundaries based on their method of adoption. Using our survey responses, we conduct a series of difference-of-means tests to examine whether features of the growth boundary and the policy regime in which it is nested differ substantially between cities that adopted the UGB by citizen initiative and those that legislated their boundary through representative institutions.¹³

The results of our difference-of-means tests are reported in Table 2. A number of empirical regularities are apparent. First, UGBs adopted through the initiative process tend to be more restrictive than those created by representative institutions; that is, they move policy farther from the status quo point of no politically imposed limits on the available quantity of developable land. According to our survey, none of the UGBs adopted via initiative include more than 25 years of available land, whereas 25% of all other growth boundaries do so. This difference is statistically significant at the 95% level.

Second, our results demonstrate that it is much more difficult to change UGBs that are enacted at the ballot box. All of the growth boundaries adopted by citizen initiative require voter approval to be expanded or contracted. On the other hand, altering boundaries that were adopted by representative government tends to only require the approval of the council, county board, or other outside governmental

TABLE 2
Features of Growth Boundaries by Method of Adoption
California Municipalities, 2002/2003
(Two-Sample *t* Test With Equal Variances)

<i>Feature</i>	<i>Adopted by Initiative</i>	<i>Adopted by Representatives</i>	<i>Significance</i>
More than 25 years of developable land	.00	.25	**
Voter approval needed to alter	1.00	.15	**
City council majority needed to alter	.27	.75	**
Urban growth boundaries altered	.00	.27	**
Offsets supply-side constraint			
Open space set asides	.93	.77	
Affordable housing	1.00	.72	**
Traffic standards	.60	.68	
Infill or redevelopment	.57	.62	
Mixed-use development	.58	.60	
Multifamily housing	.27	.34	
Total number of offsetting policies	3.9	3.7	
Exacerbates supply-side constraint			
Building permit limits	.40	.20	*
Multifamily housing limits	.13	.08	
Population ceiling	.20	.12	
Moratorium on new housing	.07	.06	
Total number of constraining policies	.80	.45	
<i>n</i>	15	65	

SOURCE: Authors' survey.

* $p < .10$. ** $p < .05$.

agency—a task that is presumably less monumental than securing a majority vote of the local electorate. In addition, although few of the growth boundaries in our sample have been expanded or contracted, those legislated by representative institutions have been altered more frequently—19% have been expanded, and 8% have been contracted. On the other hand, none of the UGBs that originated from a successful citizen initiative have been significantly changed. As illustrated in Table 2, differences—by method of adoption—between the steps that are required to alter a UGB as well as the frequency with which existing UGBs have been expanded or contracted are all statistically significant at the 95% level.

Although the method of adoption affects the features of growth boundaries, it does not appear to significantly affect the policy regimes

in which these boundaries are nested. The lower portions of Table 2 presents the additional growth management policies that exist in UGB-adopting municipalities and again compares cities' policies based on the method by which they enacted their growth boundary. In terms of policies that offset the UGBs' supply-side constraint, cities that enacted their growth boundary via citizen initiative are more likely to have policies that require or provide incentives for open space set-asides and affordable housing. Furthermore, they are slightly less likely to require or provide incentives for infill or redevelopment, mixed-use development, or multifamily housing or for developers to meet predetermined traffic standards. However, only differences in requirements for affordable housing are statistically significant at traditional levels. Moreover, a count of the number of offsetting policies adopted indicates that cities in each category have approximately the same number of these growth management policies, regardless of the means by which they enacted their UGB.

Our findings are similar with regard to the adoption of policies that may exacerbate the supply-side effects of a UGB. Cities that adopted their boundary via citizen initiative are more likely to also limit the number of building permits issued and the construction of multifamily housing, to have imposed a moratorium on the construction of new housing at some point during the 1990s, and to have adopted a population ceiling. However, with the exception of limiting the number of building permits issued, none of these differences is significant at even the 90% level. In addition, a count of the average number of supply-restricting policies by the method of UGB adoption reveals no meaningful difference.

In total, our difference-of-means tests provide evidence that although some of the criticisms of the initiative process are correct, others appear to be wrong, at least in terms of how the process affects the nature of growth boundaries in California. We do find that the method of adoption systematically affects features of the boundaries. UGBs adopted via citizen initiative tend to be more extreme and are highly resistant to change. On the other hand, the method of adoption does not affect the overall coherence of the local growth management regime. UGBs adopted at the ballot box are no more or less likely to be bundled with other growth management policies than are those boundaries adopted by representative institutions.

MODEL OF STRATEGY CHOICE

We now consider a number of explanations for the differences we observe in growth boundaries—in terms of their extremity and permanence—adopted by local legislatures and by direct democracy. To do so, we ask the following: What factors lead a city to adopt its growth boundary via citizen initiative? We focus on two sets of factors (plus a number of control variables): those related to a community's growth preferences and those related to its political institutions. To the extent that we observe systematic differences in communities' growth preferences driving the choice of adoption method, then we will conclude that direct democracy institutions are chosen as part of a deliberate strategy to move policy closer to the community's ideal outcome. To the extent that we observe political factors driving the choice of adoption method, then it is less clear that the more extreme policies that result from direct democracy are intentional.

Tables 3 and 4 report the results of a series of multivariate analyses. In each model, the dependent variable is a dummy variable scored 1 if a city's growth boundary was adopted via initiative and scored 0 if it was adopted via other means. The analyses in Table 3 are limited to cities in our sample with growth boundaries currently in place, whereas the results in Table 4 (which we describe later) include all of the cities in our sample.

Model 1 tests whether community growth preferences affect the probability of adopting a growth boundary via initiative. We seek to capture growth preferences through two independent variables: the amount of controversy surrounding new development (Controversy) and the percentage of land in agricultural use (%Agriculture). We hypothesize that cities in which new development is most controversial will prefer less growth. We measure controversy with a survey question asking respondents to rank the extent to which residential growth issues have been controversial in their city. A 4-point scale was used, from 1 (*not at all controversial*) to 4 (*almost always controversial*).

We include a measure of agricultural land use as a further proxy for growth preferences because previous research has consistently found that communities bordered by farmland prefer minimal growth as a means of protecting agricultural open spaces from suburbanization

TABLE 3
Probability of Adopting Urban Growth Boundary
by Initiative (Probit Estimates)

<i>Independent Variable</i>	<i>Model 1</i>		<i>Model 2</i>	
Preferences				
%Agriculture	-.01	(.01)	-.01	(.01)
Controversy	.09	(.21)	-.11	(.30)
Institutions				
Initiatives			2.05**	(.63)
Meetings			1.90**	(.63)
%At large			-.92	(1.38)
Council preferences			-.58**	(.25)
Controls				
%Minority	.19	(.70)	.16	(.98)
%Bachelor's degree	2.59	(2.37)	3.07	(3.13)
Income per capita	-.02	(.03)	-.01	(.04)
%Gore	-.13	(2.14)	-.33	(3.10)
%Older than 65	-.03	(.04)	-.06	(.05)
Density	.02	(.12)	.09	(.21)
Population	.001	(.003)	-.02*	(.01)
County population growth	-3.78	(3.37)	-1.84	(4.90)
Constant	-.28	(1.47)	-1.81	(3.18)
<i>n</i>		81		74
Pseudo <i>R</i> ²		.09		.45

NOTE: Standard errors appear in parentheses.

* $p < .10$. ** $p < .05$.

(see Gerber & Phillips, 2003). Our agriculture variable measures the percentage of land employed for farm uses at the county level. We rely on county-level data to avoid endogeneity problems and because municipal data are unavailable.¹⁴

In addition to the two variables described above, we add a number of controls, including the total population, change in population, percentage minority, age distribution, income, density, percentage with a bachelor's degree, and Al Gore's share of the two-party vote in the 2000 presidential election. These factors are included because they may also have an impact on community growth preferences as well as the relative cost of using direct democracy. In addition, many of these variables have been employed in previous studies of local growth policy (Baldassare & Wilson, 1996; Donovan & Neiman, 1992;

TABLE 4
Probability of Adopting Urban Growth Boundary
by Initiative (Probit With Sample Selection)

<i>Independent Variable</i>	<i>Model 3</i>			
	<i>Selection Equation</i> (<i>DV = UGB</i>)		<i>Outcome Equation</i> (<i>DV = Adopt by Initiative</i>)	
<i>Preferences</i>				
%Agriculture	.02**	(.01)	-.02	(.01)
Controversy	.51**	(.15)	-.33	(.26)
<i>Institutions</i>				
Initiatives	-.14	(.26)	1.49*	(.83)
Meetings	-.04	(.20)	1.29	(.98)
%At large	.73	(.47)	-1.02	(1.09)
Council preferences	.14	(.10)	-.48**	(.24)
<i>Controls</i>				
%Minority	.17	(.41)	-.02	(.81)
%Bachelors degree	3.16*	(1.78)	1.61	(2.91)
Income per capita	-.05**	(.02)	.01	(.04)
%Gore	.84	(1.04)	-.23	(2.38)
%Older 65	-.03	(.02)	-.03	(.05)
Density	-.07	(.06)	.10	(.16)
Population	.000	(.006)	-.02	(.01)
County population growth	.50	(1.62)	-1.85	(3.78)
<i>Instruments</i>				
Built out	-.60	(.39)		
County population	-.0002**	(.0001)		
Constant	-2.53	(1.18)	.70	(2.96)
Correlation parameter (ρ)			-.82**	(.34)
<i>n/Log likelihood</i>			226/-117.26	

NOTE: Standard errors appear in parentheses.

* $p < .10$. ** $p < .05$.

Gainsborough, 2002; Gottdiener & Neiman, 1981).¹⁵ The data for these variables were obtained from the 2000 census and the California Secretary of State.

Surprisingly, none of our preference or control variables reach statistical significance. Furthermore, the overall explanatory power of the model is quite weak, with a pseudo- R^2 of .09. This suggests that community preferences are probably not driving the decision to enact a growth boundary via citizen initiative.

Model 2 tests for the impact of several political or institutional variables on adoption mode. The first (Initiatives) measures whether initiatives have been used in the past to resolve growth issues. This is a dummy variable coded 1 if an initiative has been previously used and 0 otherwise. We treat this variable as an indicator of the relative cost of using direct democracy and expect that the previous use of initiatives will make it more likely that a community will adopt its growth boundary at the ballot box.

The second (Meetings) measures the number of times per month that the city council meets. We treat this variable as a proxy for the professionalization of the council.¹⁶ Previous research has concluded that professionalized local governments are more likely to enact pro-growth legislation than are less professional governments (Clingermayer & Feiock, 1990). If citizens enact UGBs at the ballot box as a reaction to unresponsive city councils, then we should expect to see growth boundaries adopted via initiative when councils are more professional, *ceteris paribus*. We also measure the share of the council's seats elected citywide (%At large).

The final political variable used in Model 2 (Council preferences) is the city government's overall orientation toward new residential development, as reported by our survey respondents. Higher values on this 5-point scale indicate a more slow-growth attitude (5 = *strongly slow-growth*, 1 = *strongly pro-growth*). We hypothesize that a community's UGB is more likely to be adopted by a citizen initiative if the local government favors more growth (i.e., a negative relationship).

Model 2 does a much better job explaining variation in our dependent variable. Furthermore, it produces strong results that are consistent with our expectations. All of our institutional and political variables are statistically significant, except for the measure of the structure of council representation. We find that the use of initiatives and the number of times a month the city council meets are both positively and significantly related to the adoption of growth boundaries by direct democracy. In addition, our results indicate that communities in which the city council holds a more slow-growth attitude toward new residential growth are significantly less likely to adopt their UGB at the ballot box (i.e., they are more likely to work through the slow-growth city council).

Although Models 1 and 2 provide a starting point for understanding communities' strategy choices, they are limited by including only those cities that have growth boundaries in place. A valid criticism may be that we face a sample selection problem. In other words, the real action may come prior to this choice, when communities decide whether to pursue a growth management strategy that includes a growth boundary in the first place. Failure to correct for this problem (assuming it exists) may result in inconsistent and biased coefficients (see Breen, 1996).

We address this concern by modeling both choices through the use of a bivariate probit selection model. Conceptually, we can think of this new model (Model 3) as first estimating a selection equation (in which the dependent variable is whether the community adopted a growth boundary) and then, conditional upon selecting a boundary, estimating an outcome equation for strategy choice.¹⁷ All of our independent variables are included in both the selection and outcome equations, plus two new variables are included in our selection equation to allow for identification. These instruments are *Built out* (a dummy coded 1 for cities that reported that they are almost entirely built out and cannot expand outward) and *County population* (the total population of the county in the year 2000).¹⁸ Both of these variables measure the extent to which a city (or the region in which it lies) is already well developed. We reason that cities with little potential for outward growth will be unlikely to adopt a UGB, because they will receive few benefits from doing so. Moreover, there is no reason to believe that either of these variables are correlated with measured or unmeasured factors that affect mode of adoption, making them valid instruments.

Table 4 reports the results of our bivariate probit selection model. Turning first to model diagnostics, the significant correlation parameter (ρ) indicates that our outcome equation is, in fact, contaminated by selection bias. Furthermore, a comparison between the results reported in Tables 3 and 4 shows that the simple probit model consistently overestimated the size of our coefficients, particularly on the institutional variables of interest. Thus, the use of a selection model seems to be warranted. However, once selection bias is taken into account, our main findings remain unchanged. Although our *meetings* variable is no longer significant, the preferences of the city coun-

cil and the previous use of initiatives remain important and significant determinants of whether a community's growth boundary is adopted at the ballot box or via representative institutions.

Yet we do gain some important new insight from Model 3. The results from the selection equation indicate that although community growth preferences do not affect mode of adoption, they do have a powerful effect on whether a community enacts a growth boundary at all. Both of our primary measures of local preferences—%Agriculture and Controversy—are significant at the 95% level. In addition, our institutional variables have very little effect on the decision to adopt a UGB at all.

To summarize our empirical results, we find that a probit model with sample selection provides a substantial improvement over a simple probit model. Growth preferences drive communities to adopt UGBs, but the mode of adoption is largely a function of political characteristics of the city, particularly whether citizens regularly use initiatives and whether the council is more favorable toward growth. When slow-growth advocates work through direct democracy, the boundaries adopted tend to be more extreme and more difficult to amend, although these differences are not a direct consequence of the strength of preferences.

IMPLICATIONS FOR DIRECT DEMOCRACY

This article began with two questions about direct democracy: Does direct democracy produce different public policy outcomes than representative government? And why do citizens and interest groups sometimes circumvent legislatures and pursue policy change through the initiative process? With respect to the first question, we found that in the area of growth management, direct democracy does affect public policy in certain ways: It results in UGBs that are more restrictive and difficult to amend than similar policies enacted in other communities by city councils or other representative institutions. Direct democracy does not, however, result in a set of growth management strategies that are less coherent or less well integrated. This is good news for planners and others who worry about interactions between individual growth management policies.

With respect to the second question, we found that citizens and interest groups turn to direct democracy not out of a preference for extreme or permanent policy change but rather when other methods of altering policy—particularly working through the city council—are less favorable.¹⁹ Our analysis suggests that the frequency with which initiatives appear on state and local ballots may relate directly to the responsiveness of alternative (or competing) political institutions to demands for policy change. Political actors have limited resources, and it is not surprising that cost and benefit considerations would factor heavily into their choice of strategies.

In the end, these results are a bit disconcerting. When elected representatives are unresponsive to slow-growth interests in their communities, citizens who would most prefer incremental policy change may be forced to accept either the status quo or turn to the initiative and enact an extreme version of policy, one which is locked in for many years. Given this possibility, the opponents of direct democracy may be well served to focus some of their attention on ways to reform representative government and hence reduce the need for the direct democracy option.

NOTES

1. In addition to these main types, there exist numerous variants of direct democracy institutions, including the legislative referendum, the popular referendum, the direct initiative, the indirect initiative, the advisory initiative, and so forth (Initiative and Referendum Institute, 2004).

2. In 1999, Alabama, Connecticut, Delaware, Georgia, Hawaii, Iowa, Louisiana, Minnesota, New Jersey, New York, Pennsylvania, Rhode Island, and Texas formally considered enacting provisions that would allow for direct democracy (Initiative and Referendum Institute, 1999).

3. See Gerber (2001) and Lupia & Matsusaka (2004) for recent reviews.

4. As is customary in the political science literature, we use the terms *direct voter initiatives*, *voter initiatives*, *citizen initiatives*, *initiatives*, and *ballot measures* interchangeably.

5. Usually, a policy outcome is regressed on a number of control variables and a dummy variable that is coded 1 for governments with direct democracy. If the coefficient on this dummy variable is significant, the conclusion is that direct democracy affects outcomes.

6. The current approach resembles that of Gerber (1996b).

7. Urban growth boundaries (UGBs) are also sometimes referred to as *municipal growth boundaries*, *urban limit lines*, *rural urban limits*, or *greenbelts*.

8. Given the objective nature of the questions, the relatively high level of respondent sophistication, and comparisons of responses, we have little reason to suspect that differences in survey mode would produce systematic response biases.

9. Our responses came from individuals who appear to have been well suited to answer the questions posed. Greater than 55% of respondents identified themselves as the director of their

municipality's planning or community development department, whereas another 33% indicated that they are employed as planners. Where possible, we made use of outside sources—city Web sites and state planning reports—to verify the accuracy of participants' answers. Overall, we feel confident that the responses we received accurately report local growth policies.

10. However, the geographic distribution of growth boundaries in California is not uniform. Cities in the Southern California region are the least likely to have adopted a UGB, whereas those in the Central Valley and San Francisco Bay area are the most likely to have done so. In fact, approximately 60% of the state's growth boundaries are located in these latter two regions.

11. The standard of 25 years of developable land is often referenced in the urban economics and planning literatures (see Phillips & Goodstein, 2000).

12. Note that this analysis does not imply a value ordering of any particular policy or set of policies. Depending on the specific circumstances in a particular community, the social, economic, and ecological well-being of its citizens may be enhanced by any number of policy combinations. The point is simply to ask whether patterns of specific policies across growth management regimes are different between cities that do and do not have UGBs and (in later analyses) between UGB cities that adopt their growth boundaries via direct democracy and via representative government.

13. In our sample, 15 cities adopted their UGB via citizen initiative, 49 via city council ordinance, 8 via county board action, 5 via Local Agency Formation Commission (LAFCO) action, and 5 via referendum. Because of the small number of cases adopted via county board, LAFCO, and referendum, we group those cases together with city council action in the analyses below and refer to them as UGBs proposed and/or adopted by representative government. Preliminary analysis revealed that these 18 UGBs are quite similar to those proposed and adopted by city council in terms of extremity and bindingness.

14. Our dependent variable—mode of adoption—may directly affect the percentage of agricultural land in a city, making this independent variable potentially endogenous, whereas the impact of adoption mode on land use in the county as a whole is only indirect.

15. All of these variables are measured at the municipal level except for population change, which is measured at the county level to avoid problems of endogeneity (see Note 14).

16. The number of meetings is positively correlated with several other potential measures of professionalization, including the direct election of the mayor, the length of the mayoral term, whether council members are paid, and whether standing committees are used.

17. In fact, the estimation is done simultaneously via maximum likelihood. See Maddala (1983).

18. This estimation is greatly simplified because our sample is uncensored (we have data for cities that do and do not select into the strategy choice model).

19. These findings are consistent with those of Donovan & Neiman (1992) and Lewis & Neiman (2002).

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