The Consequences of State Institutions for Local Policy Responsiveness: Policy Preferences and Spending in American School Districts

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ABSTRACT

Assessing policy responsiveness, the degree to which public policies correspond to citizen preferences, is a central challenge to political scientists. Despite extensive study, one aspect of policy responsiveness remains largely unexplored: the degree to which policy responsiveness is enhanced or diminished by various institutional arrangements. We examine how the correspondence between local educational spending levels and citizen preferences varies by three aspects of institutional design: fiscal independence, referendum requirements, and rules of electoral representation. Using simulated public opinion for over 9000 US school districts we show that reforms resulting from Civil Rights Movement challenges to electoral systems were successful in improving the policy responsiveness of districts, even those with small minority populations. In addition, we show that one innovation championed by the Progressives – the referendum – strengthens the opinion-policy linkage, while another – school district independence – does does not.

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Providing public education has been and remains a critical function of American state governments. To exercise this responsibility states have adopted a wide range of institutional arrangements for the governance, financing, and administration of its educational system. In some states schools are maintained as dependent units of other governmental entities; in the vast majority of cases they are independent and fragmented across metropolitan areas or consolidated across broad swaths of rural America. In some areas school boards are appointed by the mayor; in others they are elected in at-large elections; in still others voters elect their school board members but independently approve budgets or taxes through various forms of the referenda.

While those interested in the differences between private and public schools emphasize how public school institutions are "reasonably alike" (Chubb and Moe 1988) it is the mix of institutional arrangements within states that is our focus in this paper. The regional variations in these arrangements have developed over time in response to large social and political movements as well as state preferences and traditions. Large urban school systems of the 1800s gave way to varying degrees of Progressive inspired reforms. Civil Rights statutes and litigation led Southern states in particular to reform local electoral procedures. In other areas the "academically bankrupt" performance of some urban districts has led to state takeovers. The long-tradition of the town meeting in New England extends to the operations of the school boards. Across the country states have developed unique and, we suggest, theoretically interesting mixes of institutional arrangements.

In particular, we take advantage of this institutional variation to assess how different institutional designs can inhibit or retard policy responsiveness. Assessing policy

responsiveness, the degree to which public policies correspond to citizen preferences, is a central challenge to political scientists (Miller and Stokes 1963; Erikson 1978; Page and Shapiro 1992; McDonagh 1992). The most significant advances in studying policy responsiveness in recent years arguably have been made at the state level as scholars have developed innovative technologies to measure citizen preferences or opinion (Erikson, Wright and McIver 1993; Berry et al 1998; Brace et al. 2002; Weber and Shaffer 1972). From these advances we have a much clearer idea of how party systems and elections influence policy responsiveness (Erikson, Wright and McIver 1993). Further, we recognize that while general measures of opinion liberalism are themselves revealing (Berry et al 1998; Erikson, Wright and McIver 1993) "specific measures of public opinion will provide investigators with a richer explanation of how specific opinions influence specific public policy outcomes" (Brace et al 2002). But, these studies have made only limited progress toward addressing how institutions enhance or inhibit policy responsiveness. As Page has observed, we do not know the circumstances under which the public's impact is "larger or smaller" (1994 25). What these circumstances are remains a central question which only a few studies in state politics have addressed much beyond the role of parties and elections (Maestes 2000).

In this paper we examine how the correspondence between local educational spending levels and citizen preferences varies by three aspects of institutional design: fiscal independence, referendum requirements, and rules of electoral representation. The school district is a particularly appropriate level at which to examine policy responsiveness because public school governance typically embodies the "belief that local government is the most democratically legitimate government" (McDermott 1999, 13). The Anti-federalists believed this, de Tocqueville took note of it, and communitarians today continue to talk about it. This ideal runs particularly strong in thinking about public schools; more than any other level of government, writes Kenneth Wong, school "governance is rooted in our beliefs in democratic control" (1995, 24) and the American school board has been idealized as "the crucible of democracy" (Iannaccone and Lutz 1995). According to those who advocate a greater role for private schools, the central institutional weakness of the public school system remains its democratic control and responsiveness to its environment.

School districts also represent an excellent opportunity to examine the impact of institutional design on policy responsiveness because the central institutional features of the school district system were shaped by two important waves of reform activity that were in part intended to enhance or limit popular control. Progressives of the late 19th and early 20th centuries tried to distance local school governance from the public, primarily by making school boards fiscally independent bodies governed by small boards elected in non-partisan elections. The Progressive's distrust of elected officials also led them to champion the referendum as a way for the public to restrict governmental power. From the 1960s voting rights advocates have fought many of these governing arrangements as discriminatory. The efforts of civil rights protest, lobbying and litigation has stimulated widespread shifts from at-large to ward-based representation systems (Wirt and Kirst 1997).

Today, most of the nation's school districts reflect some combination of these three dimensions of reform, yielding wide variation in the various combinations of institutional features. We use a data set of nearly 9000 school districts to see whether fiscal independence and at-large elections reduce policy responsiveness and whether budget referenda and the shift back to ward-based elections enhances it. Analysis at the local level allows increased variation in institutional features (Welch and Bledsoe 1988; Lineberry and Fowler 1967; Matsusaka 1995; Pommerehne 1978; Steunenberg 1992). But these efforts to draw direct connections between public preferences and elite actions are incomplete because they cannot measure or estimate public preferences or, in the case of public choice studies, the "median voter." We overcome this problem by estimating local preferences using a variation of the Pool, Abelson and Popkin (1965) "simulation" approach (for examples, see Erikson 1978; Weber and Schaffer 1972; Weber et al 1972; Werner 1998) still used in economics (ie Moffitt, Ribar and Wilhelm 1998).

In the following section we review Progressive efforts to organize school boards that would "represent only the 'best elements' of the community" (McDermott 1999, 83) followed by a brief review of civil rights efforts to eliminate at-large electoral practices that result in discrimination. We then identify specific hypothesis to address how institutions mediate the relationship between public preferences and public policy, including ones about how outcomes under referenda compare with those reached through representative lawmaking institutions.

School Boards and the Apolitical Ideal

In cities experiencing other local government reform and often in cities otherwise untouched by reformers (Meier et al. 1989), school boards were "restructured" between 1890 and 1920 (Iannaccone and Lutz 1995) to operate as apolitical bodies composed of public-minded experts who would govern in a non-partisan way for the community-wide public good (McDermott 1999; Wirt and Kirst 1997). Small rural districts were consolidated into larger ones, districts were made independent of general purpose governments, Boards of Education were made smaller, and at-large elections or appointments were used as the means of choosing board members.¹ Administrative progressives urged these changes because they "believed that school

¹ On the history of Progressive approaches to education see Tyack (1974), Tyack and Cuban (1995), Cohen (1963), Cremin (1969), McDermott (1999).

governance would be more efficient if it were buffered from local control" (Tyack and Cuban 1995). They hoped that schools could be governed and directed by those who Edward Banfield and James Q. Wilson refer to, in the urban government context, as "public-regarding" men (1965). These efforts to shift control "away from the local community" (Tyack 1974, 25) persist today to various degrees. Iannaccone and Lutz argue that today's school districts "are an overblown extension of what the reform movement produced. Each move toward reforming school boards has taken them a step further from the people whose children attend public schools" (1995, 45).

Yet there are also good reasons to believe that school boards, at least in some cases, should be highly responsive to their publics. Somewhat ironically, it was Progressives themselves, along with the Populists, who left the legacy of the referendum and the potential it holds to empower the public and offered a means to control and influence governing institutions. Referenda of various types are now standard in many school districts around the country. Below we develop specific hypotheses to test whether institutional differences in school governance enhances, retards, or is irrelevant to policy responsiveness.

Independent School Districts

Most American school boards govern fiscally *independent* school districts where budgetary decisions are made by the school board itself rather than by other units of local government. A smaller number are *dependent* school districts where fiscal decision making rests in the hands of an overlapping city, county or other local unit.² Independent school districts were thought to satisfy most the apolitical ideal envisioned by reformers as these districts provide for

 $^{^{2}}$ Hoxby (1998) refers to independent districts as *fiscal* districts and dependent districts as *attendance* districts.

the "effective separation" of "school policymaking from poorer neighborhoods and school government from general-purpose government" (McDermott 1999, 43-44). By limiting the representation of poorer communities, policy outcomes should be some distance from community opinion because parts of the community are less likely to be heard.

We expect that in independent districts the board will make decisions that are less likely to be in line with district opinion, whereas the relationship between opinion and spending outcomes will be stronger in dependent districts. Beyond the belief that independent school board members would try to "suppress public participation" (McDermott 1999, 80) and to represent the public interest rather than particular constituencies is the fact that independent school boards do not need to incorporate other local or city concerns into their calculations. This autonomy should allow them to act with an ethos of doing "what is best for the schools" and to restrict themselves to the responsibility of making good school policy rather than having to respond to demands and concerns about other aspects of community politics. Further, it allows the property tax, the most relied upon means of local financing, to be seen as more of a user fee.³

Direct Democracy and American School Districts

While Progressives and Populists left a legacy of direct democracy through referenda, recall, and initiatives, American school districts today are characterized by variety in the amount of citizen input they offer through referenda alone.⁴ The theoretical importance of direct

³ Hoxby (1998) argues that "the property tax can have good economic properties under optimal conditions (operating as a user feel)" (309). But the connection between the user and the service (education) will be less clear when taxes are used to fund a range of services and activities, including those not valued by the taxpayer.

⁴ In New York, for example, all but the largest school districts put their full budgets – expenditures and revenues – up for a public vote in district-wide referenda. Throughout Pennsylvania, on the other hand, public input is indirect through public meetings and the election of school board members. Between these extremes fall states such as Oregon and Ohio where tax increases greater than a specified threshold are subject to public vote, but measures below these are not.

democracy to policy responsiveness has been extensively pursued by public choice scholars drawing upon median voter models. Most of this work deals with the initiative rather than the referenda, but these models have been used to explore school expenditures under referenda rules as well (Stevens and Mason 1996; Romer, Rosenthal, Munley 1992). The basic formulation of this model is that legislative bodies, because of their desire to deliver particularlized benefits, to log-roll, and to maximize budgets, will introduce "noise" to the translation of citizen preferences into policy (Farnham 1990; Matsusaka 1993; Steuenberg 1992).⁵ The "median voter" in the community, therefore, will always prefer to spend less than the median legislator (Steuenberg 1992; Farnham 1990; Matsusaka 1995). This disparity has led to two hypotheses: First, legislatures, and in some formulations bureaucrats as well (Magdel 1983; Romer et al. 1992), will always spend more than voters would if citizens were allowed to set policy through direct democracy; and second, direct democracy results in policy outcomes closer to the preferences of the median voter.⁶

Unfortunately, public choice scholars are inconsistent in their conceptualization and operationalization of community preferences, often using the term "median voter" but almost never intending this term to refer to the median preference of those actually turning out to vote.⁷ Turnbull and Mitias (1999), for example, characterize the "median voter model" as a method of

⁵ Zax (1989) is an important exception. He argues that while individual legislators may prefer lower spending "the assumption that legislative activity is ordinarily dominated by groups which prefer 'big spending' is problematic" (269).

⁶ One or the other of these has found support in tests that compare spending across American and other local governments (Matsusaka 1995; Pommerehne 1978), school districts (Stevens and Mason 1996; Romer, Rosenthal, Munley 1992), and states (Matsusaka 1995). However, there are other studies that are inconclusive (Megdal 1983), find only modest effects (Farnham 1990), or effects inconsistent with these theoretical expectations (Zax's 1989)

⁷ Among the few economists who take note of this distinction are Moffitt, Riar and Wilhelm (1998) who distinguish, in their state level study of welfare benefits, between the "median preference individual" and the "voter with median preferences."

aggregating individual voter-taxpayer demands to arrive at some notion of *community* demand" (1999, 119, emphasis added here and in other quotations in this paragraph). Fischell (2001) characterizes "the median-voter model of politics" as the "social-science name for *majority rule*" and characterizes Bowen's (1943) initial hypothesis about the median voter as saying that under majority rule the "*householder* who had the median income" (2001, 87) would get the public services and taxes s/he demanded.

For the most part local-level applications of the median voter model are constructed without any, or at best with rough, measures of community preferences (Lascher et al. 1996) so that the varying operational definitions are not even operationalized. State level studies, on the other hand, take advantage of survey data to measure these preferences directly (Gerber 1996a; Lascher et al. 1996; Combreco 1998). These studies are instructive because they avoid the assumption that the median voter necessarily represents majority preferences within a community or political jurisdiction. What they find is that direct democracy, for a variety of reasons, does not necessarily settle on outcomes that reflect the median preferences of the community (state) at large. Lascher et al (1996) for example conclude that "initiatives are an imperfect reflection of public desires," and Gerber that different "institutional arrangements"— direct democracy and representative democracy-- may be "systematically including or excluding different groups from the policy process" (1996a, 283). Since our data does include a measure of community preferences we can test directly whether outcomes under various referenda rules are closer or further from the community median.

The Progressives, of course, were "not motivated by a belief in more democracy" (McDermott 1999) and did not, like the Populists, want the general public "to replace representative government altogether" (Cain and Miller 2001, 37). With referenda, local

governments and school boards—or legislatures at the state level—are neither bypassed nor ignored as they are through popular initiatives which place "matters before the public directly and with fewer institutional obstacles" (Cain and Miller 2001, 39).⁸ But under most referenda rules elected representative bodies set the agenda by placing proposals before the public for their approval (Steuenberg 1992).⁹ Because school boards must anticipate public reaction to prevent their budgets from failing, school board budget proposals should fall closer to public opinion when the referenda is used then when it is not.¹⁰ Indeed, Gerber (1996) shows that this is what occurs when state governments are confronted with the *possibility* of initiative action (but see Lascher et al. 1996).

Electoral Systems and Minority Representation

Another widespread reform ushered in by the Progressives was the substitution of ward and district based elections with at-large elections or appointment by mayors or other officeholders (in the case of some dependent districts), or in the case of new local governments and boards, the use of at-large elections in the first place. At-large elections were thought particularly important in breaking the power of ethnic and minority neighborhoods while at the same time raising the probability of electing middle and upper class residents with the resources

⁸ Progressives, according to Cain and Miller (2001), were more interested in checking legislatures and controlling them then were populists "who wanted to substitute direct popular control for representative government" (37). The referendum, they conclude, is far more in the Progressive tradition than is the initiative which is more in the Populist tradition.

⁹ The initiative is a form of *substitutive direct democracy* where voters, in effect, replace the legislature by proposing laws and policies of their choosing; the referendum, on the other hand, is a form of *complementary direct democracy* where the legislature refers legislation to the public for approval before it becomes law (Eule 1990).

¹⁰ There can be serious costs for a school board if referenda fail. For example, if a budget referendum fails in New Jersey districts where they are required (called Type II districts) the budget decision is taken from the board and citizens and given to the larger municipality. This type of threat should lead New Jersey school boards to anticipate public reactions to their budgets. We thank Mike Yaple of the New Jersey School Boards Association for pointing out this provision of New Jersey election law to us.

to run city-wide campaigns. Reformers were quite successful: by the 1920s working class membership on school boards "had almost disappeared" while "middle class members dominated everywhere" (Kirt and Wirst 1997, 102).

At-large elections would, however, pose concern for voting rights advocates and civil rights leaders because they promote "second generation discrimination" (Davidson and Grofman 1994) by diluting minority representation. School boards overall are more representative of racial minorities than other municipal governments (Welch and Karnig 1978; Meier et al 1989), but this type of electoral system depresses black representation on them as on other governments (Engstrom and McDonald 1981; 1982; Meier et al 1989; Welch 1990; for an opposing view see McManus 1978). At-large elections have been a particular target of civil rights litigation for many years, but particularly since the 1982 amendments to the Voting Rights Act and the 1986 Supreme Court decision in *Thornburgh v. Gingles*.¹¹ A substantial increase in litigation and settlements in anticipation of litigation (McDonald 1992; Davidson and Grofman 1994) led "hundreds of southern cities, counties, and other jurisdictions" to shift from at large elections in the 1980s (Davidson and Grofman 1994, 383) through the 1990s (Wirt and Kirst 1997).

There have therefore been "remarkable gains" in black officeholding (Davidson and Grofman 1994; Wirt and Kirst 1997) throughout the South, along with gains in Hispanic representation in Texas. The use of appointed school boards, especially in dependent school districts, has also served to enhance black representation (Meier 1989; Taylor 2001). At-large elections, therefore, would seem to "*prevent* boards of education from constituting microcosms

¹¹ The 1982 Amendments to the 1965 Voting Rights Act prohibited voting practices that resulted in discrimination regardless of intent (McDonald 1992; Davidson and Grofman 1994) while *Thornburgh v*. *Gingles 1986* set up a clear three part test for determining when at-large elections were discriminatory.

of the public or representing the full range of opinion in the community" (McDermott 1999, 83, italics in original).

But while the impact of electoral systems on descriptive representation is well appreciated, its impact on policy representation is much less well understood. Kenneth Meier and his collaborators (Meier and England 1983; Meier et al 1989) do find that boards with higher black representation are more likely to promote policies that mitigate second-generation discrimination while Taylor (2001) finds that an appointed board in Boston better represents black interests on civil rights issues. This research is suggestive but does not speak directly to the role of electoral systems in mediating policy responsiveness. The under representation of African-American views should be particularly important in the case of school expenditures since studies have found that African-Americans are more likely to favor higher spending, a finding we confirm below. Our expectation, therefore, is that at-large elections lead to boards that are less likely to translate community opinion into policy because they are less representative of diverse communities.

Hypotheses

Our general analytic approach follows the framework adopted by students of policy responsiveness (e.g., Miller and Stokes 1963; Erikson, Wright and McIver 1993; Page and Shapiro 1992). By comparing policy outcomes with public opinion, we can evaluate the policyopinion linkage. But we depart from these studies in that our general expectation is that this linkage is strengthened or weakened by different institutional arrangements. Using a large sample of nearly all, non-New England, American school districts along with new measures of community preferences toward school spending we test the following hypothesis:

H1. Where public opinion supports greater spending, school districts will spend more per pupil, all else held constant.

H2. The relationship between opinion and spending outcomes will be stronger than independent districts than in independent districts.

H3. The use of at-large elections will weaken the relationship between opinion and spending.

H4. Where school board members are appointed, rather than elected, the relationship between opinion and spending outcomes will be stronger.

H5. The more power that citizens have to influence budget decisions, the stronger the relationship between public opinion and spending outcomes.

H6. The more power that citizens have to influence budget decisions, the lower the level of spending.

DATA AND METHODS

Our analysis focuses on the universe of fiscally independent, unified (K through 12)

school districts that enrolled 35 or more students in the 1989-1990 school year. After

eliminating outliers on the dependent variable (districts that ranked in the top or bottom 21/2 % in

per pupil spending) and accounting for missing data, our analytic sample consists of 9537 school

districts.

Dependent Variable: 1995 Per-Pupil Expenditures

Our dependent variable is a district's total per-pupil expenditures in fiscal year 1995 (the 1994-95 academic year). We select 1995 because it occurs later than the measurement of all independent variables (some institutional features are measured in 1992 and our opinion measure, though centered on 1990, is based on polling data through 1994).

Primary Independent Variable: Simulated School District Opinion

Caroline Hoxby (1998) contends that local citizens' "taste" or "demand" for education is increasingly important in explaining differences in district per-pupil spending. But her conclusions are not based on even an *indirect* measure of these preferences; rather, she argues

that home valuation (measured per-pu`pil) is "increasingly an indicator for those elements of taste and household income that determine demand for per-pupil spending" (313). Assessing the policy responsiveness requires measures of preferences toward spending on public schools at the school district level. Obviously no such surveys exist across the universe of school districts used in our analysis. Therefore, we use a version of the method known as *simulated* public opinion pioneered by Pool, Abelson and Popkin in their capacity as consultants to John F. Kennedy's 1960 presidential campaign (Pool et al. 1965).

Ronald Weber and his colleagues (Weber and Shaffer 1972; Weber, Hopkins, Mezey and Munger 1972) adapted the method and were the first to employ it to study the linkage between constituency opinion and policy outputs. Weber et al. provide the most concise description of the approach. They first divided the population of *each state* into 192 "voter types." A voter type is defined by the intersection of six demographic variables so that a typical voter type for Weber et al. might be an (1) urban, (2) white, (3) female, (4) Roman Catholic, (5) age 20-34, (6) professional. In the second stage, survey data is used to predict the political orientation of this and the other 191 voter types. They then aggregated these predicted preferences for each state, weighting each type by its actual proportion of the state's population. The general approach of Weber et al. is given by the formula:

$$SimOpinion_i = \sum_{k}^{N} \phi_k \hat{Y}_k$$

Where:

SimOpinion_i is the predicted political orientation for place *i* ϕ_k is the proportion in place *i* of voter type *k* \hat{Y}_k is the predicted political orientation for voter type *k*

While a variant of this approach is still used by economists (i.e., Moffitt et al. 1998), in the study of state politics, the method of *simulated* opinion has now been superseded by what we will refer to as *estimation by aggregation*, or more simply *estimated opinion*. Erikson, Wright and McIver (1993) pioneered this method with their heroic aggregation of partisanship and ideology data from 167,460 interviews from 13 years of CBS/New York Times polls, permitting them to estimate average ideology and partisanship for each state. This approach has been extended most recently by Brace, Butler, Arceneaux, and Johnson (2001) who used the General Social Survey's thirty years of replications to build state-level measures of public opinion on nine policies. Unfortunately, the method of estimation by aggregation requires (a) the ability to assign survey respondents to the appropriate geographic unit, and (b) a large number of respondents in each unit. For example, Erikson, Wright and McIver have samples of 400 or more for all but one state in their analysis with an average state sample of over 1000. Even if it were possible to assign survey respondents to each of the nation's 10,000+ school districts, we would require more than ten million original survey respondents to approach the reliability achieved by Erikson. Wright and McIver.¹²

In contrast, the method of simulated opinion is unaffected by the size of geographic units. Given accurate composition data from the US Census (to generate the values of ϕ_k) and given unbiased estimates of \hat{Y} for each voter type, the reliability of simulated opinion should be roughly the same for states, counties, or school districts. Of course, there are many sources of error in the simulated opinion approach. However, if error is largely random around unbiased

¹² At least using the standards of Erikson, Wright and McIver (1993) and Brace et al. (2001). However, Norrander (2000) achieves modest reliability (O'Brien variance ratio of .63) with an average state sample of only 114.

estimates, then this will simply be a matter of unreliability, which will make our hypothesis tests more conservative.

There are a number of generally accepted criticisms of the simulation approach (Seidman 1975, Kuklinski 1977) and we will address these as we lay out our procedures. However, most references to it simply *assume* its inferiority compared to aggregation without any empirical evaluation (Holbrook-Provow 1987; Grofman et al. 2000). Its ability to serve as a strong predictor of political outcomes (e.g., Erikson 1978, Werner 1998) is not as well known as skepticism. Here is what we did.

Stage 1: Analysis of individual opinions on school spending

Following Brace et al. (2001), we sought to measure preferences for education spending through questions that tapped opinions about public opinion rather than general policy liberalism or conservatism. Our first step, therefore, was to estimate public opinion towards educational spending and determine which demographic variables predict individual opinions. There are quite a few variations on questions concerning educational spending. We rejected any question that referred to spending by the federal government (e.g., NES) and rejected any item with fewer than 3000 national respondents. This left us with two alternatives. One was a question used in Phi Delta Kappa polls and the other a question used in the General Social Surveys.

The Phi Delta Kappa survey question had the desirable quality of asking specifically about local schools and taxes. However, it has not been asked since 1986. As we show in the appendix, this proved to be a major limitation because city-suburban distinctions, an important predictor of opinion in the 1985-1995 period (using the GSS), had only limited impact in the early 1980s (in both data sets), especially in northern and Midwestern states. We do, however, use the Phi Delta Kappa data to replicate our results in the southern United States where less metropolitan fragmentation and larger school districts provide a different context for opinion formation.

Thus, most of our analyses below are based on simulations utilizing the following GSS question:

We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount.

Are we spending too much, too little, or about the right amount **on improving the** *nation's education system*?

The question does have a national scope, though it does not indicate whether the increase should come from federal, state, or local governments. However, in some years, the GSS employed a split-ballot design so that some respondents were asked the same question except that the stimulus was not "on improving the nation's education system" but the more simple "on education." The marginals for the two items are nearly identical (in the alternate wording, support for increased spending goes up by about 3%) and have nearly identical associations with the strongest predictors (e.g., age, race, education, and region). This similarity gives us confidence that the primary wording taps general sentiments toward funding public schools. Second, the close similarity allows us to combine these two items to generate a larger sample size.

In our initial estimation, we employ data from nine GSSs from 1985 to 1994 (each with roughly 1400 valid cases for most variables)¹³. We begin in 1985 because this is the first year that the GSS included a question on home ownership, a central factor because most local funding comes from property taxes. We use 1994 as an end point so that the midpoint of our time period

¹³ Home ownership appeared on only two of three questionnaire versions in three years, effectively reducing these samples to about 900 valid cases. See the appendix for details.

coincides with our other independent variables, which are generally measured for fiscal year 1990 (the 1989-90 school year). As Table 1 shows, we find 5% of respondents said we were spending "too much," 26% said spending was "about right" and 69% said that we are spending "too little." For our first-stage analysis these categories are coded -1, 0, and 1 (higher scores increase a willingness to spend more).

[Table 1 about here]

Previous research on public opinion towards educational spending (Chew 1992, Vinovskis 1997) and on bond referenda (Tedin et al. 2001) consistently identifies the same key predictors: age, education, race, home ownership, parenthood, and place of residence. In Table 2 we show how spending opinion varies across categories of all of these variables (the entries here are simply the proportion saying that current spending is too little). These show that support for educational spending is strongest in central cities and on the coasts, among blacks, among those with higher incomes and higher educational attainment, parents, renters, and those under 55.

[Table 2 here]

We then transformed each of the categorical variables into dummy variables and used them in an ordinary least squares regression model. Our purpose here is not to develop a parsimonious model of public opinion. Rather, we wish to capture as precisely as possible, the individual effects that correspond to the dimensions that will define our voter types in the aggregation stage of the simulation. Table 3 reports not only the regression estimates but also, in the right-hand columns, explained variance and group F-tests for each conceptual set of variables.

[Table 3 here]

There are several notable findings. Age explains the most variance in spending opinions, followed by education, race, region, home ownership, and size of place. Hispanic identification

and parenthood are far from significant while income has a substantively tiny and marginally significant effect. Intermediate models not reported here show that the observed effects of income (from Table 2) disappear after controlling for education. The effect of parenthood is significant in a bivariate regression (t=7.44) but falls short of significance as soon as age is entered (t=1.02). The non-effect of income is important because if income does not lead to a general sentiment, it does become relevant in terms of the capacity to support tax increases and will become important at the aggregate level.

One criticism of early simulated opinion efforts is that they did not allow for statistical interactions among variables (Kuklinski 1977). We therefore estimated a subset of the 36 possible second-order interactions to see whether any improved model fit significantly. Some recent research suggests that the effect of age is unique to white voters (Tedin et al. 2001). As result, we added white x age interactions in a second model. We also tested urban x region interactions on the assumption that urban places in Mid-Atlantic states could be very different from those in the South or West. Finally, we examined race x education interactions because the distribution of education is so different for whites and blacks and both the return on education and educational opportunity structure is fundamentally different for blacks. In each case, the interactions were added to the baseline model and we calculate whether the interactions are significant. The results are reported in Table 4.

[Table 4 About Here]

Two interactions – urban x region and race x age – were significant so these will be captured by appropriate dummy variables. In contrast, race x education was marginally significant (p = .043 with N>10,000) and had a substantively tiny impact so we do not use it subsequent analysis.

Stage 2. Aggregation of citizen types:

The simulated opinion approach requires that we construct voter types that are *mutually exclusive and exhaustive* for the polity being simulated. Unfortunately, the number and nature of possible voter types is limited by the choices made at the time of the Census's special tabulation. For example, it is not possible to precisely calculate the percentage of a district that is of a white, 35-44 year old, college educated, home-owning parent, living in a deep-south small town. Instead, the available data permits four different ways to divide the public into voter types.

Therefore, we estimate simulated opinion four different ways, each based on a different available typology. We regard these as four parallel measures of the same underlying concept and, therefore, use a weighted average of the four parallel measures. The details of our construction follow.

For each district, we can identify mutually exhaustive categories defined by region and size of place and by race and age. In addition, we can identify the percentages who own homes and are in each of several educational categories. Thus our aggregation procedure is:

$$SimOpinion_{i} = w_{k} \sum_{k}^{K} \phi_{k} \hat{Y}_{k} + w_{l} \sum_{l}^{L} \phi_{l} \hat{Y}_{l} + w_{m} \sum_{m}^{M} \phi_{m} \hat{Y}_{m} + w_{n} \sum_{n}^{N} \phi_{n} \hat{Y}_{n}$$

Where:

k denotes voter types defined by region, age, and race $(9 \times 7 \times 3 = 189 \text{ types})$

l denotes voter types defined by region and size of place (9 x 4=36 types)

m denotes voter types defined by region and education (9 x 5 = 45 types)

n denotes voter types defined by region and homeownership (9 x 2 = 18 types)

w_t denotes a weight assigned to the particular type of predictor

This method captures all significant individual-level predictors and captures all significant interactions within a cluster-type. In short, we calculate a weighted average that takes

advantage of information on all relevant dimensions. The main challenge is determining appropriate weights – that is, which factors have the most importance in generating aggregate opinion. We considered several possibilities: arbitrarily giving equal weights, using actual district spending as a criterion and estimating weights that will produce the closest fit with actual policy outcomes, using the individual level analysis as a guide for determining which groups of variables are most important (e.g., weighting by relative explanatory power of each cluster, using SSQ_{Explained} as the weighting factor), or by internal consistency. All of these produced essentially similar measures and the latter seemed most defensible so we simply used factor weights. The measure of opinion is scaled as a standard score (mean of zero, SD of one) with high scores indicating a preference for more spending.

Reliability and Validity:

The simulation method makes standard measures of reliability a little less useful. For example, when we calculate Cronbach's alpha based on the four parallel measures of opinion we get a value of .89. This is not too surprising since similar information is used to construct all four measures. Similarly, we can take our measure and aggregate to the state level in order to calculate O'Brien's generalizibility coefficient (see Jones and Norrander 1996) and we get an estimate of .99. Again, since regional characteristics figure in the construction of the measure, there is a degree of circularity involved.

One additional way to assess reliability is to construct a parallel measure using alternative opinion data. If the measures tap the same underlying construct and have identical variance, the correlation of the two measures will be the estimated reliability of each to the common latent variable (Borhrnstedt 1983). We therefore calculated the correlation between our primary measure (based on GSS data from 1985 to 1994) with a similar construct based on Phi Delta

Kappa polls from 1981 to 1986). The estimated reliability is .52 in the eleven southern states (N=2210), .77 in six New England states (N=558), but only .15 in the remaining 33 states (N=9541). As we noted before, data collected in the early 1980s miss the important city-suburban divide that is evident in the period of interest. We believe this explains why the measures are nearly unrelated on the northern states.

The validity of our measure can be addressed in a somewhat more satisfactory manner. One way is to examine the correlation of simulated opinion with actual spending outcomes. For example, we estimated the following OLS equation to see how well simulated opinion predicts 1995 per pupil spending, after controlling for unique effects of the type of community:

$Spending 95 = a + b_1 Opinion + b_2 Population + \sum b_k StateDummy + e$

The results show that b_1 =663 – a one SD increase in simulated opinion increases spending per pupil by \$663; the standardized slope is .36 which compares with predictive validity estimates reported by Brace et al. (2001) using aggregated opinion measures at the state level.

Of course, this is exactly the relationship we hope to study – and we expect it to be higher and lower under specific conditions. So any particular value of opinion could reflect the impact of institutions on policy responsiveness more than the validity of the measure.

We therefore sought to assess the *construct validity* of our measure using a criterion variable that was not employed in the simulation process. Economists have long viewed school spending in terms of one's "taste" for educational spending. While we believe that preferences for increased spending by the schools should be reflected in higher actual spending, economists also expect that these tastes will be reflected in higher housing values (Hoxby 1998, Fischel 2001). If our simulated measure is a valid indicator of spending preferences, it should also

predict high housing values – high relative to citizen resources. We therefore estimated the following model:

Home Values (\$1000s) =
$$a + b_1 Opinion + b_2 MedianIncome + \sum b_k StateDummy + e_k StateD$$

The results (Appendix table A2) show that our opinion measure has a strong, positive and significant relationship with housing values. Holding state and median income constant, a school district scoring one SD above average on our opinion measure would have home values about \$5900 (8%) higher than districts with only average opinion. This positive association is evident in all regions of the country.

Finally, we can assess validity from the perspective of aggregation. Here we assume that were we able to conduct surveys in each school district, we would have the latent measure that we are attempting to simulate. While we cannot do so, we can aggregate the GSS to the *state* level and also use our simulation method to generate simulated opinion for each state. In the absence of measurement error, we would expect a perfect correlation between the two. In fact, we get a correlation of .67. We assume that there is slippage for both measures. The simulated measure imposes a uniform opinion on everyone within a certain type even as we know that the opinions of 65 year old white citizens in Ft. Lauderdale might differ from 65 year old white citizens in Pensacola. We hope that such errors are random, small, and cancel each other out across the 10,000 districts in our study. Aggregation also has random error due to small sample sizes in each state. Indeed, if we exclude states with fewer than 100 GSS respondents, the correlation increases to .75. Thus, at the state level the two methods produce very similar results with at least some of the difference due to random error.

We should note that as units of analysis become more internally heterogeneous and exhibit less inter-unit variation in demographics, the simulation method is likely to perform poorly. Thus, the simulation method should not perform as well at the state level as at the district level. Thus, the very high correlation between methods at the state level may be taken as a lower bound of the validity of the method.

In short, we feel our measure provides a reasonable estimate of local preferences for school spending even as we acknowledge that there is more we can learn about the properties of our estimation approach.

Other Independent Variables

In addition to the main effect of simulated opinion, we have three institutional measures, two controls for spending capacity, and a series of interactions suggested by the hypotheses. The institutional measures include a dummy variable indicating whether the district is fiscally dependent (coded 1) or independent (coded 0).¹⁴ Second, we have an ordinal measure of citizen input into the budget process. School districts in states that require public approval of all tax increases were coded with a 2; if there is a requirement under certain circumstances – for example an increase over a certain amount, the district received a 1; school districts that can raise taxes without any public approval were coded with a 0. In addition, districts received an extra point if they were required to submit their entire budget (expenditures and taxes, even when there

¹⁴ For most states and school districts this information came from the Census of Governments. However, the issue of *fiscal* independence is somewhat different from the Census of Governments definition of independence. In some states school districts may be independent units of government (as defined by the Census of Governments) but fiscally dependent upon other units of government. Our primary source was the *Public School Finance Programs of the United States and Canada 1993-94. Volume One and Two [PSF]* (1995). We checked this against the United States Census of Governments in cases in which PSF was ambiguous or the information was missing. Finally, when we were still uncertain we consulted experts in the state, at either a state university or the state education department. In most cases we consulted the expert who had authored the appropriate chapter in <u>Public School Finance Programs of the United States and Canada, 1993-94.</u> If this was not possible we consulted the finance office of the state education department. We determined this from the <u>Public School Finance Programs of the United States and Canada 1993-94.</u> Volume One and Two (1995) as well as various state sources and correspondence with state budget or school officials. Therefore, our measure of independence captures fiscal independence.

is no proposed tax increase) for public approval (or a half point if public approval is necessary under some conditions).¹⁵ This resulted in a scale running from zero (people have no input) to three (citizen approval is needed for the entire budget and all tax increases).

[Table 5 about here]

In addition, we want to control for the district's ability to contribute to public schooling through taxes. Thus for each district, we measure the median household income and median housing value (both from the U.S. Census short form). Finally, our hypotheses require interactions of simulated opinion with citizen power, with dependency, and with district size. Note that our model does not include any demographic variables that contributed to the calculation of public opinion. We acknowledge that these variables may have effects on spending other than through preferences but only if these mechanisms are correlated with our institutional measures would their exclusion lead to mis-specification. Our basic model, then is:

Spending = $\beta_0 + \beta_1 Opinion + \beta_2 Income + \beta_3 Value + \beta_5 Population$ $\beta_6 Power + \beta_7 Dependent + \beta_8 Opinion \times Power + \beta_9 Opinion \times Dependent$

Descriptive statistics for all main effects in the analysis are reported in Table 6.

[Table 6 about here]

¹⁵ For example, Kansas requires public approval if a petition drive is successful. Kansas school districts received a .5 on the budget approval dimension. We consulted three school finance sources to construct this measure. Our primary source was the <u>Public School Finance Programs of the United States and Canada 1993-94. Volume One and Two</u> (1995). We checked this against the United States Census of Governments in cases in which PSF was ambiguous or the information was missing. Finally, when we were still uncertain we consulted experts in the state, at either a state university or the state education department. In most cases we consulted the expert who had authored the appropriate chapter in <u>Public School Finance Programs of the United States and Canada, 1993-94.</u> If this was not possible we consulted the finance office of the state education department

Modeling Strategy and Estimation issues.

The school districts are clustered within states, leading us to expect that residuals of districts in the same state will not be independent. Therefore, we estimate the model using Huber/White robust standard errors, accounting for data clustering¹⁶

We exclude New England state from our analysis. The rationale for this rests on the very different mechanisms that exist in New England for direct democracy. In many localities citizens vote directly on school budgets (in independent districts) and general purpose budgets including education (in dependent districts) through town meetings. These meetings have a very different origin than the referendum developed by Progressives, and the cultural tradition of citizen participation through these meetings is different in New England as well.

Results

To establish a baseline, we first regress per-pupil spending (1995) on district opinion and three resource measures that are standard ones in the school finance literature: median family income, median housing values, and district size (operationalized as the natural log of the district's population). We estimate this model separately for 33 non-southern states, 10 southern states, and Texas.¹⁷ Table 7 reports the regression estimates, robust standard errors, and the one-tailed *p*-value. The analysis of 7331 northern districts in 33 states appears in the upper panel.

[Table 7 about here]

¹⁶ Estimated by Stata 7.0 regression procedure using options "robust" and "cluster(state)". This is identical to using Stata SVYREG procedure with the "PSU(state)" option.

¹⁷ We had intended to include Texas among the southern states, using the same criteria as Davidson and Grofman (1994). However, Texas comprised 44% of all cases, thereby dominating and distorting the results. Efforts to include Texas via a dummy variable and interaction with opinion also produced misleading results because the impact of other variables also differed in Texas. It seemed most transparent to treat Texas as a separate class entirely.

Before focusing on policy responsiveness, we should note that neither of the two economic resource measures achieves statistical significance because median income and median housing value are highly correlated (r=.72 in the north, .77 in the south). When we test for their joint significance, we find that they achieve significance at the .0001 level.

Our indicator of policy responsiveness is the effect of preferences on spending levels, after controlling for economic capacity and district size. We see that outside of the south, the effect of estimated opinion on spending is essentially zero. In contrast, the correspondence between opinion and spending is positive, significant and large in the South and very strong in Texas. One way to interpret the slope of \$455 is to think of one district with average opinion and one whose preferences for higher spending are a standard deviation above average. After accounting for economic resources, the latter would spend \$455 more per pupil (or \$11,375 per classroom of 25 students).

Thus, our first hypothesis receives only qualified support and the weak correspondence in the north represents a puzzle. But the remaining hypotheses suggest more precise ways of specifying the opinion-policy connect and can help us better understand and explain the puzzle.

Three hypotheses concerned the effects of institutional arrangements championed by the Progressives and adopted by most school districts in the early part of the 20th century. Our first measure is a dummy variable indicating whether the district is among the 68 northern districts or 946 southern districts that are fiscally dependent (coded 1) on another unit of local government or whether they are independent (coded 0). The budget referendum, is measured by an ordinal measure of citizen input into the budget process. We hypothesized that the opinion-spending linkage would be stronger in dependent districts and where citizens exercise the greatest power via the referendum. We also hypothesized that expansive referendum powers should lead to

lower levels of spending. Thus we add two interaction terms to our model as well. We first estimated this model for the non-Southern states and the results are reported in the top half of Table 8.

[Table 8 about here]

There are several notable findings. First, the main effect of opinion is now large, significant and *negative* and this represents the estimated opinion slope in districts that are fiscally independent and where citizens have no referendum rights whatsoever (dependence and access scale = 0). Second, the opinion x fiscal dependence interaction is positive and of moderate magnitude, but falls far short of significance. Although the combined effects of the two institution-opinion interactions are significant ($F_{(2,31)} = 5.46$, p=.009), and the two interactions are highly correlated (.52 in the north and .47 in the south) we inspected a model with the access interaction omitted. This did not bring the dependence interaction to significance so we reject hypothesis 2.

To better illustrate the effect of district opinion and citizen access, we calculated the effect of opinion on spending for five different types of districts. Each row represents an increase of 1 point in our citizen access scale and among independent districts, and going from a score of zero (no referendum rights) to a score of two (citizens can veto all tax increases) changes a perverse negative relationship into a modest positive one. The illustration shows that in school districts where citizens enjoy the most expansive referendum powers, the opinion-policy linkage is especially strong. Thus, the referendum increases policy responsiveness and fiscal independence has no significant effect.

Finally, we note that the main effect of citizen referendum rights is positive and significant – each additional level in citizen access is associated with a \$548 increase in per-pupil

spending. This is completely at odds with hypothesis 6 which, based on public choice models of school boards as "legislatures" predicted that unchecked by taxpayers, school boards would be budget maximizers.

When we turn to the South, (Table 9) we see that fiscal independence has no impact on policy responsiveness and citizen power via the referendum has a small, but statistically significant, *negative* relationship (Texas has no internal variation with all districts being independent and with intermediate referendum powers). Thus, while the referendum increases policy responsiveness in the north, it works against the translation of citizen opinion into policy in the South.

[Table 9 about here]

Policy Responsiveness and Systems of Electoral Representation

Of course, the southern states have a different political legacy with numerous, welldocumented manipulations of political institutions to limit the political power of African Americans and aggressive efforts to eliminate these discriminatory institutions. Hypothesis 3 asserts that policy responsiveness will be greater in districts with ward-based electoral systems than in districts that employ at-large representation. To explore this we used the 1987 and 1992 Censuses of Governments to classify each district as having an at-large, ward-based, or appointed school board.¹⁸ In 1987, only 20% of southern school boards, 12% of northern school boards, and 4% of Texas school boards employed ward-based systems. However, in the wake of in *Thornburgh v. Gingles* (1986), the percentage of districts using ward based representation more than doubled in all three locales. The patterns of transitions are summarized in Table 10.

[Table 10 about here]

¹⁸ We classified all mixed system boards based on the method used to elect a majority of their members.

The rapid change in governance offers an opportunity to not only compare ward and at large systems but also allows us to focus on districts that changed in the immediate wake of *Gingles*. To tease this out we restricted our analysis to fiscally independent districts (it is possible to match electoral system information for the government to which each school board depends but such an analysis is complex and beyond the scope of the present paper). We then re-estimated our initial models (those with opinion and three resource controls) separately for five types of electoral system.

For clarity and because of space constraints, Table 11 reports only the effect of opinion on policy. Models were estimated for any cell (combination of region by electoral type) with a sample of 30 or more.

[Table 11 about here]

We begin with the South. The first panel reports policy responsiveness (the slope of opinion on spending) for all fiscally independent school boards by type of electoral system. The degree of responsiveness is highest in appointed systems but the degree of responsiveness is high and statistically significant in all four arrangements. However, we must recall that the type of electoral system in place depends heavily on whether the locale felt pressure (whether informal or from a court order) to change its system in the 1980s. Indeed, the black population of districts that were at-large in both 1987 and 1992 was 14%, those that were ward in both years was 30%, and those that shifted from at-large to ward between 1987 and 1992 were 24% black.

We therefore re-estimated these slopes for all southern districts with at least some minority presence (5% or more black). When we do so (second panel) we find that the effectiveness of at large systems to represent the public declines (from a slope of 434 to one of 348) and the responsiveness of shifting districts increases slightly from 497 to 521. Thus we see

some evidence that in primarily white southern communities, at large systems do a good job of representing public opinion. However as the African American share of the population increases, policy responsiveness in at-large systems declines while those districts that shifted in the wake of *Gingles* goes up. Indeed, for those districts with minority populations exceeding 35%, the responsiveness of at-large systems declines to 182 and of those that shifted from at-large to ward increases to an impressive 736 (not shown).

When we shift to the north, we see a very different pattern among all districts. We see a positive slope indicating policy responsiveness only among the 36 districts with appointed board members. All others show slopes that are near zero or slightly negative. Yet here too race plays an important role. The second panel restricts analysis to districts with an African American percentage of 5 or more. Here we see a pattern that parallels what we saw in the south. Even with a relatively small minority population, policy responsiveness is negative in districts with at large voting systems but positive in ward based systems, especially those that shifted in the five year time span. Though none of the individual coefficients are different from zero, the slopes for each system are significantly different from one another.

Thus, both in the north and the south, we see that the shift from at large to ward based systems of representation substantially improved policy responsiveness in precisely those districts where it was intended to do so.

Conclusion

Local school politics are largely non-partisan (Wirt and Kirst 1997). Thus, the organizing power of political parties, and the important linkages they create among citizens, elites and policy, is absent. This makes other institutions even more critical elements in enhancing or diminishing policy responsiveness. Given the enormous difficulties in measuring public opinion at the district level this opportunity to study the role of institutions has been missed. We demonstrate here the utility of using simulated public opinion to highlight the mediating role of local institutions.

Contrary to our expectations, the use of independent school districts does not appear to restrict policy responsiveness. Although not widely used in the north these tend to be large, urban districts serving large numbers of children, many of which were removed from our analysis. Dependent districts are more common, however, in the south, but there independent school districts are less likely to differ as dramatically in size. In any case, the use of independent school districts at this point does not make any difference in isolating boards from broad community preferences, at least on this fundamental taxing and spending decision.

The same is not true of at-large and ward elections. We skip the intermediate step of looking at descriptive representation and take as a given that ward based elections are more likely to result in policymaking bodies representative of the community. Ward based elections do allow for policy outcomes closer to public opinion. And as civil rights advocates have long contended, these sorts of arrangements are now most critical in allowing African-American opinion to prevail. In all-white school districts at-large elections do just fine in translating opinion to policy. But once the African American population hits even five percent of the population we begin to see that at-large elections begin to reduce the impact of public opinion compared with ward election or appointed members. This reflects both the continued importance of voting along racial lines and African-Americans' particular preference for higher spending on education.

Outside of the south, we find that the referendum does what it is supposed to do as well: serve as a check on the board that keeps decisions in line with public opinion. Our ability to

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measure public opinion also allows us to more directly probe public choice expectations about the preferences of the public and the role of institutions. We find that the public uses the referendum to spend more, not less than school boards do where the referendum is not available. This raises several questions about the public choice applications of the median voter model. School boards may differ from legislatures and therefore are not interested in budget maximizing; rather they make choices that they see as best for the community. School boards, as we suggested earlier, may be listening to different interests who can better prevail when the referendum is not available. Or, the public may just be interested in spending more than the median voter in these cases, something we have not fully considered because we tend to equate the median voter with the median in the community.

In short, our analyses show that the Progressives and the Civil Rights Movement were effective not only in getting states and communities to adopt their reforms but in that the reforms generally operate as their proponents had predicted. Perhaps more important, we show clearly that race matters for the way that institutions matter. At-large representation becomes less and less effective in promoting community preferences as communities become more diverse. Any theory that hopes to explain how institutions "really" operate must come to grips with this and we hope this spurs more realistic models of policy responsiveness.

Appendix: GSS Estimation Details

Independent Variables (categories omitted in models designated with an asterisk)

Age: Age in years is a continuous GSS variable. It is converted into seven categories (and then treated as six dummy variables):

18 thru 24 25 thru 34* 35 thru 44 45 thru 54 55 thru 64 65 thru 74 75 and above

Educational attainment: We use the GSS constructed variable DEGREE, which indicates the highest degree attained. The variable has five categories (treated as four dummy variables):

No high school diploma* High school diploma Associate's degree Bachelor's degree Graduate degree

Income: GSS variable REALINC is a constructed variable based on categories of total family income for the previous calendar year. The category midpoints (or estimated means for the highest, openended category) are then converted to constant (1986) dollars. See GSS Methodological Report # 64. For descriptive purposes (e.g., Table 1) this is collapsed into quintiles. In regression analyses, it is treated as a continuous variable. *Note:* This variable is missing for 8.8% of the cases. Mean substitution was employed to reduce sample loss. Analyses with and without these missing cases are essentially identical.

In analyses not reported here, we also added a dummy variable indicating whether the respondent's household was below or above the poverty line (based on the GSS variable POVLINE). Under many specifications this variable was never a significant predictor of spending opinions.

Race: The GSS includes a measure of race that distinguishes among whites, blacks, and others. Unfortunately, the GSS does not have a measure of Hispanic status that is comparable to that used by the US Census. There is a general ETHNIC measure which is constructed from four questions on respondent's ethnic background but we elected not to use these as we did not feel we could match it well to Census categories.

Ethnicity: The GSS asks each respondent to list as many as three different ethnic origins and then asks (for those mentioning more than one) which one is their primary source of identity. Following recommendations of GSS Technical Report #xx (Smith 19xx) we used the primary source and collapsed all mentions of Spanish speaking nations or Puerto Rico into a code of 1, with all others coded 0.

Region: The GSS region of interview is based on the following Census classification:

1. New England*	ME, VT, NH, MA, CT, RI
2. Mid Atlantic	NY, NJ, PA
3. East North Central	WI, IL, IN, MI, OH

- 4. West North Central MN, IA, MO, ND, SD, NB, KS
- 5. South Atlantic DE, MD, WV, VA, NC, SC, GA, FL, DC

6. East South Central	KY, TN, AL, MS
7. West South Central	AR, OK, LA, TX
8. Mountain	MT, ID, WY, NV, UT, CO, AZ, NM
9. Pacific	WA, OR, CA, AK, HI

Size of Place: We collapse categories of the GSS variable XNORCSIZ to create the following four-category measure, which matches precisely to available Census classifications.

Central city of a Standard Metropolitan Area* (XNORCSIZ codes of 1 & 2)

Suburb of a Standard Metropolitan Area (incorporated and unincorporated areas of counties that are part of SMA; XNORCSIZ codes of 3 through 6)

Other urban: Cities with populations above 10,000 that are not in a SMA (XNORCSIZ=7)

Towns and rural: cities with populations under 10,000 (XNORCSIZ codes of 8 through 10)

Parenthood: Our intent is to identify adults whose children under 18 are living in their household. That is, adults currently in a custodial role for their own children of school age. We created a dummy variable based initially on the GSS variable HHTYPE1. The categories of this variable are listed below. For co-habitating respondents, and those in "non-family" households with children, the respondent must report on another variable (CHILDS) that he or she has had at least on child. The effect of these choices introduce some error for a small number of individuals. Respondents in same-sex couples (usually classified in "non-family") and cohabitators who may have adopted, will incorrectly be coded as non-parents. Some roommates of parents, who report having other children, will incorrectly be coded as parents. Similarly, some grandparents in three-generation households may be coded as parents. These errors probably occur in fewer than 1% of all respondents with an absolute maximum (if every such assumed status is wrong) of about 4%.

Coded 1.

Coded 0:

Ј.	
Married couple, no children	Single parent
Other family, no children	Married couple with children
Single adult	Other family with children (if childs>0)
Cohabiting couple, no children	Cohabiting couple with children (if childs>0)
Non-family, no children	Non-family with children (if childs>0)
Unsure, no children	Unsure with children (if childs>0)

Home ownership: We use the GSS variable DWELOWN, a self report to the following question: Do you (does your family) own your (home/apartment), pay rent, or what? A dummy variable is coded 1 for owners and zero for all others. *Note:* This item is on ballots A and B only in three of the six years (1988-1990).

References

- Banfield, Edward C. and James Q. Wilson. 1965. <u>City Politics.</u> Cambridge, MA: Harvard University Press.
- Berry, William D., Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson. 1998. "Measuring Citizen and Government Ideology in the American States, 1960-93." <u>American Journal of Political Science.</u> 42.1:337-348.
- Bohrnstedt, George. W. 1983. "Measurement." Pp. 69-89 in Rossi, Wright and Anderson (eds.) <u>Handbook of Social Measurement</u>. New York: Academic Press.
- Bowen, Howard. 1943. "The Interpretation of Voting in the Allocation of Economic Resources." <u>Quarterly Journal of Economics</u>. 58:27-48.
- Brace, Paul, Kellie Sims-Butler, K Arceneaux, and M Johnson. 2002. "Public Opinion In The American States: New Perspectives Using National Survey Data." <u>American Journal Of Political Science</u> 46 (January): 173-189.
- Burtless, Gary ed. 1996. Does Money Matter? The Effects of School Resources on Student Achievement and Adult Success. Washington D.C.: Brookings.
- Cain, Bruce E. and Kenneth P. Miller. 2001. "The Populist Legacy: Initiatives and the Undermining of Representative Government," in Sabato, Larry J., Bruce A. Larson, and Howard R. Ernst eds. <u>Dangerous Democracy? The Battle over Ballot Initiatives in</u> <u>America</u>. Lanham: Rowman and Littlefield Publishers, Inc.
- Chew, Kenneth S. Y. 1992. "The Demographic Erosion of Public Support for Public Education: A Suburban Case Study." <u>Sociology of Education</u>. 65(October): 280-292.
- Chubb, John E. and Terry M. Moe. 1988. "Politics, Markets, and the Organization of Schools." <u>American Political Science Review.</u> 822.4:1065-1088.
- Cohen, Sol. 1964. <u>Progressives and Urban School Reform.</u> New York: Teachers College, Columbia University.
- Cremin, Lawrence A. 1969. <u>The Transformation of the School: Progressivism in American</u> <u>Education, 1876-1957.</u> New York: Alfred A. Knopf.
- Cronin, Thomas E. 1989. <u>Direct Democracy: The Politics of Initiative, Referendum, and Recall.</u> Cambridge, MA: Harvard University Press.
- Davidson, Chandler and Bernhard Grofman. 1994. "The Voting Rights Act and the Second Reconstruction," in Davidson, Chandler and Bernard Grofman eds. <u>Quiet Revolution in</u> <u>the South: The Impact of the Voting Rights Act, 1965-1990.</u> Pp. 378-388.

- Engstrom, Richard L. and Michael D. McDonald. 1981. "The Election of Blacks to City Councils: Clarifying the Impact of Electoral Arrangements on the Seats/Population Relationship." <u>The American Political Science Review</u>. 75.2:344-354.
- Engstrom, Richard L. and Michael D. McDonald. 1982. "The Underrepresentation of Blacks on City Councils: Comparing the Strucural and Socioeconomic Explanations for South/ Non-South Differences." <u>The Journal of Politics.</u> 44.4: 1088-1099.
- Erikson, Robert S., Gerald C.Wright and John P. McIver. 1993. <u>Statehouse Democracy: Public</u> <u>Opinion and Policy in the American States</u>. Cambridge University Press.
- Erikson, Robert S. 1978. "Constituency Opinion and Congressional Behavior: A Reexamination of the Miller-Stokes Representation Data." <u>American Journal of Political</u> <u>Science.</u> 22. 3:511-535.'
- Eule, J. 1990. "Judicial-Review of Direct Democracy." Yale Law Journal. 99.7:1503-1590.
- Farnham, Paul G. 1990. "The Impact of Citizen Influence On Local Government." <u>Public Choice</u> 64:201-212.
- Fischel, William A. 2001. <u>The Homeowner Hypothesis.</u> Cambridge, MA: Harvard University Press.
- Gerber, Elisabeth R. 1996. "Legislative Response to the Threat of Popular Initiatives." <u>American Journal of Political Science</u> 40:99-128.
- Grofman, Bernard , William Koetzle, Michael P. McDonald, and Thomas L. Brunell. 2000. "A New Look At Split-Ticket Outcome For House And President: The Comparative Midpoints Model." Journal of Politics 62 (February): 34-50.
- Helig, Peggy and Robert J. Mundt. 1984. <u>Your Voice at City Hall: The Politics, Procedures and</u> <u>Policies of District Representation</u>. Albany, NY: State University of New York Press.
- Hill, Kim Quaile, and Janet E. Leighley. 1992. "The Policy Consequences of Class Bias in State Electorates." <u>American Journal of Political Science</u> 36 (May): 351-365.
- Holbrook-Provow, Thomas M. and Steven C. Poe. 1987. "Measuring State Political-Ideology." <u>American Politics Quarterly</u> 15 (July): 399-416.
- Hoxby, Caroline M. 1998. "How Much Does School Spending Depend on Family Income? The Historical Origins of the Current School Finance Dilemma." <u>AEA Papers and</u> <u>Proceedings</u> 88 (2):309-314.
- Iannaccone, Laurence and Frank W. Lutz. 1995. "The Crucible of Democracy: The Local Arena," in Jay D. Scribner and Donald H. Layton eds. <u>The Study of Educational Politics:</u> <u>The 1994 Commemorative Yearbook of the Politics of Education Association.</u> Washington, D.C.: The Falmer Press. 39-52.

- Jones and Norrander. 1996. "The Reliability of Aggregated Public Opinion Measures."<u>American</u> Journal of Political Science 40 (February): 295-309.
- Kuklinski, James H. 1977. "Constituency Opinion: A Test of the Surrogate Model." <u>Public</u> <u>Opinion Quarterly</u> 41 (Spring): 34-40.
- Lascher, Edward L., Michael G. Hagen and Steven A. Rochlin. 1996. "Gun Behind the Door? Ballot Initiatives, State Policies, and Public Opinion." Journal of Politics. 58.3: 760-776.
- Lineberry, Robert and Edmund Fowler. 1967. "Reformism and Public Policies in American Cities." <u>American Political Science Review.</u> 61 (September): 701-716.
- Lutz, Frank W. 1980. "Local School Board Decision-Making: A Political- Anthropological Analysis." <u>Education and Urban Society</u>. 12.4:452-465.
- MacManus, Susan A. 1978. "City Council Election Procedures and Minority Representation: Are They Related?" <u>Social Science Quarterly</u>. 59:153-161.
- McDonagh, Eileen L. 1992. "Representative Democracy and State Building in the Progressive Era." <u>American Political Science Review</u> 86 (December): 938-950.
- Matsusaka, John G. 1995. "Fiscal Effects of Voter Imitative: Evidence from the Last 30 Years". Journal of Political Economy 103 (3):587-623.
- McDermott, Kathryn A. 1999. <u>Controlling Public Education: Localism Versus Equity</u>. Lawrence: University Press of Kansas.
- McDonald, Laughlin. 1992 "The 1982 Ammendments of Section 2 and Minority Representation," in Grofman, Bernard and Charndler Davidson, eds. <u>Controversies in</u> <u>Minority Voting: The Voting Rights Act in Perspective.</u> Washington D.C.: The Brookings Institution. Pp. 66-84.
- Maestas, Cherie. 2000. "Professional Legislatures and Ambitious Politicians: Policy Responsiveness of State Institutions." <u>Legislative Studies Quarterly.</u> 25.4:663-690.
- Megdal, Sharon Bernstein. 1983. "The Determination of Local Public Expenditures and the Principal Agent Relation: A Case Study." <u>Public Choice</u>. 71-87.
- Meier, Kenneth J. and Robert E. England. 1983. "Black Representation and Educational Policy: Are They Related?" <u>The American Political Science Review.</u> 78: 392-403.
- Meier, Kenneth J., Joseph Stewart Jr. and Robert E. England. 1989. <u>Race, Class, and Education:</u> <u>The Politics of Second-Generation Discrimination</u>. Madison, WI: University of Wisconsin Press.
- Miller, Warren E. and Donald Stokes. 1963. "Constituency Influence in Congress." <u>American</u> <u>Political Science Review</u> xx (): 45-56.\

- Mintrom, Michael. 2001. "Educational Governance and Democratic Practice." <u>Educational</u> <u>Policy</u>. 15.5: 615-643.
- Moffitt, Robert, David Ribar and Mark Wilhelm. 1998. "The Decline of Welfare Benefits in the U.S.: The Role of Wage Inequality." Journal of Public Economics 68:421-452.
- Page, Benjamin I and Robert Y. Shapiro. 1992. <u>The Rational Public: Fifty years of Trends in</u> <u>Americans' Policy Preferences</u>. Chicago: University of Chicago Press.
- Page, Benjamin I. 1994. "Democratic Responsiveness? Untangling the Links Between Public Opinion and Policy." <u>PS</u>. 27.1:25-29.
- Pommerehne, W.W. 1978. "Institutional Approaches to Public Expenditure: Empirical Evidence from Swiss Municipalities." Journal of Public Economics. 9:255-280.
- Pool, Ithiel de Sola; Robert P. Abelson, and Samuel L. Popkin. 1965. <u>Candidates, Issues And</u> <u>Strategies : A Computer Simulation Of The 1960 And 1964 Presidential Elections</u>. Cambridge : MIT Press.
- Romer, T., H. Rosenthal and V Munley. 1992. "Economic Incentives and Political Institutions: Spending and Voting in School Budget Referenda." <u>Journal of Public Economics</u>. 49.1:1-33.
- Seidman, David E. 1975. "Simulation of Public Opinion: A Caveat." <u>Public Opinion Quarterly</u> 38 (Autumn): 331-342.
- Steunenberg, Bernard. 1992. "Referendum, Initiative, and Veto Power: Budgetary Decision Making in Local Government." <u>Kyklos</u> 45:501-529.
- Stevens, Joe B. and Robert Mason. 1996. "Political Markets, Property Tax Referenda, and Local School Funding." <u>Public Choice</u>. 86:257-277.
- Taylor, Steven. 2001. "Appointing or Electing the Boston School Committee: The Preferences of the African American Community." <u>Urban Education</u>. 36.1:4-26.
- Tedin, Kent L., Richard E. Matland, and Gregory R. Weiher. 2001. "Age, Race, Self-Interest and Financing Public Schools Through Referenda." Journal of Politics 63 (Feb.): 270-294.
- Turnbull, Geoffrey K. and Peter M. Mitias. 1999. "The Median Voter Model Across Levels of Government." <u>Public Choice</u>. 99:119-138
- Tyack, David B. 1974. <u>The One Best System: A History of American Urban Education</u>. Cambridge, MA: Harvard University Press.
- Tyack, David B. and Larry Cuban. 1995. <u>Tinkering Toward Utopia: A Century of Public</u> <u>School Reform.</u> Cambridge, MA: Harvard University Press.

- Vinovskis, Maris A. 1993. "A Historical Perspective on Support for Schooling by Different Age Cohorts." P 45-65 in Vern L. Benston and W. Andrew Achenbaum, ed. <u>The Changing</u> <u>Contract Across Generations</u>. New York: Aldine De Gruyter.
- Weber, Ronald E., Anne H. Hopkins, Michael L. Mezey, and Frank J. Munger. 1972. "Computer Simulation of State Electorates." <u>Public Opinion Quarterly</u> 36 (Winter): 549-65.
- Weber, Ronald E. and William R. Shaffer. 1972. "Public Opinion and American State Policy-Making." <u>Midwest Journal of Political Science</u> 16 (November): 683-99.
- Welch, Susan and Timothy Bledsoe. 1988. <u>Urban Reform and its Consequences: A Study in</u> <u>Representation</u>. Chicago: University of Chicago Press.
- Welch, Susan. 1990. "The impact of at-large elections on the representation of blacks and Hispanics." <u>The Journal of Politics</u>. 52 (November):1050-1076.
- Welch, Susan and Albert Karnig. 1978. "Representation of Blacks on Big City School Boards." Social Science Quarterly. 59 (June): 162-172.
- Werner, BL. 1998. "Urbanization, Proximity, and The Intra-State Context Of Women's Representation." Women & Politics 19 (2):81-93.
- Wirt, Frederick M. and Michael W. Kirst. 1997. <u>The Political Dynamics of American</u> <u>Education</u>. Berkeley: McCutchan.
- Wong, Kenneth. 1995. "The Politics of Education: From Political Science to Multidisciplinary Inquiry," in in Jay D. Scribner and Donald H. Layton eds. <u>The Study of Educational</u> <u>Politics: The 1994 Commerative Yearbook of the Politics of Education Association.</u> Washington, D.C.: The Falmer Press. 21-38.
- Zax, Jeffrey S. 1989. "Initiatives and Government Expenditures." Public Choice. 63:267-277.

Table 1. Public Opinion on Spending for Public Education (GSS 1985 - 1994):

Current spending is:

	f	Pct	Valid Pct
-1 Too Much	720	4.7	4.8
0 About Right	3,830	25.0	25.8
1 Too Little	10,290	67.1	69.3
Valid cases	14,840	96.8	100.0
Don't know	329	2.1	
No Answer	159	1.0	
Mean SD	.64 .57		

Table 2. Percentage wishing to spend more on education (GSS 1985 - 1994):

Region of interview			Age categorized		
-	Mean	Ν		Mean	Ν
New England	.72	775	Age 20-24	.73	1,238
Middle Atlantic	.68	2,088	Age 25-34	.76	3,491
East North Central	.69	2,630	Age 35-44	.77	3,265
West North Central	.65	1,267	Age 45-54	.70	2,156
South Atlantic	.72	2,774	Age 55-64	.62	1,699
East South Central	.67	1,107	Age 65-74	.56	1,639
West South Central	.68	1,325	Age 75 and up	.54	1,077
Mountain	.70	916			
Pacific	.73	1,957			
			Race		
Size of Place				Mean	Ν
	Mean	Ν	White	.68	12,206
Large Central City	.75	2,406	Black	.77	2,086
Medium Central City	.71	1,742	Others	.68	547
Suburb of Big City	.71	3,309			
Suburb of Med City	.69	1,697	Ethnicity		
Other Urban	.67	2,877		Mean	Ν
Rural	.65	2,808	Non-Hispanic	.70	14,164
			Hispanic	.69	675
R's highest degree			Income fifth		
	Mean	Ν		Mean	Ν
Less than high school	.60	3,189	1 Poorest 20%	.64	2,656
High School diploma	.71	7,837	2 Second 20%	.69	2,679
Junior college degree	.77	753	3 Middle 20%	.71	2,640
Bachelor's degree	.74	2,103	4 Fourth 20%	.72	2,768
Graduate degree	.78	918	5 Richest 20%	.74	2,731
Parent			Home Ownershin		
	Mean	Ν		Mean	N
Not a parent of children in the home	67	9 204	Do not own home	74	4 112
Parent of children in the home	74	5 575	Own home	67	7 008
		0,010		.07	.,000

Table 3. Prediction ed	quations for support	of educational sper	nding (GSS	5 1985-1994, N=10,975

					Variance	explain	ed and F-t	ests
_	В	SE	t	Sig.	SS _{Explained}	df	F	sig
Constant	.739	.033	22.49	.00				
Reaion								
Middle Atlantic	062	.027	-2.27	.02	8.39	8	3.37	.00
East North Central	089	.026	-3.38	.00				
West North Central	064	.029	-2.16	.03				
South Atlantic	020	.026	76	.44				
East South Central	028	.031	90	.37				
West South Central	084	.029	-2.88	.00				
Mountain	063	.031	-2.01	.04				
Pacific	034	.028	-1.25	.21				
Urbanicity								
Medium Central City	055	.021	-2.61	.01	5.63	5	3.62	.00
Suburb of Big City	042	.018	-2.36	.02				
Suburb of Med City	056	.022	-2.60	.01				
Other Urban	074	.019	-3.89	.00				
Rural	069	.019	-3.55	.00				
Age								
Age 18-24	.000	.022	01	.99	53.84	6	28.82	.00
Age 35-44	.004	.016	.23	.82				
Age 45-54	065	.018	-3.55	.00				
Age 55-64	130	.021	-6.28	.00				
Age 65-74	224	.022	-10.32	.00				
Age 75 and up	226	.025	-9.04	.00				
Race								
Black	.114	.018	6.34	.00	12.82	2	20.60	.00
Others	015	.031	50	.62				
Ethnicitv								
HISPANIC	022	.028	78	.44	.19	1	.61	.44
Education								
High School diploma	.081	.015	5.49	.00	16.75	4	13.45	.00
Junior college degree	.144	.028	5.19	.00				
Bachelor's degree	.103	.020	5.11	.00				
Graduate degree	.153	.026	5.90	.00				
Income								
Family income (\$1000:	.001	.000	2.21	.03	1.52	1	4.88	.03
Home ownership								
Own home	059	.013	-4.62	.00	6.64	1	21.33	.00
Parenthood								
Parent	.007	.013	.51	.61	.08	1	.26	.61
D ²		06						
13		.00						

Note: Omitted categories are Age25-34, New England, no HS diploma, large central city, white, non-Hispanic

Note: Weight corrects for 1987 and 1992 oversamples

Table 4. Tests of Statistical Interactions (GSS 1985-1994, N=10,975)

	Variance explained and F-tests				
	SS _{Explained}	df	F	sig	
Region X Urban	25.631	40	2.066	.00 **	
Region X Home Ownership	4.294	8	1.725	.09 ns	
Age X Home Ownership	2.34	6	1.253	.28 ns	
Age X White	15.458	6	8.437	.00 **	
Age X Race(3)	72.44	18	12.982	.00 **	
Education X White	1.794	4	1.44	.22 ns	
Education X Race(3)	4.95	8	1.997	.04 *	

Table 5. Distribution of institutional features (N=9513)

			Independent Districts	Dependent Districts
0.0	Citizens have no formal access to budgeting		2180	282
1.0	Referendum required for tax increases over a fixed level		4081	0
1.5	Referendum required for tax increases over a fixed level and public approval needed for overall budget under certain conditions		298	0
2.0	Referendum required for all tax increases		1779	119
3.0	Referendum required for all tax increases and approval of entire budget		774	0
	Total		9112	401
	Bivariate correlation:	.10		

Table 6. Descriptive statistics for variables in the analysis (New England excluded)

	Ν	Mean	SD	Minimum	Maximum
_					
Per Pupil Spending in 1995	9689	\$6,235	\$1,764	\$3,883	\$13,677
Simulated Opinion	9541	-0.20	0.88	-2.47	2.52
Median Income (\$1000s)	9548	26.46	9.49	4.02	121.28
Median Housing Value (\$1000s)	9548	58.61	44.30	0	482.53
Dependent District	9689	0.04	0.20	0	1
District Population	9549	21,966	108,625	27	7,322,564
Citizen Access Scale	9687	1.12	0.88	0	3

Table 7. Effect of opinion and socioeconomic controls on 1995 per-pupil spending, by region

33 Non-Southern, Non-New England States

	RSq N	0.16 7331	
	В	Robust SE	2-tailed t p
Estimated Opinion Median Income Median Housing Value Population (logged) _cons	13.29 35.07 11.38 -271.61 7186.78	151.80 24.03 8.94 83.54 769.90	.09 .93 1.46 .15 1.27 .21 -3.25 .00 9.33 .00
10 Southern States	RSq N	0.3518 1244	
	В	Robust SE	2-tailed t p
Estimated Opinion Median Income Median Housing Value Population (logged) _cons	454.78 -35.23 24.42 -182.33 6246.67	39.34 12.37 3.66 53.01 471.34	11.56.00-2.85.026.67.00-3.44.0113.25.00
Texas	RSq	0.26	
	N B	966 SE	2-tailed
Estimated Opinion Median Income Median Housing Value Population (logged) _cons	973.10 -17.87 4.49 -561.34 11292.57	130.92 7.95 2.54 31.04 310.30	7.43 .00 -2.25 .03 1.77 .08 -18.08 .00 36.39 .00

Table 8. Northern States: Specifying the Effect of Opinion

33 Non-Southern, Non-New England States

RSq	.29
Ν	7330

		2-tailed		
	В	SE	t	р
Estimated Opinion	-684.66	186.85	-3.66	.00
Median Income	21.15	12.23	1.73	.09
Median Housing Value	11.93	4.53	2.64	.01
Population (logged)	-230.21	86.93	-2.65	.01
District is Dependent	3509.26	1429.26	2.46	.02
Citizen Access Scale	547.75	285.77	1.92	.07
Opinion x Dependence	236.18	558.02	.42	.68
Opinion x Access Scale	575.97	175.95	3.27	.00
Intercept	6506.03	708.45	9.18	.00

Illustration of how institutions mediate the correspondence of opinion and policy

	Independent		<u>Dependent</u>	
	Effect of Opinion ^a	Ν	Effect of Opinion ^a	N
Citizens have no formal access to budgeting	-685	(1976)	-448	(68)
Referendum required for tax increases over a fixed level	-109	(2881)		(0)
Referendum required for all tax increases	467	(1462)		(0)
Referendum required for all tax increases and approval of entire budget	1043	(786)		(0)

а

Entries are estimated slopes calculated from main effect of opinion plus the appropriate interaction effects.

Table 9. Southern States: Specifying the Effect of Opinion

10 Southern States (Texas is excluded, Texas has no variation on dependence and access scale)

RSq	0.36
Ν	1244

		2-tailed		
	В	SE	t	р
Estimated Opinion	552.554	98.384	5.62	.00
Median Income	-35.369	12.633	-2.80	.02
Median Housing Value	23.180	4.045	5.73	.00
Population (logged)	-163.123	48.394	-3.37	.01
District is Dependent	100.632	84.759	1.19	.27
Citizen Access Scale	15.268	31.347	0.49	.64
Opinion x Dependence	-17.234	74.563	-0.23	.82
Opinion x Access Scale	-113.296	53.157	-2.13	.06
Intercept	6063.423	435.941	13.91	.00

Illustration of how institutions mediate the correspondence of opinion and policy

	Independent		<u>Dependent</u>	
	Effect of Opinion ^a	N	Effect of Opinion ^a	N
Citizens have no formal access to budgeting	553	(273)	535	(218)
Referendum required for tax increases over a fixed level	439	(275)		(0)
Referendum required for all tax increases	326	(363)	309	(119)
Referendum required for all tax increases and approval of entire budget		(0)		(0)

а

Entries are estimated slopes calculated from main effect of opinion plus the appropriate interaction effects.

Table 10. Distribution of States by Dependence and Electoral System

	South	n excluding Texas	<u> </u>	<u>Texas</u>	<u>N(</u>	orthern States	
	Independent	Dependent	Total	Independent	Independent	Dependent	Total
At Large	291	80	371	711	4034	31	4065
Ward	195	60	255	40	882	3	885
Appointed	121	149	270	4	36	23	59
At Large to Ward	233	28	261	163	1788	5	1793
Ward to At Large	26	10	36	29	300	2	302
Total	911	337	1248	967	7406	68	7474
Percentage of 1987 At-Large That Changed to Ward by 1992	44%	26%		19%	31%	14%	31%
Percentage of all districts that were Ward in 1987	21%	18%		4%	12%	4%	12%
Percentage of all districts that were Ward in 1992	47%	26%		21%	36%	12%	36%

Table 11. Policy responsiveness by region and electoral system (for independent boards and groups with N>30)

			Robust	t	wo tailed
All cases	N	b	SE	t	р
1. At Large both years	290	434.5	194.3	2.24	.07
2. Ward both years	195	332.3	73.2	4.54	.01
3. Appointed both years	120	490.7	74.5	6.59	.01
6. At large to ward	232	497.7	100.9	4.93	.00
Black Pct > 5					
1. At Large both years	157	348.6	160.5	2.17	.07
2. Ward both years	178	318.8	92.9	3.43	.02
3. Appointed both years	114	492.3	73.8	6.67	.01
6. At large to ward	173	521.5	100.1	5.21	.00

33 Non-Southern States

			Robust		two tailed
All cases	N	b	SE	t	р
1. At Large both years	4001	-102.9	195.5	53	.60
2. Ward both years	873	-200.1	127.6	-1.57	.13
Appointed both years	36	1510.0	347.6	4.34	.02
6. At large to ward	1784	95.3	194.7	.49	.63
7. Ward to at large	299	-17.2	196.6	09	.93
Black Pct > 5					
1. At Large both years	467	-589.6	544.2	-1.08	.29
2. Ward both years	53	240.2	389.3	.62	.55
6. At large to ward	189	180.0	296.3	.61	.55

			<u>Texas</u>		
			Robust	t	wo tailed
All cases	N	b	SE	t	р
1. At Large both years	711	341.8	156.1	2.19	.03
2. Ward both years	40	736.7	461.0	1.60	.12
6. At large to ward	163	-160.7	356.8	45	.65
Black Pct > 5					
1. At Large both years	270	553.7	198.1	2.80	.01
6. At large to ward	53	113.4	441.6	.26	.80

10 Southern States

Table A1. Correlation between Parallel Measures ^a

	r	N
All cases	.24	10,099
New England only	.77	558
North Only	.10	7,331
South Only	.52	2,210

^a Pearson correlation between simulated opinion based on 1985-1994 General Social Survey and 1981-1986 Gallup/Phi Delta Kappa polls.

Table A2. Predicting Housing Values, (Net of Income and State Dummy Variables)

		Effect of	Robust		two tailed
	N	Sim Opinion ^b	SE	t	р
All cases	10,099	5.91	.65	9.12	.00
Excluding New England	9,541	5.14	.64	8.09	.00
North Only	7,331	6.17	.78	7.95	.00
South Only	2,210	5.06	.81	6.25	.00

^a Dependent variable is median housing values in thousands of dollars

^b Effect is the partial regression slope of simulated opinion, controlling for state (dummy variables) and median income.