The impact of direct democracy on state spending priorities

Daniel C. Lewis, Siena College
Saundra K. Schneider, Michigan State University
William G. Jacoby, Michigan State University

Available at: https://works.bepress.com/daniel_lewis/13/
Direct democracy institutions comprise the most visible and lasting legacy of the Progressive era in the United States. Mechanisms like the initiative petition, the referendum, and recall elections are intended to remove “artificial” barriers between citizens and public policy. As such, direct democracy should facilitate governmental responsiveness to mass opinion. In principle, citizens are making policy themselves, leading to direct influence. At the same time, the presence of direct democracy mechanisms should make government officials more sensitive to constituents’ preferences, thereby creating indirect influence.

One of the most important questions confronting scholars is whether direct democracy institutions really do have any impact on public policy (Lupia and Matsusaka, 2004). One need only look at some recent events in American politics to produce instances where direct citizen action does appear to make an important difference. For example, the 1978 California Tax Revolt culminated in Proposition 13 which had enormous consequences for state revenue and expenditures. More recently, a wave of referendums in the 2004 elections imposed restrictions on same-sex marriage in 33 states. And, by early 2014, ballot initiatives in 20 states and the District of Columbia have led to the liberalization of marijuana laws.

Do direct democracy institutions affect governmental policy? Previous research on the American states has generated a disparate variety of findings, so there is no scholarly consensus on this question. We argue that many earlier works were limited by their focus on single policy areas or static analyses. To overcome these issues, we analyze yearly data on governmental spending priorities across a full array of policy areas in the 50 states from 1982 through 2011. Our results clearly show that direct democracy states devote more resources to collective goods policies while non-direct democracy states emphasize particularized benefits. This difference occurs because public preferences in direct democracy states are more closely aligned with policy priorities than is the case in states without direct democracy institutions.

In this paper, we address precisely those questions. Specifically, we use data from the last three decades to examine whether and how direct democracy institutions influence policy spending priorities in the American states. Our results show that direct democracy states do have significantly different policy priorities from other states. Furthermore, these differences are rooted in a heightened responsiveness to public preferences that appears to exist in direct democracy states. Thus, we believe that our analysis provides a compelling answer to one of the most important questions in the study of American state politics.

1. Background

Previous research has not produced any scholarly consensus about the relationship between direct democracy and public policy. Instead, there are three distinct types of findings. The first set of studies produces negative results, finding that direct democracy does not affect policy outcomes and it does not enhance opinion-policy congruence (e.g., Lax and Phillips, 2009a, 2012). The literature provides two possible explanations for the apparent ineffectiveness of direct democracy institutions. Lascher et al. (1996) and Camobrec (1998) both emphasize that the limited choices provided in ballot initiatives and referendums are invariably imperfect reflections of public preferences. Therefore, they do little to enhance the connection between public opinion and public policy.
Alternatively, interest groups may be able to exploit direct democracy institutions and use them to achieve their own objectives (Lascher et al., 1996; Gerber, 1999; Monogan et al., 2007). If so, this could actually undermine policy responsiveness to public opinion.

The second set of studies finds that direct democracy has a conservative influence on policy outcomes. This effect is particularly evident with respect to state fiscal policies. Matsusaka (2004) shows that states with ballot initiatives and referendums exhibit lower levels of taxation and spending than states without these institutions. Similarly, Tolbert et al. (1998) show that direct democracy states impose stricter limitations on their taxing and powers, while Gerber (1999) shows that these states are also less likely to have a state income tax. Evidence of direct democracy’s conservative effect on fiscal policy has also been found in other nations (Feld and Matsusaka, 2003; Feld et al., 2008). And, it appears to have a similar influence on social policies such as gay rights and same-sex marriage in the American states (Matsusaka, 2010; Lewis, 2011a, 2011b).

The third set of studies reports that direct democracy enhances policy congruence with public opinion, regardless of ideological orientation. This is particularly the case with “hot-button” social issues, like gay rights and abortion (Matsusaka, 1995; Gerber, 1996, 1999; Arceneaux, 2002; Burden, 2005; Matsusaka, 2010; Lewis, 2011b, 2012; Taylor et al., 2012). But, direct democracy also strengthens the connection between citizen preferences and governmental policy in other issue areas, including campaign finance (Bowler and Donovan, 2004) and the death penalty (Gerber, 1996, 1999). These studies seem to demonstrate that direct democracy institutions have precisely the effects that they are intended to produce, at least in certain issue areas.

The literature on the policy consequences of direct democracy institutions contains a fairly disparate array of findings. But, we believe there is a straightforward explanation for this diversity: The varied results are associated with substantively different policies. First, the null findings occur in studies that use composite measures, usually generated by factor analysis or similar scaling techniques, to summarize state policies across multiple policy domains. Second, the findings of conservative impact tend to occur primarily, but not exclusively, with fiscal policies. And third, the preference-policy congruence results occur in studies of specific social policies. Thus, the different findings may reflect the idiosyncrasies of the individual programs used as dependent variables, rather than anything inherent in direct democracy institutions. In effect, a focus on specific policies may introduce selection biases into the respective analyses that have differential impacts on the analytic results in each case.

Another possible limitation of the previous research is that several of the studies rely on static analyses of policy congruence. Governmental responsiveness is inherently a dynamic concept (e.g., Erikson et al., 2002). Therefore, static models cannot capture the interplay between public preferences and policy, since it occurs over time. A recent study by Lewis and Jacobsmeier (2014) highlights the importance of incorporating dynamics into tests of policy responsiveness.

In this study, we will use an alternative approach to overcome the limitations that exist in previous research. Specifically, we will focus on state policy priorities rather than individual programs or selective subsets of policies. Our dependent variable (explained below) will measure how state governments allocate resources across the full range of substantive areas in which they are active. In this way, we avoid the selection issues that may arise in studies of single policies. Furthermore, our policy priorities measure is available on a yearly basis, so it is a straightforward task to specify a dynamic model of the relationship between direct democracy institutions and governmental priorities in the American states.

2. State spending priorities

The dependent variable for this analysis is the measure of state policy priorities developed by Jacoby and Schneider (2009). This variable assigns a yearly score to each state for the time period from 1982 through 2011. Each score represents the degree to which a state spends money on policies that promote collective goods rather than policies that provide particularized benefits in a given year. The policy areas that fall under the collective goods heading are education, highways, law enforcement, parks/natural resources, and government administration. The particularized benefits category includes welfare, hospitals, health care, and corrections. Again, these two sets of policies fall at contrasting extremes of a single continuum; states that spend higher proportions of their annual budgets on collective goods invariably spend smaller proportions on particularized benefits and vice versa.

Jacoby and Schneider’s procedure identifies which policy areas fall at each end of the continuum, and locates the yearly state positions with respect to the two general policy categories. The units of measurement for the resultant variable are percentages, and higher values indicate more spending on collective goods. So, for example, if state A has a score of 10, and state B has a score of 20 in a given year, then state B spends ten percent more of its budget on collective goods than state A; alternatively, state A spends ten percent more of its budget on particularized benefits than state B. The variable is centered so that the origin falls at the mean division of spending between the two categories.

Fig. 1 summarizes the state policy priority scores. Specifically, the figure contains a dotplot. The plotted points show the mean yearly score for each state, and the horizontal line segments represent each state’s range of scores over the 1982 through 2011 time period. The central tendencies for the respective states make sense, with conservative states generally falling toward the collective goods side of the continuum while liberal states tend to be located on the particularized benefit side.

3. Direct democracy and state policy priorities

Again, the question motivating this study is straightforward: Do direct democracy institutions affect policy priorities? We can formulate three specific, testable, hypotheses corresponding to the earlier findings from the research literature: First, there is the null model, in which the policy priorities of direct democracy states are not systematically different from those of other states. Second, the conservative bias hypothesis suggests that the policy priorities of direct democracy states should emphasize collective goods more than those of other states, even after controlling for other possible influences on priorities. Third, the congruence hypothesis holds that the correlation between public preferences and policy priorities should be strongest in direct democracy states.

Let us begin with some bivariate analyses. Here, our main independent variable is operationalized as a dichotomy: Does a state have the initiative petition or not? By this simple definition, 24 states have direct democracy institutions and 26 do not. Note that Mississippi adopted the initiative in 1992. Looking across the entire 1982–2011 period, the mean policy priority score for states without direct democracy is −1.165. The


2. The terms “particularized benefits” and “collective goods” have become increasingly prevalent in the research literature (e.g., Baron and Ferejohn, 1989; Kusser, 2005; Volden and Wiseman, 2007). But, it is important to recognize that these terms are descriptive labels used to identify the two policy clusters produced by the empirical analysis.
The mean policy priority score for direct democracy states is $+1.296$. The difference between the means for the two sets of states is 2.461 units. This difference is statistically greater than zero; the observed probability value for the t-test is effectively zero (out to four decimal places). In substantive terms, this means that direct democracy states devote about 2.5% more of their budgets (on average) to collective goods than do non-direct democracy states. Thus, we can immediately reject the null model.

Note also that the difference across the two sets of states occurs on a yearly basis, as well. Fig. 2 tracks the mean policy priorities of direct democracy states and states without direct democracy institutions for each year from 1982 to 2011. Throughout the entire time period, direct democracy states have higher policy priority scores than states without these institutions. The sizes of the yearly differences vary somewhat over time, from a minimum value of 1.588 (in 2009) to a maximum of 4.153 units in 1994. So, the greater priority assigned to collective goods policies in direct democracy states seems to be an ongoing pattern which, in turn, may provide empirical support for the conservative bias hypothesis.

In order to present some initial evidence pertaining to the congruence hypothesis, we will examine the relationship between public preferences and policy priorities separately in the two sets of states. To gauge broad public preferences we use the citizen ideology measure developed by Berry et al. (1998). Based on electoral outcomes and the voting patterns of congressional candidates, this indirect measure more closely approximates the conceptualization of political ideology as the public mood rather than the conceptualization of political ideology as self-identification used by survey-based measures (Berry et al., 2007). For our purposes, the public

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3 For a more complete discussion of the various approaches for measuring state public opinion, see Berry et al. (2007), Brace et al. (2007); Erikson et al. (2007); and Norrander (2007).
mood conceptualization is more appropriate in assessing whether
government responsiveness to public preferences and demands is
enhanced by direct democracy institutions. This measure also al-
lows us to incorporate temporal changes in public opinion into our
analyses. Other state-level measures of citizen ideology rely on self-
identification, which tends to be much more stable over time even
if the measurement methodology allows for temporal dynamics
(Lax and Phillips, 2009b; Pacheco, 2011).

Fig. 3 shows the scatterplots of state policy priority scores versus
citizen ideology, with the direct democracy states plotted sepa-
rately from the states without direct democracy institutions. The
point clouds display fairly distinct patterns across the two groups of
states. This is confirmed by the OLS lines fitted to the respective
scatterplots, which reveal that the direct democracy states tend to
have slightly higher policy priority scores when the public is more
conservative and lower policy priority scores when the public is
more liberal. This creates a steeper slope on the OLS line for direct
democracy states, suggesting that they may be more responsive to
public preferences than non-direct democracy states. The regres-
sion coefficients and variance explained from the bivariate re-
gressions for the two subsets support these interpretations of the
graphical evidence. In direct democracy states, citizen ideology has
a slope coefficient of −0.271 and an R-squared of 0.248. For non-
direct democracy states, these statistics are −0.153 and 0.104,
respectively. This provides some initial support for the hypothesis
that direct democracy institutions enhance responsiveness of
government to the preferences of the public.

There clearly are differences at the bivariate level between the
policy priorities of direct democracy states and non-direct de-
mocracy states. However, we need to account for other factors that
may influence yearly state spending patterns to see whether the
differences remain significant. In addition, we need to test the
conservative bias and congruence hypotheses directly against each
other. We turn to these tasks in the next section.

4. Multiple regression analysis

For our multivariate analysis, we build upon the model of state
policy priorities developed by Schneider and Jacoby (2006). The
original model conceives of state policy priorities as a function of
citizen ideology, electorate partisanship, interest groups, and re-
region. As in the previous section, the Berry et al. (1998) measure is
used to assess citizen ideology. To gauge the mass partisanship of
the states, Erikson et al. (1993), Wright et al. (2004) survey-based
measure is used.4 Higher scores indicate more Republican identi-

4 The partisanship scores are aggregated over four-year time periods to coincide
with presidential administrations (Erikson et al., 2006).
1982 through 2011. The component accounts for nearly 93% of the variance in the three separate variables, so it provides an accurate summary of direct democracy impact. We will perform two versions of the multiple regression, one with each of the two direct democracy indicators.

The regional dummy variables used by Schneider and Jacoby (2006) are omitted from this analysis because they tend to be highly correlated with the dichotomous indicator of direct democracy. Western states led the adoption of direct democracy institutions in the late nineteenth and early twentieth centuries, and today eleven of thirteen western states have direct democracy institutions. In the South, only three of thirteen states have direct democracy institutions. Nevertheless we do still want to account for other sociodemographic state characteristics that were previously captured by the region variables. So, we include controls for population (logged) and per capita income. Based on prior analyses (Jacoby and Schneider, 2001), we expect that larger populations should lead to greater emphasis on particularized benefits due to greater need while higher per capita incomes correspond to greater support for particularized benefits because the resource base is larger. This reasoning implies that the regression coefficients for these variables should be negative.

Finally, we add a variable to account for the potential influence of intergovernmental revenue streams, measured as the percentage of state revenue generated from federal and local sources. This intergovernmental revenue is usually targeted towards redistributive programs like health care and welfare in order to provide incentives for states to take action in those areas (Ringquist and Garand, 1999; Baumgartner and Jones, 1993; Peterson, 1981). Therefore, states with higher amounts of intergovernmental revenue should have lower policy priority scores, reflecting greater emphasis on particularized benefits.

The data used in this analysis span three decades, from 1982 to 2011, and cover all 50 states. Given the cross-sectional, time series nature of the data set, we use Prais–Winsten regression with panel-corrected standard errors and allow for first-order autoregressive patterns in the residuals. All independent variables are lagged one year to alleviate concerns about the direction of causal influence. And, the state electorate partisanship scores are not available for Alaska and Hawaii prior to 1999. As a result of these data adjustments, the total number of observations in the regression analysis is 1418.

5. Results

The estimates from the Prais–Winsten regressions are presented in Table 1. Again, we estimate two equations, using the dummy variable for ballot initiatives and the direct democracy impact measure, respectively. All of the other variables remain identical. As we will see, the empirical results are fully consistent across the two versions.

The autoregression parameters (rho) for the two models are large, at 0.841 and 0.840, showing that there is a strong pattern of temporal dependency in the residuals. This is not at all surprising, given the incremental nature of state policy making. In fact, the state policy priority scores themselves reflect this incrementalism because they tend to change very slowly over time. The multiple regression model fits the data fairly well. The R-squared values may appear to be low, at 0.256 and 0.258. But, Wooldridge (2006) warns that these values cannot be interpreted in a straightforward way as goodness-of-fit statistics, due to the data transformations inherent in the Prais–Winsten estimation procedure. For this reason, we also report the squared correlations between the actual values of the policy priority scores and the predicted values from the respective models. These squared correlations, both at 0.521, show that the models are accounting for just over 52 percent of the variance in state policy priorities.

In evaluating the effects of the independent variables, we use the 0.05 significance level and directional hypothesis tests. For present purposes, the most important coefficients in Table 1 are those for the direct democracy measures, the citizen ideology variable, and the multiplicative term between them. The coefficients for the direct democracy measure and citizen ideology are not statistically different from zero in either equation. The estimates for the direct democracy variables are −0.260 for the first equation (the ballot initiative dummy variable) and 0.139 in the second equation (the direct democracy impact measure). The observed probability values for these coefficients (for a directional test of the null hypothesis that each one is equal to zero) are 0.328 and 0.432, respectively. Similarly, the coefficients for the citizen ideology variable are small and nonsignificant at −0.018 in the initiative equation (observed probability value of 0.095) and −0.020 in the direct democracy impact equation (observed probability value of 0.072). In contrast, the coefficient on the multiplicative term between direct democracy and citizen ideology is significantly different from zero, in the hypothesized direction (negative), in both equations. In the model with the ballot initiative dummy, the coefficient on the interaction is −0.025, with an observed probability value of 0.027. The corresponding coefficient in the model with the direct democracy impact measure is −0.034, with an observed probability value of 0.042.

The substantive interpretation of these coefficients must take the interaction between direct democracy and citizen ideology into account. On the one hand, the coefficient on the direct democracy variable measures the conditional effect of that variable when the citizen ideology variable equals zero. The latter variable is expressed in deviation form. So, the direct democracy coefficient represents the impact of that variable at the mean level of citizen ideology. And, the failure to reject the null hypothesis for this coefficient (in both equations) implies that direct democracy has no significant effect in this context.

Similarly, the coefficient on the citizen ideology variable measures the effect when the direct democracy variable is equal to zero. Stated differently, this is the conditional effect of citizen ideology in non-direct democracy states. And again, the coefficient is not statistically different from zero in either equation. This shows that citizen ideology has no discernible effect on policy priorities in states that do not possess direct democracy institutions.

The significant coefficient on the multiplicative term in each equation shows that the impact of citizen ideology is greatly magnified in the presence of direct democracy institutions. Precisely as expected, this coefficient is negatively signed in each equation. Given the coding of the respective variables, this means that states with more liberal populations place greater emphasis on particularized benefits. The specific interpretation is somewhat different in the two equations so we will consider them separately.

In the first equation, the coefficient on the multiplicative term measures the difference in the impact of citizen ideology between non-initiative and initiative states. So, the conditional effect of

7 The basic effects of direct democracy and citizen ideology are robust to alternative model specifications that include additional independent variables measuring state political, social, and economic characteristics.
citizen ideology in ballot initiative states is calculated by taking the sum of the coefficients on the citizen ideology variable and the multiplicative term. This sum is $-0.018 + 0.025 = -0.043$. Thus, the effect of citizen ideology is more than twice as strong in states that have the initiative than in those that do not. Recall that the effect of citizen ideology was not statistically different from zero in non-initiative states. Here, however, the conditional effect is statistically different from zero at any reasonable level of significance. Furthermore, the nonsignificant coefficient on the dummy variable for the presence of the ballot initiative means that there is no additional “shift” toward collective goods policies in states that use this form of direct democracy.

In the second equation, the coefficient on the multiplicative term gives the difference in the effect of citizen ideology between states with no direct democracy institutions and those in which direct democracy institutions have the maximum possible impact (i.e., low legislative insulation, easy qualification requirements, and frequent initiative use). But, the direct democracy impact variable is relatively continuous so we need to consider the effects of citizen ideology at intermediate levels, in between the two extremes. In order to do this, Fig. 4 presents a conditional effects plot. This graph includes a 95% confidence band. At the left side of the plotting region in the figure, the confidence band overlaps the origin on the vertical axis. This shows that the effect of citizen ideology in states without direct democracy institutions is not significantly different from zero. As we move toward the right side of the plotting region, the upper bound of the confidence band quickly moves below the zero point on the vertical axis. This shows that, as direct democracy institutions have a greater impact on state governments, the influence of citizen ideology also becomes more pronounced and statistically different from zero in the negative direction. Once again, the negative sign on the conditional effect of ideology is fully consistent with prior expectations.

The theoretical implications of the results from Table 1 and Fig. 4 are clear-cut. The significant and relatively large multiplicative terms in the two equations show that the impact of public preferences (as gauged by citizen ideology) is stronger in direct democracy states. This supports the congruence theory. At the same time, the small and non-significant coefficients on the direct democracy measure in each equation shows that there is no additional “shift” toward collective goods policies in direct democracy states, once citizen ideology is taken into account. This, in turn, refutes the conservative bias hypothesis.

Most of the other independent variables show the expected effects. The only one that fails to achieve statistical significance is the partisanship of state electorates. Apparently, the correspondence between public opinion and policy priorities runs through ideology rather than party ties. Interest groups move priorities in their respective preferred directions, although collective goods groups show much stronger effects than particularized benefits groups. The coefficients on state population and per capita income are both negative and highly significant, showing that more populous states and wealthier states accord greater priority to policies that provide particularized benefits. And, exactly as predicted, intergovernmental revenues show a significant negative coefficient in each equation.

### 6. Conclusions

One of the important and ongoing questions in the study of state politics is whether direct democracy makes any difference for governmental outcomes. In this study, we have addressed this question by comparing the policy priorities of direct democracy states to those of states without direct democracy institutions. Our results show that direct democracy does, in fact, have a broad impact on state policy. On average, direct democracy states place higher priority on programs that produce collective goods while non-direct democracy states favor spending on programs that produce particularized benefits for needy groups.

But, our analysis goes farther by clarifying the nature of the linkage between direct democracy and policy priorities. Specifically, our results provide strong confirmation for the congruence hypothesis. That is, the correlation between public preferences and policy priorities is stronger in direct democracy states than in other states. And, once this relationship is taken into account, there is no further systematic difference in the policy priorities of the two subsets of states (i.e., those with and without direct democracy institutions). Hence, our analysis provides no support for the conservative bias hypothesis. When the state citizenry is conservative direct democracy states will give higher priority to spending on policies that produce collective goods compared to non-direct democracy states. When the citizenry is liberal, direct democracy states are more likely to spend their resources on programs that produce particularized benefits for needy groups.

To be more precise, the analysis shows that in direct democracy states, a standard deviation increase in citizen ideology (i.e., toward the more liberal pole) is associated (on average) with a one percent increase in spending on particularized benefits. At first glance, the magnitude of this effect may appear to be relatively modest, as the impacts of interest groups and socio-economic factors are larger. However, given the complexities of state policy-making and budgeting, the relatively small effect of public opinion in direct democracy states is not particularly shocking. Instead, the surprising result is that a significant relationship exists at all, despite what some scholars have called a “democratic deficit” (e.g., Lax and Phillips, 2012). And it is important to reiterate that the connection between citizen orientations and policy priorities disappears entirely in states that do not have direct democracy institutions.

The most distinctive feature of our study is the general nature of...
the results. We show that the consequences of direct democracy go far beyond the content of specific ballot initiatives and referendums. Direct democracy institutions do not merely affect overall levels of government spending. And, their effects are not confined to particular substantive policy areas. Instead, the presence of direct democracy institutions has a pronounced and pervasive effect on the ways that state governments allocate resources across the full set of policy areas in which they take action. And again, this effect operates by enhancing the degree to which policy spending priorities are consistent with citizen preferences. This suggests that direct democracy institutions are functioning in exactly the ways they were intended to operate.

While our analysis shows that policy priorities are responsive to public opinion when direct democracy institutions are present, other manifestations of the policy process may not be influenced by the latter institutions in the same way. For example, it may be the case that programmatic details are less susceptible to popular influence regardless of other governmental arrangements. And there may be policy adoptions that respond to public preferences no matter which institutions “transmit” those preferences to governmental decision-makers. But, the fact remains that public policies are always dependent upon the availability of resources. Programs that have higher priority (i.e., they receive more funds) are in a better position to address relevant social problems. Programs with lower priority (i.e., they receive less financial support) have difficulty taking any action. Thus, we maintain that the stronger relationship between public opinion and policy priorities that exists in states with direct democracy institutions has critical implications for understanding governmental responsiveness in the policy process at the state level.

References
