

Direct versus Representative Democracy:
Reassessing the Fiscal Effects

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Abstract. One of the most robust empirical findings about direct democracy is that US states with the voter initiative tax and spend significantly less than states without the initiative, at least since the mid-1970s. The relationship between initiative status and fiscal policy has been interpreted as causal and as an indication that voters prefer smaller government than legislators. Yet, existing research is based on cross-sectional comparisons of states with and without the initiative observed decades after the institution was adopted. This paper makes two contributions. First, I establish that the fiscal differential between initiative and non-initiative states is not due to smaller government budgets in general, but specifically due to lesser and more unequal education funding, primarily resulting from reductions in state aid to local school districts. Next, drawing upon a newly created data set that traces state education funding from the late 1800s to today, I explore the origins of these fiscal differentials. I find that some of the differences between would-be initiative and non-initiative states are evident even before the initiative existed. Others emerged only many decades after the initiative had been adopted. Tracing the causal pathway from the voter initiative to contemporary policy outcomes—if indeed there is one—is therefore a major challenge for scholarship in this area. I discuss implications of these results for contemporary scholarship on direct democracy and its effects on the relationship between voters and politicians.

Preliminary: Comments welcome.

1. Introduction

Beginning in the mid-1990s, there has been a resurgent interest in the politics of the voter initiative and referendum. This burgeoning scholarship examines direct democracy as a window into more general aspects of politics. For example, recent studies have looked at direct legislation to shed light on interest group influence, legislative responsiveness, voter competence, and the economic theory of government.¹ Based on a comparison of policy outcomes between U.S. states with and without the voter initiative, a leading theme in this literature is that the availability of a direct legislation option tends to move social (Gerber 1999) and economic (Matsusaka 1995) policies toward the preferred position of the median voter. In other words, representative democracy allows for slack between the will of the people and the policies enacted by politicians, which can be reduced or eliminated through the exercise of direct democracy.

If it is true that policy differentials between initiative and non-initiative states reflect the will of the median voter, then examining differences in fiscal policy between states with and without direct democracy should provide insight into differences between voters and politicians over basic questions about the functions government ought to perform in society, how these functions ought to be prioritized, and which level of government ought to perform them. A major limitation of the existing literature, however, is that most of the states that were to adopt the voter initiative did so between 1900 and 1920. Yet prior studies have been based on cross-sectional comparisons between initiative and non-initiative states in the post-1970 period, a time long removed from the original adoption of the institutions of direct democracy. Because the voter

¹ Recent reviews of the literature include Garrett (2008), Matsusaka (2005), and Smith and Tolbert (2007). Also see Donovan and Bowler (1998).

initiative was not randomly assigned across states, it is possible that the correlations observed decades later are merely spurious, the result of some other unobserved factors that vary between initiative and non-initiative states

In this paper, I exploit a new data set on education finance in the U.S. states from the late 1880s until today, which allows me to analyze spending by state and local governments both before and after the adoption of the voter initiative. This 120-year panel of data allows me to analyze whether and how public finance changed after the adoption of the voter initiative, using research designs based on more credible assumptions than those in the prior literature. I find that would-be initiative and non-initiative states differed in their fiscal policies *before* any state had ever adopted the initiative. In particular, initiative states had lower state funding of education even before the initiative existed, and that difference has persisted over time. Total education funding, by contrast, was initially *higher* in initiative states and only became lower, relative to non-initiative states, late in the 20th century, decades after the initiative had been put into place. These findings suggest that the causal pathway connecting the voter initiative to state fiscal policy—if in fact there is one—is far more complex than existing theories would suggest. Attributing contemporary policy differences between initiative and non-initiative states directly to the institution itself, as most prior literature on the subject has done, is at best an incomplete explanation.

The paper proceeds as follows. In the next section, I review prior literature and characterize the major theories and empirical results. In section 3, I reproduce the familiar cross-sectional finding that initiative states tax and spend less than non-initiative states today, and subsequently decompose this differential into its component parts,

revealing that most of the difference is due to lower state aid to school districts in initiative states. Section 4 introduces a new data set on historical education finance in the U.S. and uses it to analyze changes after the adoption of the voter initiative, in the short-, medium-, and long-run. Section 5 discusses the implications of the historical analysis for contemporary scholarship on direct democracy.

2. Background

Direct democracy is lawmaking by voters. Although the United States does not allow direct legislation at the national level, it is widely practiced in state and local politics, in the form of the initiative and referendum. The referendum allows citizens to vote on laws proposed by the legislature; the initiative allows citizens to propose laws directly, and to have their proposals voted on by the electorate. The initiative is considered to be the purest form of direct democracy (Gerber 1999) in that it allows laws to be made entirely by citizens without the intermediation of the legislature. The standard form of the initiative is simple: a citizen, or interest group, wishing to propose a new law must collect a specified number of signatures from voters in order to have the proposal placed on the ballot. If the proposition gains the support of a majority of voters, it becomes law.

The adoption of direct democracy swept through the United States at the turn of the century, concurrent with Populist and Progressive agitation to make legislatures more responsive to the broader “public interest” (Cronin, 1989).² Figure 1 shows states with the initiative, and the year in which it was adopted. South Dakota started the trend in

² See Smith and Fridkin (2008) for a fascinating analysis of the *politics* of initiative adoption, focusing on the question of why a legislature would willingly delegate power back to citizens.

1898, and within 20 years most of the states that were to adopt the initiative had done so. Indeed, only five states have adopted the initiative since 1918 – in order, Alaska, Wyoming, Illinois, Florida, and Mississippi – so that there are now a total of 24 initiative states. While the basic form of the initiative is common across states, the details vary, primarily in the signature requirements, as will be discussed below.

Arguably the most robust empirical finding about direct democracy is that states with the voter initiative have significantly lower taxes than states without the initiative, at least since the mid-1970s. The seminal study of the fiscal effects of the voter initiative is Matsusaka (1995), which showed that budgets in initiative states were roughly 4 percent smaller than in non-initiative states over the period 1960 to 1990. Subsequently, at least ten different studies have concluded that the presence of the voter initiative reduces state taxes and spending, all else equal.³ Closely related to these findings, initiative states are also more likely to enact tax and expenditure limitations and supermajority requirements for tax increases (Bowler and Donovan 1995).

There is also mounting evidence that initiative states enact more conservative social policies than non-initiative states. For example, Gerber (1999) argues that initiative states are more likely to have the death penalty and to require parental notification for abortions. Arceneaux (2002) and Bowler and Donovan (2004) also find that initiative states adopt more restrictive abortion policies, while Hero and Tolbert (1996) find that initiative states are more likely to enact official English laws. Matsusaka (2007) examines laws on seven different social issues and finds that initiative states are about 20 percent more likely than non-initiative states to adopt a conservative policy. Importantly, none of

³ See Matsusaka (2004, Appendix 4) for a review. By contrast, Primo (2007) finds that the *local* initiative has a positive impact on city spending, at least where the signature requirements are not too stringent.

these studies finds that citizens in initiative states are significantly more conservative than citizens in non-initiative states, so the policy differentials do not appear to be the product of ideological differences between the two groups of states.

Matsusaka (1995, 2005) suggests three theoretical reasons to expect the voter initiative to produce different policy outcomes from pure representative decision making: (a) vote trading is not possible with direct legislation, meaning that logrolling should be reduced (e.g., Weingast, Shepsle, and Johnsen 1981; Weingast and Marshall 1988), (b) the initiative takes control of the agenda away from bureaucrats and politicians, removing their “setter’s advantage” (Romer and Rosenthal 1979), and (c) information asymmetries between legislators and citizens are avoided under direct voting. Besley and Coate (2008) offer a complementary view, arguing that the initiative improves congruence between citizen preferences and policy outcomes by allowing citizens to “unbundle” specific issues that would otherwise not be salient in general-purpose elections.

If any one of these accounts is correct, then one implication is that policies in initiative states more closely reflect the will of the majority than in non-initiative states. That is, legislatures sometimes enact policies that are out of step with the preferences of the median voter, and the presence of the initiative causes policy to be brought back into line more quickly than would be the case otherwise. Evidence supporting this interpretation is provided by Matsusaka (2004, 2007) and Gerber (1999), who show that, in the cases they examine, the policy changes wrought by the initiative are preferred by a majority of voters. In other words, the initiative pushes policy outcomes closer to the position preferred by the median voter, or prevents policy from deviating from that position in the first place.

Not all observers are so sanguine about the ability of the initiative to promote the popular will, however. To the contrary, many critics argue that the expense of waging an initiative campaign privileges moneyed interest groups rather than ordinary citizens (e.g., Broder 2000, Ellis 2002, Garrett 1999, Sabato, Ernst, and Larson 2001, Schrag 1998). According to this view, the initiative causes policy to be more favorable to interest groups than would be the case if the legislature acted on its own.⁴ Such concerns have led some scholars to challenge the view that the initiative makes policy more responsive to the will of the majority (Lascher, Hagen, and Rochlin 1996, Camobreco 1998).⁵ Indeed, scholars even called into question the populist credentials of the initiative-led “tax revolt” of the 1970s and 1980s, during which many states hobbled the government’s ability to raise revenues and expenditures (Smith 1998, 2004).

While I will not be able to provide a general answer to the controversy over whether the initiative benefits citizens or special interests, a detailed investigation of the fiscal differentials between initiative and non-initiative states, and their historical origins, will shed new light on the question. In the remainder of the paper, I analyze itemized fiscal data for state and local governments to uncover the precise channels through which initiative-related spending differences are realized. Having done so, I then turn to a long-run historical analysis of the comparative fiscal policies of initiative and non-initiative states.

⁴ But see Gerber (1999), who finds that broad citizen interest groups are better able to use the initiative to change policy, while narrow economic interest groups are more successful in blocking initiatives to preserve the status quo. Meanwhile, Boehmke (2005) finds the initiative states have more interest groups and that they are more representative of the general population than in non-initiative states.

⁵ Matsusaka (2004, appendix 4) has challenged the methodology of these studies.

3. Contemporary Analysis

Because historical public finance data from the 1800s are only available in the domain of education, it is important to first assess what role, if any, education funding plays in the contemporary spending differential between initiative and non-initiative states. Thus, before proceeding to the historical analysis, I begin by replicating the main cross-sectional results from the prior literature. I then decompose the spending differential into its constituent parts and assess the relevance of education funding.

I use three primary data sources on modern state and local government finances. First, I use the *Annual Survey of State and Local Government Finances* (hereafter, *Annual Survey*) for the years 1970 to 2003. Second, I use files from the *Historical Data Base on Government Finances* compiled by the US Census Bureau (hereafter, *Historical Database*), which covers the years 1972 and 1977 to 2002, excepting 2001. The main difference between the two is that the *Annual Survey* provides more years of data but less detail on expenditures by function and by type of local government. Wherever possible, I use data from the *Annual Survey* to maximize my sample size; however, some of the detailed functional analysis relies on data only available in the *Historical Database*. I explain below which source is used in each step of the analysis. In addition to these two general data sources on government finance, I use additional data on education finance from the National Center on Education Statistics (NCES). I obtained state-level data on the sources of public school revenue for the years 1971 to 2002. Published first in the *Digest of Education Statistics* and later in the *Common Core of Data*, these data show the level and proportion of revenue received by public elementary and secondary schools from local, state, and federal sources and provide additional detail on school enrollment.

To analyze the relationship between direct democracy and fiscal policy, I pool the observations across states and years and regress fiscal outcomes against an indicator for whether the state has a voter initiative. I emphasize that I am not examining the effects of particular voter initiatives. Rather I am comparing average fiscal policy outcomes in states with and without the initiative, following the approach in the prior literature.⁶ This approach captures both the direct effect of the initiative and its indirect effect, or “threat effect,” as in Gerber (1999, chap. 7) and Matsusaka (1995, 2004). The logic of the threat effect is that the mere availability of the initiative leads legislators to adjust policy in anticipation of possible action by voters. Thus, the initiative may have an effect on policy outcomes even if it is rarely, or never, used to pass legislation.⁷

In order to attribute differences in fiscal policy to the presence or absence of the initiative, it is essential to control for other important determinants of the public budget. The regressions that follow utilize a common set of control variables. *Income per capita* captures demand for government services, which is expected to be positively related to income (i.e., Wagner’s law). *Population density* captures the effects of possible economies, or diseconomies, of scale in the provision of government services. The *proportion of the state’s population that lives in metropolitan areas* reflects differences in revenue and expenditure needs between rural and urban areas. The *population growth rate* over the preceding five years captures short-run spikes in needs for government services. I also control for revenue received from the federal government, both because it

⁶ Following Matsusaka (1995), I do not count Illinois as an initiative state for this analysis. Although technically an initiative state, the subject matter of initiatives is restricted from directly addressing fiscal policy.

⁷ Gerber, Lupia, McCubbins, and Kiewet (2001) study the direct effects of winning initiatives on policy outcomes in California. They argue that legislatures, bureaucracies, and courts can thwart the implementation and enforcement of initiatives, and that most winning initiatives are implemented only partially. Their results suggest that the ultimate policy impact of an initiative’s direct effects vary widely from one initiative to another; however, they do not study the initiative’s threat effect.

is important to the budget constraint and because of the possible simulative effect of *federal aid* via the so-called “flypaper effect” (e.g., Bailey and Connolly 1998).

I control for the proportion of the *population under 18*, a measure of demand for education spending, which constitutes a large share of state and local budgets. I control for the *population over 65*, because it has been argued that the elderly prefer lower spending on education (Poterba, 1997), although they may place additional demands on the public budget. Additionally, I include the civilian *unemployment rate* to account for fluctuations in the general health of the state economy. Finally, to capture, however imperfectly, ideological preferences over the public budget, I use Poole and Rosenthal’s (1991) *DW Nominate* score (first dimension) for the state’s U.S. senators.⁸ This metric has the advantage of being comparable across time as well as across states. The theoretical range of the score is from –1 for the most liberal to +1 for the most conservative.

Because only one state changed its initiative status over the study period (Mississippi, in 1992), I am not able to include state-level fixed effects in the models.⁹ I do include fixed effects for the four main Census regions to account for unobservable sources of time-invariant regional heterogeneity. In addition, all the models include dummy variables for all but one year to capture the effects of secular changes that affect all states, such as the condition of the national economy. Because observations for the same state over time are clearly not independent, I cluster the standard errors in all models by state, which accounts for arbitrary forms of serial correlation, as well as heteroskedasticity (Arellano 1987, White 1984). I exclude Alaska, Hawaii, and Wyoming

⁸ My results are robust to using alternative measures of state ideology, as will be discussed below.

⁹ Technically, a state fixed effect model *could* be estimated, but identification would be based solely on changes in Mississippi before and after the initiative adoption of 1992.

from the analysis.¹⁰ Throughout, all dollar values are reported on a per capita basis, and adjusted to 2000 dollars using the consumer price index. A table of summary statistics is provided in the appendix.

3.1 Contemporary Results

My first step is to reproduce Matsusaka's (1995, 2004) main finding – lower revenue and taxes for the combined state and local sector in initiative states – which I am able to do without difficulty. The results shown in Table 1 indicate that in states with the voter initiative, combined state-local revenues are lower by \$154 per capita, and expenditures are lower by about \$163. Given average own-source revenues of \$3,200 and direct general expenditures¹¹ of \$3,900, these point estimates suggest that the overall initiative effect is a reduction of about 4 to 6 percent in the state budget, roughly equivalent to Matsusaka's results.

Results for the control variables in Table 1 are also consistent with past studies. More affluent and faster growing states spend more, on a per capita basis. Federal aid is translated into state spending at a greater than one-to-one rate, consistent with literature on the fly paper effect. States spend more when unemployment is higher, suggesting counter-cyclical fiscal policy. The coefficient for the average NOMINATE score of the state's Senators is negative, suggesting that conservative states spend less, although the relationship falls shy of statistical significance. The remaining control variables generally

¹⁰ Alaska is removed because of its extremely high level of mineral wealth relative to population, and Wyoming because it is an extreme observation on large number of variables. Hawaii has the only completely state-run school system. Including Hawaii in the analysis notably affects estimates of the allocation of spending between the state and local sectors. Matsusaka (1995, 2004) excludes Alaska and Wyoming from his analysis, but includes Hawaii.

¹¹ Direct general expenditures include all government expenditures except expenditures to other governments, utility, liquor store, employee retirement or other trust funds.

demonstrate the expected signs, though do not attain statistical significance, and comport with results of similar models reported by Matsusaka (1995, 2004).

Having established a baseline result consistent with the existing literature, I now examine the specific sources of the fiscal differential between initiative and non-initiative states. Whereas Table 1 looked at the finances of the combined state-local sector, I next analyze the finances of states and local governments separately. Table 2 shows the results for state governments. Models (1) and (2) demonstrate that state government own-source revenue and general expenditure are lower by \$165 and \$149 in initiative states, basically in line with the findings of Table 1. More interesting results are shown in models (3) and (4). According to the Census Bureau's accounting system, the category *general expenditures* (i.e., Model (2)) is composed of *direct general expenditures*, meaning the money the state government spends on its own operations, and *intergovernmental expenditures*, or state aid to local governments. It is clear from comparing models (3) and (4) that the lion's share of the initiative effect operates through state aid to local governments. Although state aid to local governments accounts for only about 30% of the average state's budget, this category absorbs about 63% of the initiative-related reductions in state spending. Specifically, intergovernmental expenditures are lower by \$93 in initiative states, while direct general expenditures are lower by only \$55, and the latter effect does not approach statistical significance. The initiative differential represents 12 percent of average intergovernmental expenditures (\$785 per capita), but only 3 percent of average direct general expenditures (\$1800 per capita). In other words, while state governments may have made modest reductions in their own activities as a

result of the initiative, most of their reductions were made in the form of smaller transfers to the local sector.

The results from Table 2 prompt the obvious question, how do local governments respond to the initiative and its effect on state aid? Table 3 shows equations for the local government sector.¹² Intergovernmental revenue from the state is lower by roughly \$120 per capita in initiative states, consistent with the results seen in Table 2.¹³ Meanwhile, local government own-source revenue is essentially unaffected by the presence of the initiative. The point estimate of \$16 in model (3) is both statistically and substantively insignificant. In other words, local governments in initiative states do not compensate for lost state aid by increasing collections from their own revenue sources.

A story begins to emerge from the data. States collect less revenue under the initiative, and this debit is passed on to local governments in the form of cuts in intergovernmental aid. Local governments, in turn, receive less revenue from the state, but do not increase their own revenue collection in order to make up the difference. Estimates of the initiative's effect on aggregate state-local revenue and expenditures in previous studies mask this important pattern. To my knowledge, this marks the first time it has been shown that the primary effect of the voter initiative on fiscal policy is to reduce the amount of state aid sent to local governments. In the next section, I investigate the specific nature of the reductions in state aid to localities under the initiative.

¹² This refers to the combined finances of all local governments in the state.

¹³ Conceptually estimated initiative effect for state intergovernmental expenditure (Table 2, model (4)) and for local intergovernmental revenue (Table 3, model (4)) should be exactly equal. In implementation, they differ slightly for two reasons. First, the state expenditure model uses two additional years of data that are available for state governments but not local governments. Second, the figures are reported separately by officials of state and local governments. There are some forms of federal aid that are delivered to localities by state governments, which local governments sometimes report as state aid, while state governments do not report the same monies as part of their own intergovernmental expenditures. That said, the differential in the estimates from the two tables is relatively small compared to the respective standard errors.

3.2 State Aid Unraveled

First I ask which local governments are affected by the cuts in state aid associated with the voter initiative. Table 4 repeats the analysis of the initiative's effect on local revenue for each distinct type of local government: counties, municipalities, townships, school districts, and special districts. The observations are state-level aggregates for each type of government; for instance, measuring total state revenue received by all school districts in the state, and so on. In each case, I regress intergovernmental revenue from the state against the initiative indicator and the standard set of controls. For this analysis, I rely on the *Historical Database* because comparable data are not available in the *Annual Survey*. Because data on intergovernmental revenue received by local governments are only available for the years 1972, 1977 to 1992, 1997, and 2002, the sample size for this analysis (47 states * 19 years = 893 observations) is notably smaller than in the preceding tables. Nevertheless, a clear pattern emerges.

Among all types of local governments, only school districts experience a statistically or substantively significant differential in state aid between initiative and non-initiative states. Specifically, school districts in initiative states receive \$74 per capita less in state aid. This figure represents 18 percent of mean state aid to school districts (\$425 per capita). Moreover, school districts account for approximately two-thirds of the total reduction in state aid to local governments in initiative states.¹⁴

That education funding is the main target of initiative-induced cutbacks in state aid is reinforced by a supplemental analysis of state intergovernmental expenditures for education, shown in model (6). In other words, the dependent variable in model (6) is state aid for education, regardless of the type of local government receiving the aid. The

¹⁴ The sum of the estimated initiative effects in models (1) to (5) of Table 4 is \$115, and $74/115 = 0.64$.

estimated initiative differential of \$79 per capita is roughly equal to the estimated differential for school district revenue, and more precisely estimated due to the enhanced sample size.¹⁵ Moreover, additional analyses (not shown) of state intergovernmental expenditures for other functions do not show initiative effects. Among all the functional categories tracked by the Census Bureau, *no function other than education* demonstrates a differential between initiative and non-initiative states that is even remotely close to being statistically or substantively significant.¹⁶

The unmistakable message from Table 4 is that the primary fiscal effect of the voter initiative is to dampen the state government's role in education finance. However, one lingering concern is that the preceding analyses have been conducted on the basis of *per capita* funding, while analyses of education finance in particular should be conducted on a *per pupil* basis.¹⁷

With the analytical focus now squarely on education finance, I utilize the NCES data set. Table 5 presents models of per pupil funding for elementary and secondary education. Model (1) demonstrates that total state and local education funding is lower in initiative states by roughly \$420 per pupil, a differential that represents about 6 percent of average funding (\$6790 per pupil). Models (2) and (3) solidify the findings of the preceding analysis. State funding for education in initiative states is about \$500 less per pupil than in non-initiative states, or 16 percent of average state education funding

¹⁵ The analysis of intergovernmental revenue by function pertains to the local government sector in aggregate. Because there are more years of data available for the aggregate local sector than for specific sub-types of local government, the functional analysis takes advantage of a larger sample size.

¹⁶ The complete set of intergovernmental revenue functions includes: education, general support, tax relief, health, hospitals, highways, transit subsidies, housing and community development, welfare, sewerage, water, electric utilities, gas utilities, transit utilities, and "other." Results of the analyses for these functions are available on request.

¹⁷ Although the analyses do control for the proportion of the population under 18, this variable may not fully capture differences in public school enrollment across states.

(\$3150). Model (3) suggests that local governments in initiative states make up for some of the lost state money with about \$100 in increased funding from their own sources, although the effect is nowhere near statistically significant.¹⁸

To summarize the results up to this point, the major fiscal effect of the voter initiative is to reduce state government funding for elementary and secondary education. Local governments in initiative states make up at best a small fraction of the lost state funding, with the net result being that aggregate education funding is significantly lower. I emphasize that this outcome does not represent decentralization in the conventional sense, if decentralization is meant to imply a *transfer* of responsibility from the state to the local sector. Instead, the initiative state differential arises almost purely from a diminution of the state's role. However, the net result does resemble decentralization in the sense that the local sector's *share* of education funding is higher in initiative states as a result of diminished state funding.

3.3 Direct Democracy and Inequality

What are the likely implications of a reduction in state education aid to local governments? In general, state funding for education is distributed progressively, meaning that poorer school districts receive more money (e.g., Card and Payne 1998). Therefore, cutbacks in state education funding may reflect a general shift toward a less progressive system of school finance in initiative states. To investigate the connection between the voter initiative and the inequality of education spending, I use school district-level data from the Historical Database to compute four measures of within-state,

¹⁸ In considering the control variables in Table 5, note that the coefficient on the school-age population is negative. This result is consistent with other studies, such as Holcombe and Kenny (2008), who explain the negative relationship by noting that raising per pupil expenditures is more expensive when a larger share of the population is in school. The positive coefficient for the elderly population is somewhat surprising, although the literature on this relationship is inconsistent (Fletcher and Kenny forthcoming).

across-district inequality in per pupil spending: the Gini coefficient, the coefficient of variation, the Theil index, and the log of the ratio of spending by the ninety-fifth-percentile district to the fifth-percentile district.¹⁹ I multiply each of these indices by 100 to facilitate presentation of the results. Maryland, North Carolina, and Virginia are omitted from this analysis because they contain no independent school districts as classified by the *Census of Governments*. I then regress the state-level aggregate measures of school spending inequality against the initiative indicator and the usual set of controls. In addition, to control for the overall level of income inequality in the state, I include the state per capita income Gini coefficient from the University of Texas Inequality Project (Galbraith and Hale 2006).

Table 6 reports the models of per pupil spending inequality. Across the board, inequality is significantly higher in initiative states. The initiative coefficients in model (1) suggests that education spending inequality is one Gini point higher in initiative states ($p = 0.09$). The initiative effect represents roughly 14 percent of the mean Gini coefficient in the sample (7.3). For the coefficient of variation, the Theil index, and the log 95th/5th percentile spending ratio, the initiative effect is significant at $p < .05$ and the estimated coefficient represents 17, 32, and 20 percent of the respective mean values. By any of these measures, then, per pupil spending inequality across districts is statistically and substantively higher in initiative states.

¹⁹ These four indexes of inequality are reviewed in Murray, Evans, and Schwab (1998) and discussed in detail in Berne and Stiefel (1983). See also Massey and Denton (1988). Because several of these inequality measures are highly sensitive to extreme values, I followed Murray, Evans, and Schwab in using the following algorithm to delete potential outliers. Within each state and year of observation, I identified the fifth-percentile and ninety-fifth-percentile school district in terms of per-pupil spending. I deleted any district whose spending was greater than 150 percent of the ninety-fifth-percentile value or less than 50 percent of the fifth-percentile value. In addition, because elementary and high schools have different operating costs, I exclude districts that are not unified across elementary and secondary school. Unified districts account for more than 90 percent of all public school enrollment. Finally, I weighted districts by their enrollment in computing the inequality indexes.

In order to better understand precisely how the distribution of school spending differs between initiative and non-initiative states, I estimated the effect of the initiative on spending by the fifth-, fiftieth-, and ninety-fifth-percentile districts in each state. Again, the data are from the historical database and cover the period 1970 to 2002, excluding 2001. For each state, I identify the district at the fifth percentile of per pupil spending in each year, and so, too, for the fiftieth and ninety-fifth percentile districts. I then regress spending at each point in the distribution on the initiative dummy and the full set of control variables, including the state income Gini coefficient.

The results, shown in models (5) through (7) of Table 6, paint a clear picture. Spending at the 5th percentile is around 14 percent lower in initiative states, a differential that is highly significant statistically. Spending by the median district is lower by 8 percent, which is again a statistically significant differential. By contrast, the differential for the 95th percentile district cannot be distinguished from zero. I can reject the hypothesis that the initiative effect is equal for districts at these different points in the spending distribution.²⁰ Based on these results, it is evident that the increases in inequality observed in initiative states are the result of losses in funding at the bottom and, to a lesser extent, middle of the expenditure distribution.²¹

With the results contained in Tables 2 through 6, we can now assemble a coherent explanation for the fiscal effects of the voter initiative. Initiative states spend significantly less in aggregate than non-initiative states. The differential is due primarily to reductions

²⁰ In order to test these hypotheses, I estimated the equations for the 5th, 50th, and 95th percentiles by seemingly unrelated regression and then tested the equality of the initiative coefficients. The hypothesis that the initiative coefficient is equal for the 5th and 95th percentile districts is rejected with a p value of 0.03; for the 50th versus 95th percentile at $p = 0.04$; and for the 50th versus 5th percentile at $p = 0.10$. All tests account for clustering by state.

²¹ Moreover, in additional analyses (not shown) I found that the gini coefficient of income inequality was not significantly higher in initiative states, suggesting that higher education spending inequality cannot be attributed to overall higher levels of economic inequality in initiative states.

in state aid to school districts for elementary and secondary education. Local governments do not compensate for the lost state aid through increases in their own revenue sources. Therefore, because state funding of education is a progressive force that works toward equalizing school spending,²² initiative states also experience significantly higher levels of inequality across districts in per pupil spending. In other words, the main fiscal effect of the voter initiative is not smaller government generally speaking, but it is lower and more unequal education spending.

3.4 California

Before concluding the analysis, I consider one possible alternative explanation for the results presented above: is the initiative effect simply a proxy for a California effect? The state has received considerable scholarly attention for its use of the voter initiative generally, for its famous initiative-led tax revolt (Proposition 13), and for its education funding system, which swung from being decentralized to highly centralized during my study period.²³ The reader may, for good reason, wonder whether the key findings presented above would survive were California excluded from the analysis. The answer is *yes*. I have run versions of all the analyses presented above omitting California, and in no case did the substantive or statistical significance of the results change markedly. If anything, the results become a little stronger when California is excluded.

²² Using a data set similar to mine, Card and Payne (1998) show that the slope of state aid with respect to district income is significantly negative, meaning that poorer districts receive more funding. Furthermore, in results available on request, I regressed the four measures of educational inequality shown in Table 6 against the state share of funding for education. In each case, there was a significant negative relationship, implying that inequality is lower where state funding is higher.

²³ An insightful discussion of these issues can be found in Gerber et al. (2001, chap. 15).

4. Through the Lens of History

The results presented above add substantial specificity to the finding in the existing literature that initiative states spend less than non-initiative states. The spending differential between initiative and non-initiative states is not simply a matter of “smaller” versus “bigger” government across the board. Rather, spending in initiative states differs in a very particular facet: education. State governments spend significantly less on education aid and the overall school funding system is significantly more unequal in initiative states.²⁴

Using the same methodology employed in the analyses presented above, many prior studies have attributed the estimated taxing and spending differentials between initiative and non-initiative states to the causal effect of the initiative itself. However, identifying the causal effect of the initiative is not unproblematic. That the institution was adopted long ago does not mean that it is as good as randomly assigned. Now knowing more about the nature of the fiscal differentials between initiative and non-initiative states—i.e., that differences are concentrated in the realm of education and involve the distribution as well as the level of funding—it is possible to investigate more specifically the soundness of causal claims about the institution.

That the initiative state fiscal differential is specific to education is fortuitous, from a scholarly standpoint, because the federal government has been collecting state-level education finance statistics since 1870, beginning with the *Biennial Survey of*

²⁴ Whether this reduction in state aid amounts to a form of decentralization is open to debate. The state government reduces its role in education spending, but the local sector does not increase its role substantially. The result is that the local share of spending increases. Not wishing to engage in semantics, I simply note that if this is decentralization, it is *decentralization by attrition* of the state government rather than *decentralization by transfer* of responsibility from the state to local governments.

Education, now known as the *Digest of Education Statistics*.²⁵ This deep reservoir of data allows me to explore the origins of the fiscal differentials related to the voter initiative. Most important, I am able to observe fiscal outcomes before any state had actually adopted the initiative.²⁶ For this exercise, I constructed a state-by-year panel of education finance statistics from 1889 to 2008, the most recent year available.²⁷ While it is not possible to assemble all the relevant variables across the entire time period, I was able to collect the two most relevant to the present inquiry: total education funding per pupil and state education funding per pupil. These two variables speak to the main findings above, namely that initiative states today have lower total education spending, driven specifically by lower spending by their state governments.²⁸

Because official CPI estimates, for the purposes of converting from nominal to real dollars, are only available back to 1913, I need another approach to enable visualization of the data on a comparable scale over time. Thus, I converted the fiscal variables to ranks, with 47 denoting the state with the *highest* spending.²⁹ Working with ranks is also appealing because education funding, especially in the early period, is highly right-skewed across states. In 1900, for example, the state of Alabama spent \$2.01 per pupil on education, while Massachusetts spent \$29.71 per pupil, a 14-fold difference.

²⁵ The *Biennial Survey of Education* was the federal government's first publication to systematically track statistics related to state and local education. The *Biennial Survey* began publication in 1869, changed title to become the *Digest of Education Statistics* in 1960, and has been published under that name to this day. These two publications are the source of data for all the figures presented in this section. See Department of Education, National Center for Education Statistics (nces.ed.gov/programs/digest) [October 2006].

²⁶ Recall that South Dakota was the first state to adopt the initiative, doing so in 1898. The vast majority of states that were to adopt the initiative had done so by 1918 (see Figure 1).

²⁷ I am currently working on extending the data set back to 1870, the earliest year available.

²⁸ Data are not available that would permit me to measure historical across-district inequality in school spending. However, contemporary spending inequality is significantly negatively correlated with state spending, as explained above, so the historical analysis of state spending may speak indirectly to the issue of spending inequality.

²⁹ As before, Alaska, Hawaii, and Wyoming are excluded from the analysis.

Comparing ranks helps to ensure that any observed differences across states are not the result of a few extreme values.

I begin by simply plotting the time-series of education spending by would-be initiative and would-be non-initiative states. That is, I group all the states that would ever adopt the initiative into one group and all those that never adopted the initiative into another. Then I plot the data over time separately for each group irrespective of which states had actually adopted the initiative at any point in time. Doing so makes evident any differences between erstwhile initiative and non-initiative states that may have existed prior to the adoption of the initiative.

Figure 2 shows the time-series of total education funding per pupil from 1889 to 2008. I first computed each state's rank across all states, by year, with a rank of 1 denoting the state with the lowest spending. I then plot the median rank for would-be initiative and would-be non-initiative states.³⁰ State postal abbreviations listed at the bottom of the figure denote the year in which a given state adopted the voter initiative. There are obvious differences between would-be initiative and non-initiative states even before any state had ever adopted the initiative. Indeed, there appear to be three distinct phases in the relationship between state initiative status and education finance. From 1889 (at least) up until about 1930, initiative states spent more on education than non-initiative states. From the 1930s through the 1970s, there is no apparent difference between spending in initiative versus non-initiative states. Beginning in the 1980s, initiative states fell behind non-initiative states in education until today they have roughly reversed their standing compared to where they began in 1889.

³⁰ I repeated the analysis by indexing each state's spending to the yearly average across all states, which produced qualitatively similar results (not shown).

Figure 3 shows the evolution education funding by *state* governments over the same 119-year time span. It is clear that state education funding was lower in would-be initiative states even before the initiative had ever been adopted. Moreover, the difference is persistent. Except for one year—1979— initiative states have delivered lower state education funding than non-initiative states for over a century.

Given that relative *state* education funding has not changed much over time, changes in *local* education funding must then be the driver of the changes in total funding observed in Figure 2. This deduction is confirmed in Figure 4, which shows the time-series of local education funding for would-be initiative and non-initiative states. Pre-treatment differences between initiative and non-initiative states can be seen again, with initiative states providing higher levels of local education funding. Over time, the initiative state differential has essentially disappeared. Local government spending by initiative states relative to non-initiative states declined somewhat in the 1920s and 1930s, then remained essentially flat through the 1970s, and declined again thereafter, until by 2008 local spending in initiative states was actually slightly lower than in non-initiative states (\$5800 vs. \$6100 in nominal terms), although the final difference is not significant statistically, consistent with the results from the first section of the paper.

To put into context the scale of the pre-existing differences between would-be initiative and non-initiative states, Figures 5 and 6 depict median education funding in nominal terms for the period 1889 to 1930. Differences between the two groups of states are evident before and after any had adopted the initiative. From 1889 to 1900, average annual state-level education funding was \$1.82 per pupil in would-be initiative states and \$2.31 in would-be non-initiative states. Corresponding figures for total education

expenditures are \$13.43 and \$9.43, and for local funding \$11.61 and \$7.12, for would-be initiative and would-be non-initiative states, respectively.

Table 7 shows that the pre-existing differences between would-be initiative and non-initiative states observed in Figures 5-6 are statistically significant and robust to controlling for state income. The analyses are based on education funding data for the 1889-90 through 1900-01 school years. The log of per pupil education funding from different sources is regressed against a dummy for would-be initiative status, year fixed effects, and, in some specifications, the log of real state income per worker.³¹ State education funding (models 1 and 2) was roughly 30% (0.35 log points) lower in would-be initiative states in the period before any state had yet adopted the initiative, a difference that is essentially unchanged after controlling for state income. Meanwhile, local education funding (models 3 and 4) was 78% (0.57 log points) greater in would-be initiative states, a difference that is reduced to only 29% after controlling for state income. Total education funding (models 5 and 6) was roughly 40% (0.36 log points) higher in initiative states, or 13% after controlling for income. All of the differences are statistically significant.

The results shown in Table 7 imply another notable difference between initiative and non-initiative states. The funding differential between the two groups of states is reduced substantially in the models that include state income, implying that would-be initiative states were better off economically in the pre-initiative period than were would-be non-initiative states. Figure 7 documents this income differential and reveals that it has historically tracked the education funding differential between initiative and non-

³¹ State income data from Turner et al. (2006) for 1890 and 1900, linearly interpolated for intermediate years.

initiative states. For each year, Figure 7 displays the ratio of income per worker in the median initiative state relative to the median non-initiative state, as well as the ratio of per pupil education funding. As of 1889, the median would-be initiative state had 1.30 times the income per worker of the median would-be non-initiative state, and provided 1.34 times the funding per pupil for education.³² As of 2000, the median initiative state had 0.94 times the income per worker of the median non-initiative state and provided 0.89 times as much education funding per pupil.³³ In the intervening years, the income and funding ratios tracked one another relatively well, although not perfectly.

Income alone, however, cannot entirely explain the relative decline in education funding over time for initiative states compared to non-initiative states. Table 8 reports simple regressions of education funding from different sources on an initiative indicator and income per worker, with state and year fixed effects. The aim of this exercise is not to identify an initiative “effect.” Indeed, the parallel trends assumption would appear *prima facie* implausible when extended over an entire century. Rather, the point is to estimate how much of a funding differential remains after changes in relative income have been accounted for. After controlling for income, local education funding is roughly 13 percent lower in initiative states after the adoption of the initiative, total education funding is 8 percent lower, and state funding is 9.5 percent higher, although the last difference is not significant statistically. These funding differentials may be due to the effects of the initiative, or to other factors that changed differentially over time in initiative states relative to non-initiative states. A richer set of time-varying covariates

³² Median would-be initiative state education funding was \$11.65 per pupil, while median would-be non-initiative state funding was \$8.69 (in nominal dollars). Comparable figures for income per worker were \$11,632 and \$8,914 (in 2000 dollars, per Turner et al. (2006)).

³³ Median would-be initiative state education funding was \$7,384 per pupil, while median would-be non-initiative state funding was \$8,296. Comparable figures for income per worker were \$52,870 and \$56,082.

would be necessary to sort out the many possible competing explanations. However, I note that simply including a set of region-specific linear time trends causes all of the initiative coefficients from Table 8 to become small and statistically insignificant.

What do these historical portraits imply for the causal interpretation of the voter initiative? First, the voter initiative is not as good as randomly assigned. “Pretreatment” differences can be seen in each of the outcome variables examined. Second, it seems safe to dismiss any causal interpretation of the differences between initiative and non-initiative states in state-level education funding. Figure 3 indicates that there is a persistent difference between the two groups of states that was unaffected by the adoption of the initiative itself. Third, if the initiative does affect local education spending or total education spending, it does so very slowly. One could imagine a causal story that leads from the adoption of the initiative to the gradual reduction in relative local education spending seen in Figure 4. While I cannot rule out such a story, it does not flow obviously from standard theories of the initiative described above. I will explore this possibility further in the next section.

It is important to emphasize just how different the conclusions are that emerge from this historical analysis compared to examining only recent years of data, as was the case in the first half of the paper and indeed most of the previous literature. The post-1970 data, seen in isolation from the historical record, would appear to indicate that initiative states spend less, that they do so primarily because the initiative causes a reduction in state aid to local school districts, and that local funding is largely unresponsive to the initiative. By contrast, the longer historical analysis implies that state aid is unaffected by the initiative, while all the action—if indeed there is any—comes

from local funding. Local funding appears unrelated to the initiative in recent data because differences between initiative and non-initiative states are small now. But the small contemporary difference is the culmination of a long historical trend in which initiative and non-initiative states gradually converged. Whether this convergence was caused by the initiative is not clear, and it is evident that the relative income of the two groups of states also converged at roughly the same time. Nevertheless, if one did wish to maintain a causal interpretation of the initiative in light of the historical record, one would need to focus the explanation on the local sector rather than at the state-level, exactly the opposite focus one would be drawn to based on recent data alone.

4.1 Potential Initiative-Related Interactions

As mentioned above, a causal interpretation of the fiscal differences between initiative and non-initiative states would have to focus on the observed changes in local education spending and would require an explanation for why the changes took such a long time to set in. One possibility is that, contrary to conventional wisdom, it is not the threat effect of the initiative, but rather the direct effect that matters. In other words, while the initiative was adopted as an institution in the early 20th century, it may not have been until later that specific initiatives passed, causing changes in fiscal policy.

I began by examining the track record of education-related voter initiatives in the states during the period under study. The Initiative and Referendum Institute (IRI) at the University of Southern California has compiled information on *every* voter initiative related specifically to education. According to IRI, only one education initiative passed prior to 2000; namely, Proposition 98 in California in 1988. This fact suggests a very

simple empirical test: rerun the preceding models excluding California and all years after 2000. If the results hold, they *cannot* be due to the direct effect of education initiatives, as there are no observations with successful initiatives in these states and years. In fact, the results do hold. When I run all of the preceding models excluding the observations in states and years with successful education initiatives, the estimated initiative coefficients change hardly at all (not shown).

The idea that the differential fiscal policies of initiative states are due to the passage of specific education-related initiatives can be rejected. However, it is possible that non-education initiatives may have indirect effects on education finance. For example, suppose that voters use the initiative to enact tax and expenditure limitations (TEs), which constrain government budgets. Aid to local school districts may be an attractive target for cuts by state politicians facing TEs, given that the state's expenditures are hard for voters to observe when funneled through local governments. To test this possibility, I estimated models including indicators of the presence of TEs as well as interactions between TEs and the initiative dummy (not shown).³⁴ While it is true that initiative states are significantly more likely to enact TEs (Bowler and Donovan 1995), controlling for TEs does not notably alter the estimated effect of the voter initiative in the models reported above. Thus, it does not appear that the initiative influences policy primarily through the channel of TEs.³⁵

Another possibility, suggested by Gerber (1998) and Matsusaka (2007), is that even failed initiatives can influence policy by conveying information about voter

³⁴ My data on TEs are from Mullins and Wallin (2004). They tally 23 different types of TEs. I ran models including both the total number of TEs, a dummy variable indicating the presence of any TE, as well as a complete set of 23 dummy variables for each type of TE.

³⁵ These results are generally consistent with literature expressing skepticism of the effects of TEs on the ability of government to raise taxes (e.g., Kouser, McCubbins, and Rozga 2008, McCubbins 2008).

preferences to legislators. For example, IRI reports that multiple initiatives designed to increase school funding equality have been defeated at the polls; e.g., Arkansas Initiated Act 1 in 1980, Oregon Measure 15 in 1994, Nebraska Measure 411 in 1996, and others. If legislators interpret the failure of such initiatives as a signal that voters prefer a less redistributive education finance system, then the results reported above could be the product of legislative efforts to move policy closer to the (perceived anti-redistributive) preferred policies of voters. However, when I run the models including an indicator for past failed education initiatives, the variable itself is insignificant and its inclusion does not alter the estimated coefficients for the initiative dummy variable in any important way (not shown).

Collectively, the results discussed in this section indicate that the initiative does not influence education policy primarily through direct effect of specific initiatives that pass, nor through the informational impact of failed initiatives, nor through TELs. Thus, if the initiative does indeed have a causal impact, this impact must arrive through the threat effect. This is consistent with game-theoretic models, e.g., Gerber (1996) and Matsusaka and McCarty (2001), suggesting that the indirect effect is the primary way that the initiative should affect policy.³⁶ However, any explanation based on a threat effect would also have to explain the time path of the convergence between initiative and non-initiative states in local education funding. Presumably, such an explanation would suggest why the threat effect has become more important over time. Further research into

³⁶ With complete information, in fact, the initiative will influence outcomes *only* through the threat effect, because politicians will alter policy so as to prevent voter initiatives from ever actually reaching the ballot. That an initiative *does* reach the ballot, therefore, can be informative to voters about the proposals' likely impact (Boehmke and Patty 2007).

the operation of threat effects in the area of education finance would seem to be in order but is beyond the scope of this paper.

5. Conclusion

My aim in this paper has been to advance scholarship on direct democracy by elucidating the specific fiscal policy differences between initiative and non-initiative states and investigating their historical origins. I have shown that contemporary policy differences are not simply a matter of bigger versus smaller government. State governments offer less aid to local school districts in initiative states. Local districts do not make up for the lost state aid by increasing their own revenue. As a result, education spending is lower in initiative states. And it is lower especially for districts at the bottom of the spending distribution, resulting in greater overall inequality in education funding in initiative states.

While most of the prior literature on the subject attributes contemporary policy differences between initiative and non-initiative states to the causal effect of the institution itself, the historical analysis contained in the second half of this paper suggests that things are not so simple. There are obvious pre-treatment differences between would-be initiative and non-initiative states. Some policy differences that can be seen between contemporary initiative and non-initiative states—such as lower state funding—predate the initiative itself. Others—such as lower total education funding—did not emerge until many decades after the initiative had been adopted. One conclusion to be drawn from these historical analyses could be that contemporary policy differences between initiative and non-initiative states are simply spurious. Another conclusion could be that the initiative's effects have been taking shape gradually over a long span of time and that the

institution may be more consequential under some historical circumstances than others. If the causal interpretation of the initiative is to be salvaged, fleshing out this complex, long-run story is a major challenge for scholars and a tremendous opportunity for future research.

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Figure 1: Initiative States with Year of Adoption

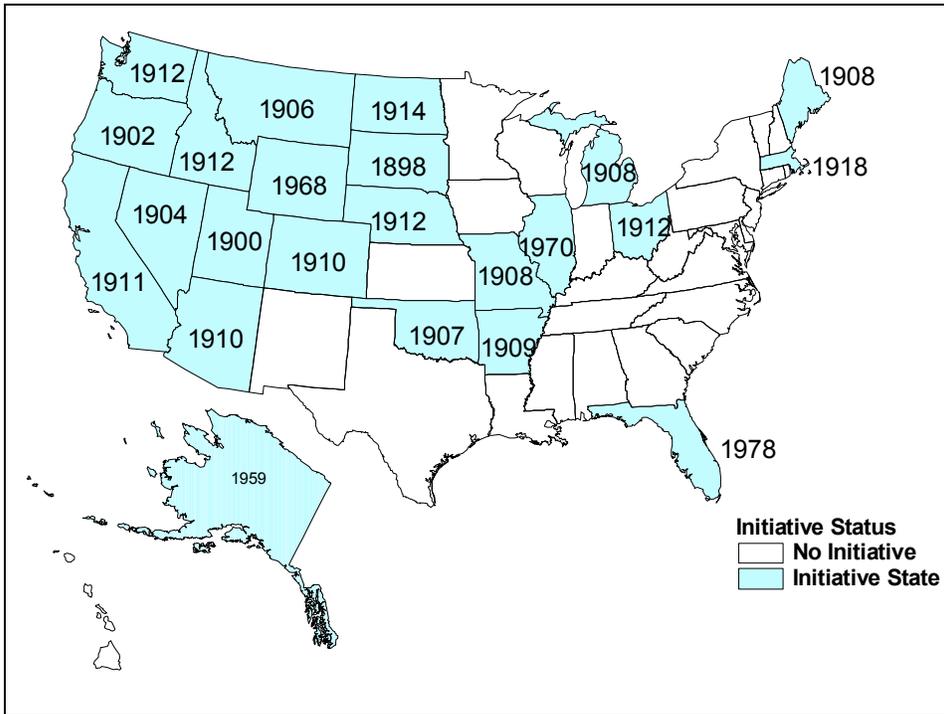


Figure 2: Total Education Funding per Pupil, 1889-2008

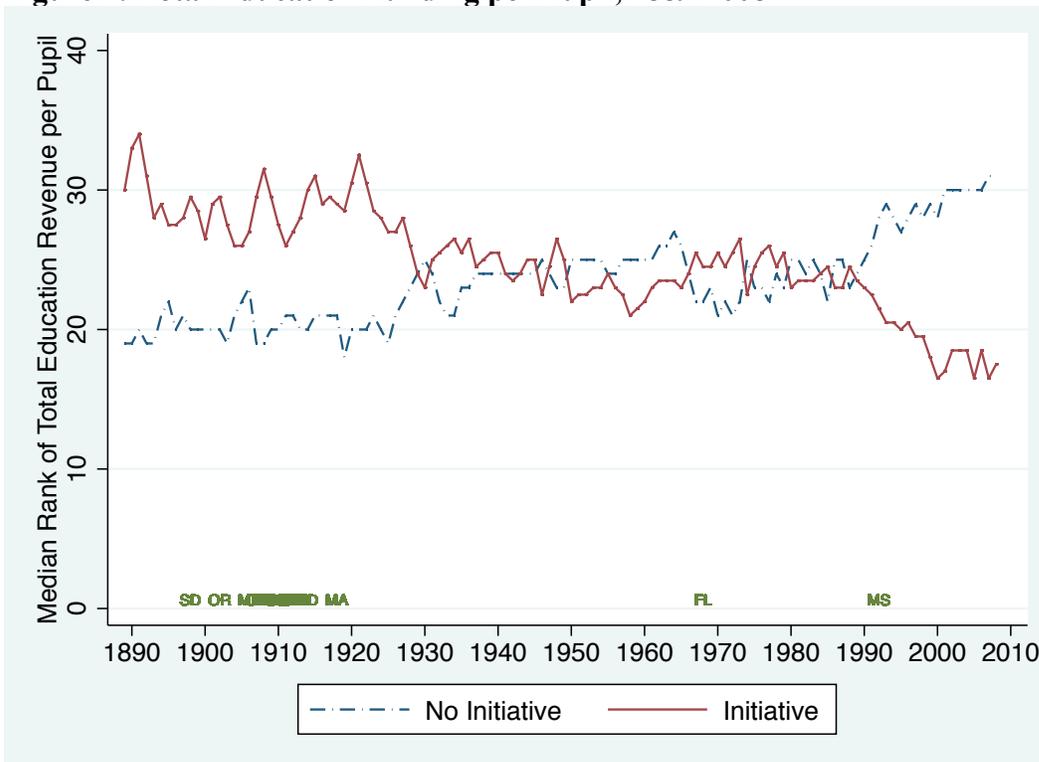


Figure 3: State Education Funding per Pupil, 1889-2008

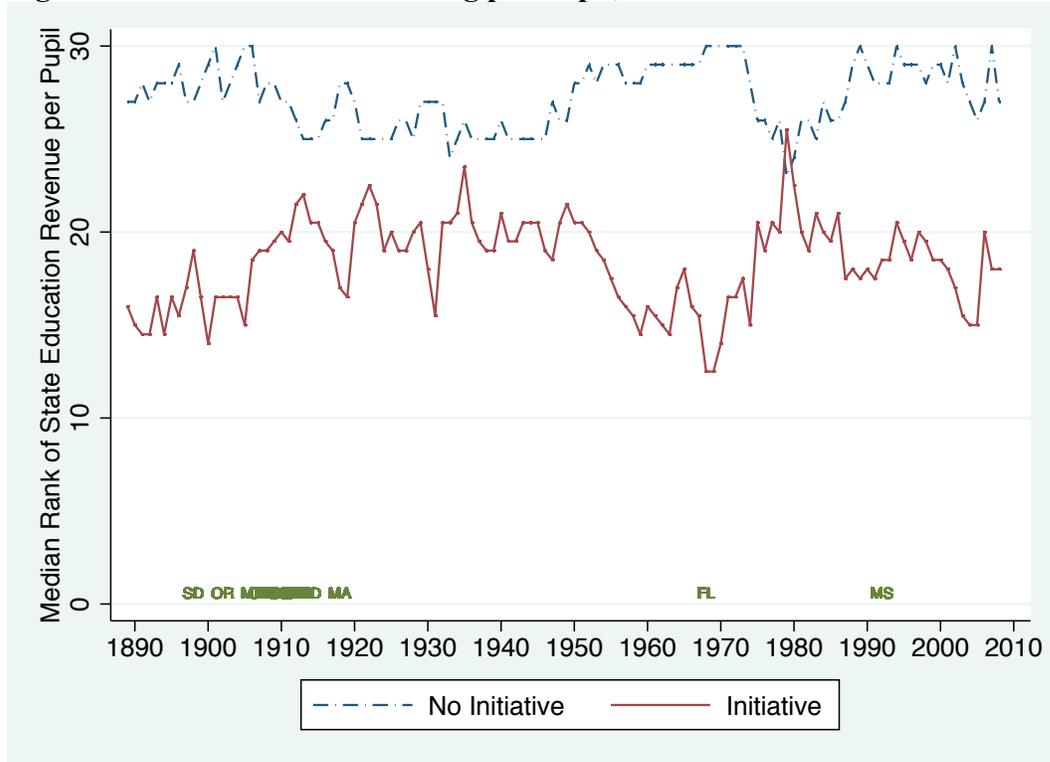


Figure 4: Local Education Funding per Pupil, 1889-2008

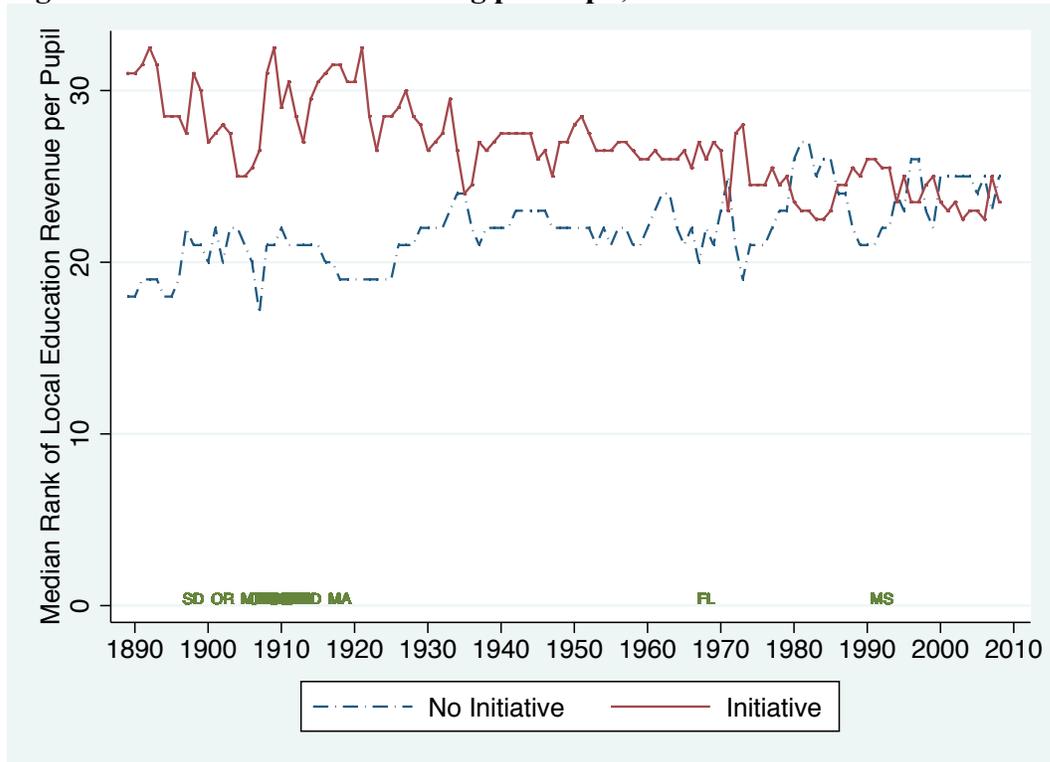


Figure 5: Total Education Funding by Initiative Status, 1889-1930

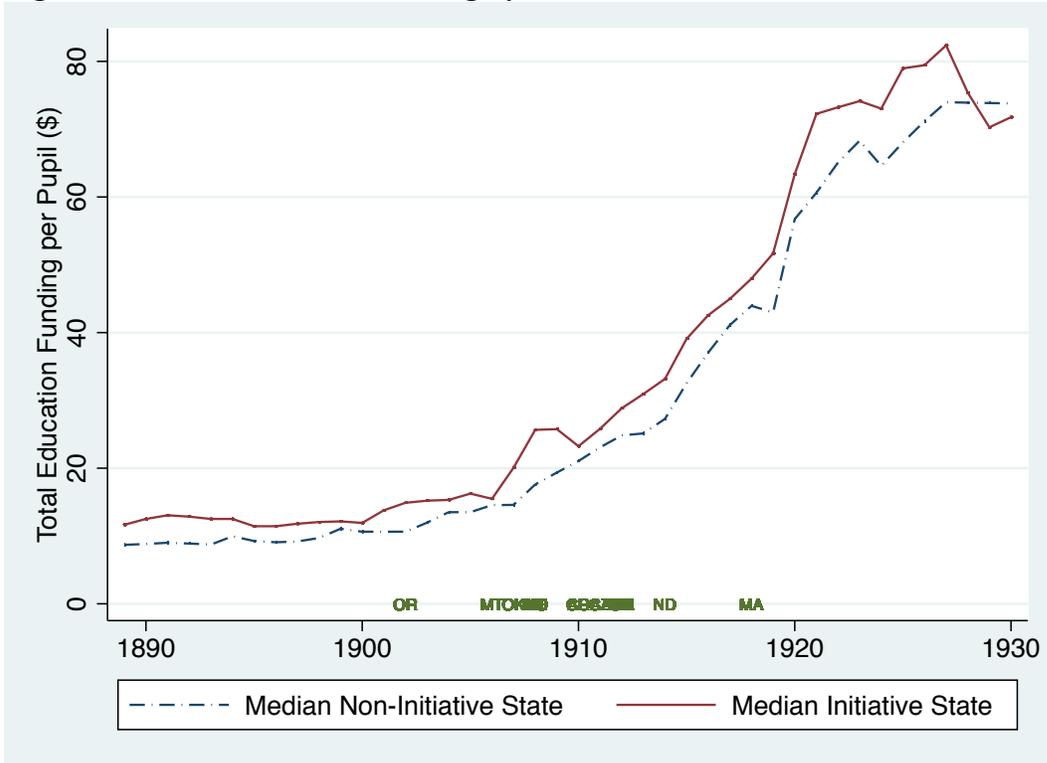


Figure 6: State Education Funding by Initiative Status, 1889-1930

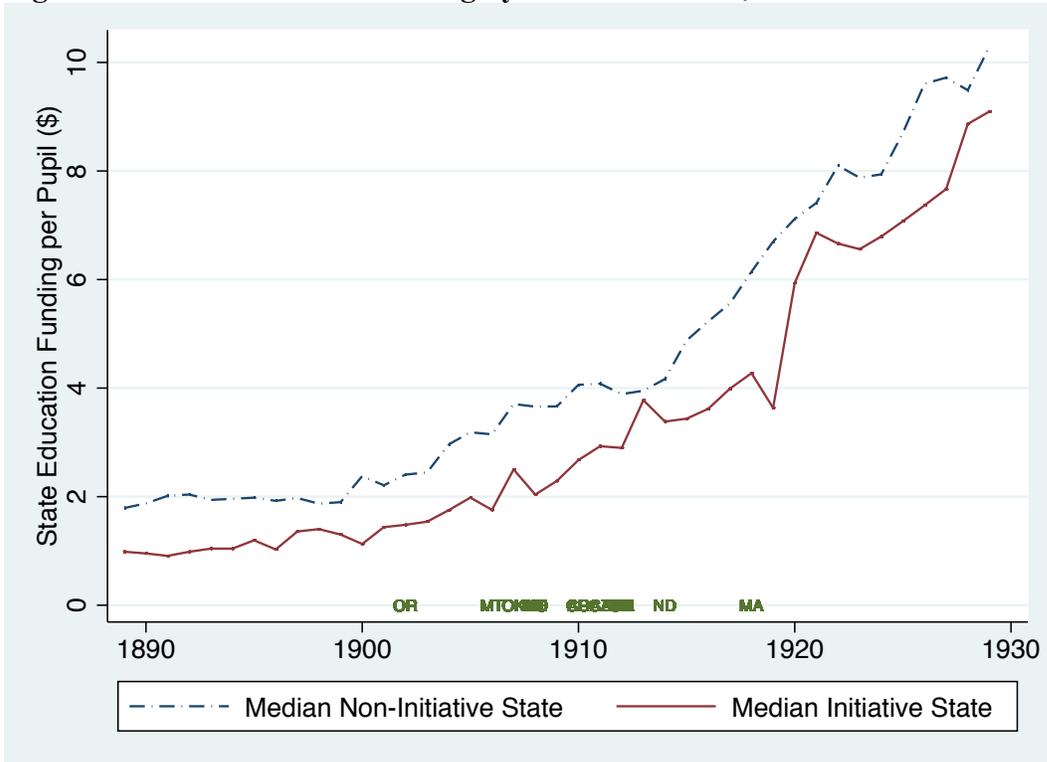


Figure 7: Education Funding and Income by Would-be Initiative Status

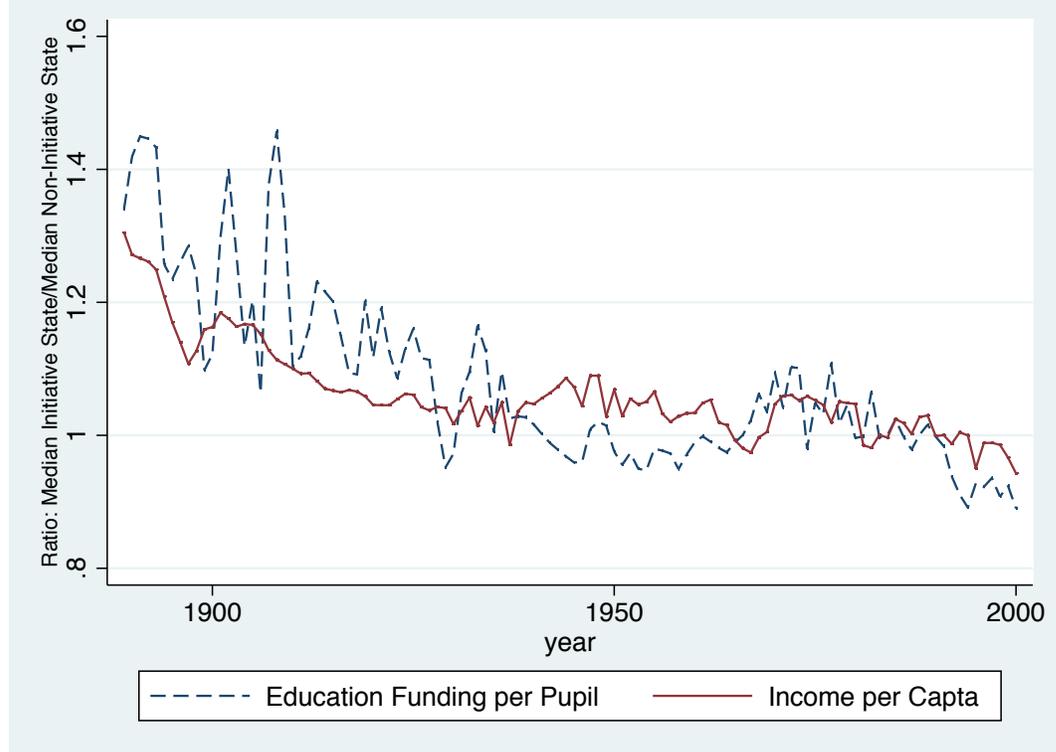


Table 1. Combined State-Local Finances

	(1)	(2)
	General Own Source Revenue per Capita	General Expenditure per Capita
Dummy = 1 if initiative state	-154.03 (75.70)**	-163.45 (70.74)**
State per Capita Income	0.12 (0.02)***	0.12 (0.02)***
Intergovernmental Revenue from Federal, per Capita	1.22 (0.31)***	2.07 (0.34)***
ln(Population)	39.04 (69.00)	25.75 (67.41)
State Pct Metro Pop	0.48 (2.31)	1.54 (1.87)
Pct Population Change Over Previous 5 Years	868.36 (465.77)*	1562.24 (487.24)***
Proporiton of the population aged >65	10.70 (18.51)	11.48 (16.88)
Proportion of the population agd 5-17	33.72 (20.27)	17.49 (20.89)
Unemployment Rate of the Civilian Labor Force	10.61 (10.31)	29.00 (10.14)***
DW NOMINATE	-51.71 (104.08)	-40.65 (113.82)
Region=Midwest	167.90 (108.00)	207.02 (109.09)*
Region=South	-126.17 (96.19)	-116.08 (89.50)
Region=West	170.33 (104.76)	150.97 (95.53)
Constant	-1809.32 (1204.63)	-1430.51 (1279.10)
Observations	1504	1504
R-squared	0.88	0.91
# of Clusters	47	47

Notes: Standard errors, clustered by state, are reported in parentheses. Analysis covers 1970-2002, excepting 2001. All models also include year dummies. Alaska, Hawaii, and Wyoming are excluded. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 2. State Government Finances				
	(1)	(2)	(3)	(4)
	General Own Source Revenue per Capita	General Expenditure per Capita	Direct General Expenditure per Capita	Total Intergov'tal Expenditure per Capita
Dummy = 1 if initiative state	-165.00 (96.47)*	-148.68 (86.40)*	-55.39 (52.89)	-93.29 (52.42)*
State per Capita Income	0.04 (0.01)***	0.04 (0.01)***	0.03 (0.01)**	0.01 (0.01)
Federal revenue per capita	0.72 (0.19)***	1.74 (0.15)***	1.16 (0.15)***	0.58 (0.14)***
ln(Population)	-108.66 (81.58)	-76.74 (62.10)	-243.85 (42.92)***	167.11 (42.05)***
State Pct Metro Pop	4.14 (3.53)	3.79 (2.61)	4.98 (1.65)***	-1.19 (1.61)
Pct Population Change Over Previous 5 Years	82.94 (598.89)	364.03 (575.76)	-755.80 (552.47)	1119.77 (384.36)***
Proporiton of the population aged >65	-4.11 (18.43)	-2.81 (17.50)	-8.58 (13.30)	5.77 (10.91)
Proportion of the population agd 5-17	15.72 (22.24)	12.19 (20.44)	-8.90 (17.52)	21.08 (16.75)
Unemployment Rate	1.67 (11.64)	11.52 (11.07)	8.17 (11.08)	3.35 (8.41)
DW NOMINATE	-200.57 (89.41)**	-190.54 (84.17)**	-125.03 (57.14)**	-65.51 (63.61)
Region=Midwest	-7.13 (104.66)	4.53 (91.97)	-124.62 (60.96)**	129.14 (72.02)*
Region=South	-159.88 (94.35)*	-164.50 (77.97)**	-71.83 (67.24)	-92.67 (62.64)
Region=West	44.78 (156.10)	36.40 (138.65)	-148.16 (91.66)	184.57 (80.29)**
Constant	895.89 (992.37)	601.37 (854.60)	2338.30 (769.90)***	-1736.96 (676.93)**
Observations	1598	1598	1598	1598
R-squared	0.74	0.86	0.89	0.60
# of Clusters	47	47	47	47

Notes: Standard errors, clustered by state, are reported in parantheses. Analysis covers 1970-2003. All models also include year dummies. Alaska, Hawaii, and Wyoming are excluded. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 3. Local Government Finances

	(1)	(2)
	General Own Source Revenue per Capita	Total Intergov'tal Revenue from State per Capita
Dummy = 1 if initiative state	16.94 (64.59)	-119.87 (54.67)**
State per Capita Income	0.08 (0.02)***	0.01 (0.01)
Intergovernmental Revenue from Federal, per Capita	0.98 (0.79)	0.91 (0.57)
ln(Population)	128.24 (67.71)*	141.89 (48.88)***
State Pct Metro Pop	-4.80 (2.66)*	-2.41 (1.80)
Pct Population Change Over Previous 5 Years	90.17 (488.14)	682.74 (408.15)
Proportion of the population aged >65	10.74 (18.25)	5.17 (11.19)
Proportion of the population aged 5-17	14.41 (22.27)	15.60 (15.02)
Unemployment Rate of the Civilian Labor Force	10.68 (10.94)	10.03 (7.81)
DW NOMINATE	67.21 (71.63)	-96.37 (73.07)
Region=Midwest	103.74 (103.93)	51.79 (90.73)
Region=South	14.01 (108.61)	-108.95 (72.48)
Region=West	166.73 (107.37)	217.99 (84.71)**
Constant	-1904.54 (1,066.56)*	-1040.59 (643.67)
Observations	1504	1504
R-squared	0.69	0.55
# of Clusters	47	47

Notes: Standard errors, clustered by state, are reported in parentheses. Analysis covers 1970-2002, excepting 2001. All models also include year dummies. Alaska, Hawaii, and Wyoming are excluded. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 4. State Aid to Local Governments

	Total Aid by Type of Government:					
	(1)	(2)	(3)	(4)	(5)	(6)
	Counties	Municipalities	Townships	Special Districts	Schol Districts	Total Education Aid to Local Governments
Dummy = 1 if initiative state	-27.99 (26.97)	-34.31 (24.80)	13.27 (10.79)	7.38 (7.03)	-74.20 (41.97)*	-79.05 (34.51)**
State per Capita Income	0.00 (0.01)	0.01 (0.01)**	0.00 (0.01)	0.00 (0.01)	0.00 (0.02)	0.00 (0.01)
Federal revenue per capita	2.12 (0.84)**	2.69 (1.01)**	0.66 (0.54)	0.36 (0.11)***	2.86 (1.58)*	0.07 (0.31)
ln(Population)	85.85 (30.33)***	15.32 (22.63)	-17.58 (9.07)*	2.86 (1.55)*	35.08 (52.62)	24.52 (31.80)
State Pct Metro Pop	-180.65 (121.78)	19.66 (115.57)	86.83 (45.80)*	1.26 (11.05)	-161.23 (204.33)	-62.32 (115.04)
Pct Change in Population Last 5 Years	-178.04 (276.76)	-27.74 (209.36)	-80.38 (78.90)	-10.99 (27.99)	946.33 (401.78)**	117.90 (271.65)
Pct population aged >65	-26.93 (12.72)**	5.24 (6.67)	2.55 (3.71)	-0.60 (1.10)	22.47 (13.24)*	9.05 (6.73)
Pct population agd 5-17	-30.33 (15.88)*	6.07 (7.70)	3.58 (5.44)	-0.11 (1.31)	30.61 (17.77)*	7.95 (8.26)
Unemployment Rate	-18.42 (7.22)**	-4.73 (3.88)	0.68 (1.74)	0.15 (0.33)	25.59 (8.48)***	9.73 (5.80)
DW NOMINATE	2.46 (56.31)	-46.33 (33.32)	-17.26 (11.29)	-0.19 (5.17)	-52.51 (73.65)	-41.66 (51.17)
Region=Midwest	27.59 (42.88)	-108.27 (61.25)*	-72.89 (25.78)***	-8.23 (7.91)	189.93 (69.19)***	93.58 (59.51)
Region=South	21.79 (38.59)	-99.03 (53.48)*	-68.97 (29.56)**	-9.86 (6.12)	82.12 (118.14)	111.71 (79.01)
Region=West	70.76 (60.84)	-58.56 (49.63)	-89.25 (25.89)***	-10.21 (10.70)	266.44 (95.43)***	251.86 (80.95)***
Constant	27.21 (576.84)	-573.26 (430.64)	98.32 (243.78)	-35.32 (49.35)	-1202.85 (744.12)	-273.73 (397.74)
Observations	893	893	893	893	893	1222
R-squared	0.41	0.57	0.66	0.39	0.48	0.50
# of Clusters	47	47	47	47	47	47

Notes: The dependent variable in models (1) to (5) is total revenue from the state government for all functions. Models (1) to (5) cover years 1972, 1977-1992, 1997, and 2002. Model (6) covers years 1972, 1977-2000, and 2002. Standard errors, clustered by state, are reported in parentheses. All models also include year

Table 5. Education Funding per Pupil

	(1)	(2)	(3)
	Total Education Revenue per Pupil	Education Revenue from State Govt per Pupil	Local Education Revenue per Pupil
Dummy = 1 if initiative state	-420.37 (150.84)***	-509.39 (195.48)**	102.63 (202.94)
Proportion of the population aged >65	78.92 (44.88)*	34.94 (57.03)	33.71 (64.55)
Proportion of the population aged 5-17	-88.76 (51.22)*	-40.17 (57.50)	-49.72 (69.39)
Per Capita Income (\$1000s)	236.35 (34.40)***	-2.86 (33.94)	247.73 (37.90)***
ln(Population)	115.61 (143.02)	197.70 (218.57)	-96.48 (261.39)
State Pct Metro Pop	3.29 (6.11)	5.13 (9.20)	-1.30 (10.22)
Pct Population Change Over Previous 5 Years	116.64 (1766.64)	846.70 (2022.75)	-791.39 (2134.21)
Unemployment Rate of the Civilian Labor Force	-0.94 (31.73)	23.50 (37.22)	-24.12 (39.89)
DW NOMINATE	-275.34 (207.17)	-208.25 (301.13)	-41.00 (290.05)
Intergovernmental Revenue from Federal per Capita	2.06 (0.45)***	1.15 (0.46)**	0.56 (0.61)
Region=Midwest	-121.62 (266.34)	-188.89 (292.78)	85.36 (316.59)
Region=South	-713.62 (288.85)**	-395.05 (275.46)	-416.16 (400.63)
Region=West	-106.24 (308.85)	365.78 (441.45)	-531.36 (551.30)
Constant	-565.36 (2166.77)	787.77 (2556.34)	-1545.07 (3098.46)
Observations	1359	1360	1359
R-squared	0.87	0.51	0.64
# of Clusters	47	47	47

Notes: Standard errors, clustered by state, are reported in parentheses. Analysis covers years 1971, 1973-2000, and 2002. All models also include year dummies. All dollar figures are in year 2004 dollars. Alaska, Hawaii, and Wyoming are excluded. * significant at 10%, ** significant at 5%, *** significant at 1%.

Table 6. Education Spending Inequality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	School District Spending GINI Coefficient	School District Spending Coefficient of Variation	School District Spending Theil Coefficient	ln(95th/5th Percentile School District Spending)	ln(5th percentile per pupil spending)	ln(50th percentile per pupil spending)	ln(95th percentile per pupil spending)
Dummy = 1 if initiative state	1.07 (0.61)*	2.46 (1.15)**	0.37 (0.18)**	0.11 (0.05)**	-0.14 (0.03)***	-0.08 (0.03)**	-0.00 (0.05)
Gini Coefficient of Income Inequality	-5.36 (13.57)	-3.86 (25.10)	-0.94 (3.85)	0.14 (1.01)	-1.94 (0.71)***	-2.47 (0.82)***	-2.31 (1.37)*
Proportion of the population aged >65	-0.28 (0.16)*	-0.45 (0.29)	-0.06 (0.04)	-0.02 (0.01)*	0.02 (0.01)**	0.03 (0.01)***	0.03 (0.01)*
Proportion of the population agd 5-17	0.04 (0.16)	0.22 (0.26)	0.02 (0.04)	0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	0.01 (0.02)
Per Capita Income (\$1000s)	0.05 (0.10)	0.09 (0.17)	0.01 (0.02)	0.00 (0.01)	0.03 (0.00)***	0.04 (0.00)***	0.05 (0.01)***
ln(Population)	1.78 (0.38)***	2.73 (0.70)***	0.36 (0.10)***	0.06 (0.04)	-0.01 (0.03)	0.01 (0.03)	0.05 (0.05)
State Pct Metro Pop	-0.05 (0.02)**	-0.08 (0.05)*	-0.01 (0.01)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Pct Pop Change Over Previous 5 Years	0.87 (5.27)	7.28 (8.71)	1.02 (1.29)	0.84 (0.44)*	0.54 (0.28)*	0.65 (0.31)**	1.51 (0.50)***
Unemployment Rate	-0.15 (0.12)	-0.31 (0.20)	-0.03 (0.03)	-0.01 (0.01)	0.01 (0.01)*	0.00 (0.00)	-0.01 (0.01)
DW NOMINATE	0.51 (0.73)	1.41 (1.34)	0.17 (0.22)	0.07 (0.05)	-0.01 (0.03)	0.01 (0.03)	0.07 (0.07)
Federal Intergovernmental Revenue	0.00 (0.00)**	0.01 (0.00)**	0.00 (0.00)**	0.00 (0.00)	0.00 (0.00)***	0.00 (0.00)***	0.00 (0.00)***
Region=Midwest	-0.34 (0.81)	-0.73 (1.36)	-0.15 (0.22)	-0.04 (0.05)	0.00 (0.04)	-0.03 (0.04)	-0.04 (0.07)
Region=South	-1.46 (1.00)	-3.08 (1.86)	-0.50 (0.28)*	-0.14 (0.07)*	-0.10 (0.06)	-0.10 (0.07)	-0.18 (0.13)
Region=West	-2.27 (1.11)**	-3.80 (2.15)*	-0.68 (0.34)*	-0.03 (0.09)	0.00 (0.05)	-0.02 (0.06)	-0.01 (0.10)
Constant	-1.00 (6.56)	-4.80 (12.42)	-1.20 (1.91)	0.08 (0.55)	7.14 (0.49)***	7.37 (0.45)***	6.85 (0.89)***
Observations	1355	1355	1355	1355	1355	1355	1355
R-squared	0.39	0.32	0.27	0.3	0.82	0.86	0.65
# of Clusters	44	44	44	44	44	44	44

Notes: Standard errors, clustered by state, are reported in parantheses. Analysis covers years 1971, 1973-2000, and 2002. All models also include year dummies. Alaska, Hawaii,

Table 7: Pre-existing Differences between Would-be Initiative and Non-initiative States, 1889-1900

	ln(State Funding)		ln(Local Funding)		ln(Total Funding)	
	(1)	(2)	(3)	(4)	(5)	(6)
Would-be Initiative Dummy	-0.353 (0.170)**	-0.351 (0.170)**	0.574 (0.225)**	0.255 (0.106)**	0.360 (0.166)**	0.125 (0.069)*
ln(Real Income per Worker)		-0.012 (0.156)		1.584 (0.104)***		1.167 (0.058)***
Constant	0.966 (0.100)***	1.074 (1.372)	1.739 (0.164)***	-12.632 (0.955)***	2.118 (0.110)***	-8.469 (0.528)***
Observations	542	542	542	542	542	542
R-squared	0.084	0.084	0.112	0.750	0.094	0.803

State-by-year data for 1889-90 to 1900-01 schools years. State income data from Turner et al (2006) for 1890 and 1900, linearly interpolated for intermediate years. The dependent variable is the natural log of per pupil funding in nominal terms. All models include year fixed effects. Robust standard errors clustered by state in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8: State Fixed Effects

	ln(Total Funding) (1)	ln(State Funding) (2)	ln(Local Funding) (3)
Initiative Dummy	-0.078 (0.046)*	0.095 (0.137)	-0.131 (0.062)**
ln(Real Income per Worker)	0.974 (0.056)***	0.253 (0.145)*	0.973 (0.120)***
Constant	-6.671 (0.511)***	-1.480 (1.343)	-6.950 (1.113)***
Observations	5,110	5,110	5,109
R-squared	0.994	0.962	0.982

State-by-year data for 1889-90 to 2000-01 school years. Initiative Dummy is equal to one for state-years after a state has adopted the initiative, zero otherwise. State income data from Turner et al (2006). The dependent variable is the natural log of per pupil funding in nominal terms. All models include state and year fixed effects. Robust standard errors clustered by state in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A1: Summary Statistics

	Mean	Median	Std. Dev.	N
Table 1: State + Local Finances				
General own-source revenue	3,189.42	3,143.25	809.65	1,50
General expenditures	3,882.17	3,805.66	938.63	1,50
Table 2: State Finances				
General own-source revenue	1,898.93	1,821.10	561.84	1,50
General expenditures	2,586.98	2,479.33	734.86	1,50
Direct general expenditures	1,802.73	1,676.77	588.67	1,50
Intergovernmental expenditures	784.26	725.65	286.18	1,50
Table 3: Local Government Finances				
General own-source revenue	1,329.58	1,296.56	427.04	1,50
Intergovernmental revenue from state	732.05	685.94	283.46	1,50
Table 4: State Aid to Local Government				
State aid to counties	138.65	83.37	153.43	80
State aid to municipalities	120.21	73.69	142.40	80
State aid to townships	24.36	0.00	58.77	80
State aid to special districts	9.98	3.87	19.14	80
State aid to school districts	424.98	459.46	231.34	80
Total aid for education	537.85	521.16	174.10	1,22
Table 5: Education Funding				
Total	6,797.34	6,632.80	1,918.54	1,30
Revenue from state	3,154.41	3,004.39	1,207.62	1,30
Revenue from local governments	3,121.76	3,011.05	1,461.35	1,30
Tables 6 & 9: Education Funding Inequality				
Gini coefficient	7.73	7.43	2.71	1,30
Coefficient of variation	14.67	14.09	5.03	1,30
Theil coefficient	1.14	0.95	0.82	1,30
Log(95th/5th percentile)	0.56	0.53	0.24	1,30
Log(5th percentile spending)	7.68	7.70	0.36	1,30
Log(50th percentile spending)	7.94	7.94	0.33	1,30
Log(95th percentile spending)	8.40	8.41	0.41	1,30

Notes: All fiscal variables are expressed in year 2004 dollars. All fiscal variables are expressed in per capita terms for Tables 1 through 4, and in per pupil terms for Tables 5, 6, and 9. The measures of inequality used in Tables 6 and 9 are multiplied by 100 to facilitate presentation.