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8 SUPERIOR COURT OF THE STATE OF CALIFORNIA  
9 CITY AND COUNTY OF SAN FRANCISCO

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11 ELIEZER WILLIAMS, et al., ) Case No. 312 236  
12 )  
13 Plaintiffs, ) Date Action Filed: May 17, 2000  
14 )  
15 vs. )  
16 )  
17 STATE OF CALIFORNIA, DELAINE )  
18 EASTIN, State Superintendent )  
19 Of Public Instruction, STATE )  
20 DEPARTMENT OF EDUCATION, STATE) )  
21 BOARD OF EDUCATION, )  
22 )  
23 Defendants. )  
24 )  
25 \_\_\_\_\_ )  
26 STATE OF CALIFORNIA )  
27 )  
28 Cross-Complainant, )  
29 )  
30 vs. )  
31 SAN FRANCISCO UNIFIED SCHOOL )  
32 DISTRICT, et al., )  
33 )  
34 Cross-Defendants. )  
35 \_\_\_\_\_ )

26 EXPERT WITNESS DECLARATION RE CAROLINE M. HOXBY, Ph.D.

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I, Paul B. Salvaty, declare as follows:

1. I am an attorney with the law firm of O'Melveny & Myers LLP, counsel of record herein for defendant State of California ("the State").

2. The State has provided a list of persons whose expert opinion testimony the State intends to offer at trial of this action, either orally or by deposition testimony. The list includes Professor Caroline M. Hoxby, to whom this declaration refers.

3. Professor Hoxby has agreed to testify at trial.

4. Professor Hoxby will be sufficiently familiar with the pending action to submit to a meaningful oral deposition concerning the specific testimony, including any opinions and their bases, that Professor Hoxby is expected to give at trial.

5. Professor Hoxby's fee for providing deposition testimony, consulting with the State, conducting research and other activities undertaken in preparation of the attached report is \$250 per hour.

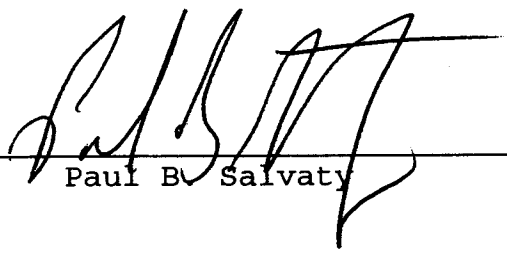
6. Pursuant to Section 2034(f)(2)(A) of the California Code of Civil Procedure, attached hereto as Exhibit A and incorporated herein by reference is a *curriculum vitae* providing Professor Hoxby's professional qualifications.

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7. Attached hereto as Exhibit B and incorporated herein by reference is Professor Hoxby's expert report. Pursuant to Section 2034(f)(2)(B) of the California Code of Civil Procedure, the following is a brief narrative statement of the general substance of the testimony that Dr. Hoxby is expected to give at trial. Professor Hoxby rebuts the plaintiffs' expert reports by, among other things, describing the empirical benefits of local control; explaining that California's current program, which focuses on student outcomes while leaving management of inputs to local authorities, strikes a sensible balance between state and local power; and arguing that plaintiffs' proposals would eliminate local control and have potentially disastrous effects on schools and students. The foregoing statements are only a general summary of the issues and conclusions discussed and documented more fully in Professor Hoxby's expert report.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 18th day of April, 2003, at Los Angeles, California.

  
Paul B. Salvaty

**CAROLINE M. HOXBY**

*Curriculum Vitae*

- Office Address:* Department of Economics  
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telephone: (617) 496-3588  
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- Employment:* 2001-: Professor of Economics, Harvard University
- 1997-00: Morris Kahn Associate Professor of Economics, Harvard University
- 1994-97: Assistant Professor of Economics, Harvard University
- Other Affiliations:* Program Director, Economics of Education Program, National Bureau of Economic Research  
Faculty Research Fellow in Labor, Public Economics, and Children programs, National Bureau of Economic Research  
Distinguished Visiting Fellow, Hoover Institution; member, Hoover Koret Task Force on K-12 Education.  
Fellow, MacArthur Foundation, Inequality and Social Interactions Network  
Senior Advisor, Brookings Institution, Brown Center for Education Policy
- Education:* Ph.D., Economics, Massachusetts Institute of Technology, May 1994  
M.Phil., Economics, University of Oxford (England), June 1990  
A.B. *summa cum laude*, Economics, Harvard University, June 1988
- Honors, Grants, and Fellowships:* 2000-01: Carnegie Scholar, Carnegie Corporation of New York  
1999: Alfred P. Sloan Research Fellowship in Economics  
1998-99: John M. Olin Junior Faculty Fellowship in Economics  
1998-2003: National Institute of Child Health and Development grant  
1996-97: Bunting Institute Fellowship  
1996-: Mellon Foundation grant for higher education research  
1995-98: National Science Foundation grant  
1994: National Tax Association Award, Best Dissertation in Public Economics, 1994  
1993-94: Ford Foundation Fellowship

1993-94: Spencer Foundation Fellowship for Research Related to Education  
1990-93: National Science Foundation Graduate Fellowship  
1990: Best M.Phil. Thesis in Economics, University of Oxford  
1988-90: Rhodes Scholarship  
1988: Best Thesis in Economics, Hoopes Prize, Phi Beta Kappa, Harvard University 1988

*Public Service:* 1996- : Advice and testimony for several state legislatures/courts on school finance equalization and charter school legislation; testimony for Congress on tax policy for higher education, elementary and secondary education initiatives, and college costs  
1997-98: National Academy of Sciences Panel, Forecasting in Science and Engineering

*Graduate Teaching:* Labor Market Analysis (Economics 2810a): 1994-present  
Public Economics (Economics 2450a/2450b): 1996-present

*Undergraduate Teaching:*  
The Economics of Education (Economics 1822): 1994-present  
Public Economics (Economics 1410): 1999-present  
Applied Econometrics (Economics 1123): 1995-1997

*Publications:*

Hoxby, Caroline M., "All School Finance Equalizations Are Not Created Equal," *Quarterly Journal of Economics*, forthcoming.

Hoxby, Caroline M., "Does Competition Among Public Schools Benefit Students and Taxpayers?" *American Economic Review*, Vol. 90, No. 5 (December 2000), 1209-1238.

Hoxby, Caroline M., "The Effects of Class Size on Student Achievement: New Evidence from Population Variation," *Quarterly Journal of Economics*, Vol. 115, No. 4 (November 2000), 1239-1285.

Hoxby, Caroline M., "The Productivity of Schools and Other Local Public Goods Producers," *Journal of Public Economics*, Vol. 74, No. 1 (November 1999), 1-30.

Hoxby, Caroline M., "The Effects of School Choice on Curriculum and Atmosphere," in Susan Mayer and Paul Peterson, eds., *Earning and Learning: How Schools Matter*. Washington, D.C.: Brookings Institution Press, 1999.

Hoxby, Caroline M., "How Much Does School Spending Depend on Family Income?"

The Historical Origins of the Current School Finance Dilemma," *American Economic Review*, Vol. 88, No. 2 (May 1998), 309-314.

Hoxby, Caroline M., "Tax Incentives for Higher Education" in J. Poterba, ed., *Tax Policy and the Economy*. Cambridge, Mass.: MIT Press, 1998.

Hoxby, Caroline M., "Do Immigrants Crowd Disadvantaged American Natives Out of Higher Education?" in F. Bean and D. Hamermesh, eds., *Help or Hindrance? The Economic Implications of Immigration for African Americans*. New York: Russell Sage Foundation, 1998.

Hoxby, Caroline M., "Analyzing School Choice Reforms Using America's Traditional Forms of School Choice," in Bryan Hassel and Paul Peterson, eds., *Learning from School Choice*. Washington, D.C.: Brookings Institution Press, 1998.

Hoxby, Caroline M., "How to Do (And Not to Do) School Finance: The Legacy and Lessons of Serrano," *Proceedings of the National Tax Association*, 1997.

Hoxby, Caroline M., "How Teachers' Unions Affect Education Production," *Quarterly Journal of Economics*, Vol. 111, No. 3 (August 1996), 671-718.

Hoxby, Caroline M., "Are Efficiency and Equity in School Finance Substitutes or Complements?" *Journal of Economic Perspectives*, Vol. 10, No. 4 (Fall 1996), 51-72.

Hoxby, Caroline M., "Evidence on Private School Vouchers: Effects on Schools and Students," in Helen Ladd, ed. *Performance-Based Approaches to School Reform*. Washington, D.C.: Brookings Institution, 1996.

*Book in Progress:*

Hoxby, Caroline M., ed. *The Economics of School Choice*, forthcoming from the University of Chicago Press for the NBER.

*Unpublished Papers:*

Hoxby, Caroline M., "Ideal Vouchers," NBER Working Paper, 2001.

Hoxby, Caroline M., "School Choice and School Productivity (Or, Could School Choice be the Tide that Lifts Boats?)" Harvard University typescript, 2001.

Hoxby, Caroline M., "Peer Effects in the Classroom: Learning from Gender and Race Variation," NBER Working Paper No. 7867.

Hoxby, Caroline M., "Would School Choice Change the Teaching Profession?" NBER Working Paper No. 7866.

Alesina, Alberto, Reza Baqir, and Caroline M. Hoxby, "Political Jurisdictions in Heterogeneous Communities," NBER Working Paper No. 7859.

Hoxby, Caroline M., "Benevolent Colluders? The Effects of Antitrust Action on College Financial Aid and Tuition," NBER Working Paper No. 7754.

Hoxby, Caroline M., "The Return to Attending a More Selective College: 1960 to the Present," Harvard University, 1998.

Hoxby, Caroline M., and Bridget Terry, "Explaining Rising Income and Wage Inequality among the College-Educated," NBER Working Paper No. 6873.

Hoxby, Caroline M. and M. Daniele Paserman, "Overidentification Tests for Grouped Data," NBER Technical Working Paper No. T0223.

Hoxby, Caroline M., "The Effects of Geographic Integration and Increasing Competition in the Market for College Education," May 2000 revision of NBER Working Paper No. 6323.

Hoxby, Caroline M., "The Changing Market Structure of U.S. Higher Education," Harvard University, 1997.

Hoxby, Caroline M., "Do Private Schools Provide Competition for Public Schools?" August 2000 revision of NBER Working Paper no. 4978.

**ACHIEVEMENT, EFFICIENCY, AND CENTRALIZATION  
IN CALIFORNIA PUBLIC SCHOOLS**

A REPORT PREPARED BY  
CAROLINE M. HOXBY  
PROFESSOR OF ECONOMICS, HARVARD UNIVERSITY

APRIL 16 2003



## 1. Background

Plaintiffs argue for several specific policies known as input policies: teacher certification and re-licensing requirements, higher teacher salaries, textbook requirements, instructional materials requirements, and a variety of facilities requirement for everything from bathrooms to classrooms to playgrounds. (See plaintiffs plaintiffs liability disclosure statement.) Plaintiffs argue that, in order to have its schools implement these policies, the State of California should create input mandates, provide inputs, and monitor compliance with their recommended input use and input mandates.

- Schools in the state of California should use the inputs and input policies the plaintiffs prescribe, specifically: certain teacher certification and re-licensing requirements, higher teacher salaries, certain textbook and instructional materials requirements, and a variety of requirements covering nearly every aspect of facilities.
- The State of California should determine the appropriate level of these inputs, make provisions to ensure that schools provide these inputs at the state-determined level, and monitor schools' compliance with their input policies. All this would be necessary to ensure that the plaintiffs' prescription is followed.

The plaintiffs occasionally state that local control is good for schools. Implicit in these statements is the claim that their prescription would not substantially reduce local management of inputs. These statements and this implicit claim are disingenuous. The plaintiffs prescribe a specific set of input policies which they want to see in every California school. They argue that the State of California has been neglectful in not mandating, making provision for, and monitoring compliance with their preferred set of policies. It would be impossible for the State to agree to their prescription and remedy the purported neglect without substantially centralizing control over the input policies in question.

The plaintiffs want to substitute their judgement for the judgement of Californians, who have—through their legislators—put in place California's current system of school finance, accountability, and input management. This is somewhat audacious. The current system is one in which the state monitors schools' performance and ensures that all California schools have an approximately equal level of resources, taking each school's student body into account. The current system, however, allows largely decentralized management of inputs. This system can be described as a "tight-loose" system because the state's control of overall finances and monitoring of performance is strong, but the state allows schools to find the most efficient way to use their resources to attain high performance. Also, the current system is new; performance monitoring (the accountability system) is recent and some aspects of it are still being rolled out. While current indications suggest that the California's accountability system is working, it is too early for a full evaluation because school administrators are still adjusting their management to reflect what they have learned through performance monitoring. Many benefits of the accountability system have yet to be seen. So long as progress continues to be made under the recently developed "tight-loose" system, the system ought to be given a chance to work. The system is, after all, the work of many commissions, committees, experts, legislators, and consultations with parents and other parties with an interest in education. The plaintiffs seek to substitute their preferred set of input policies for the combined wisdom of all these groups.

## 2. Is There a Known *Right* Way to Run a Public School?

**2.1** The best research suggests that there is no known "right" way to run a public school. The plaintiffs

purport to have definitive evidence that specific inputs and policies—such as textbooks, teacher credentials, class size, and facilities—can make a school good. In fact, the evidence they cite is not only unrepresentative of evidence in general; it is of very poor quality. Very little of the evidence they cite would be publishable in any of the peer-reviewed journals for which I provide reviews, and very little of it would be considered worthy of funding by organizations that use strong peer-review systems to evaluate proposals. This is the research they cite typically falls far short of the standards that experts (peers) impose when they review work.

In order to be high quality, evidence on school inputs and policies must fulfill two criteria:

1. It must rely on objective, representative data. If it is to be high quality, evidence must not rely on measures of inputs or policies that are sufficiently subjective that only the original researcher can replicate them. If it is to be high quality, evidence must not rely on anecdotal data—that is, data that are not representative of California public schools in general.

2. It must recognize the fact that certain inputs often appear in schools that serve families who are well-off, well-educated, and dedicated to education. This does *not* mean that the inputs have a causal relationship with the above-average achievement typical of children from families who are well-off, well-educated, and dedicated to education. For instance, textbooks may be in good condition and students may be permitted to take them home because students take good care of books, not because the school has a bigger textbook budget. Two schools with the same facilities budget may end up with facilities that look different, depending on the schools' management. Facilities in good condition may be so because the school monitors maintenance carefully, makes repairs in a timely fashion, and does not allow vandalism or shoddy construction. Two schools with the same budget for instructional salaries may end up with teachers who have different credentials, simply because better qualified teachers seek out good administrators. If the state is to succeed by pursuing input policies, *it must establish that the relationships between inputs and student performance are causal*. Otherwise, state policy would be better focused on providing an overall level of resources to schools and monitoring their performance, in order to give schools incentives to manage their own resources well. State policy would also be better focused on providing management guidance to schools with unusually poor management, as revealed by the performance monitoring system.

**2.2** Evidence on the relationships between inputs and student performance can be ranked as follows:

**2.2.a Good Research** relies on objective, representative data. It sorts out school and families by carefully controlling for the effects of families, using very detailed data on students' families, including at least:

- family income;
- parents' education;
- the educational and learning resources provided in the home (reading material, computers, study space, and so on);
- parents' educative behavior (homework supervision, taking their children to libraries and museums, providing outside lessons in academic subjects or arts, and so on)
- parents' ability to devote time to each of their children (typically measured by whether there is a part-time or full-time stay-at-home parent, parents' working hours, and the number of children in the family).

**2.2.b Better Research** does everything that Good Research does, and it also takes account of the

initial differences in students' achievement that are not due to schools by:

- examining students' *gains* or *value-added* in school, subtracting students' initial achievement from end-of-school-year achievement;
- otherwise controlling for students' initial achievement.

2.2.c The Best Research does everything that Better Research does, and it focuses on changes in school inputs and policies that are *not* influenced by parents. It is inherently impossible to fully sort out school and family effects when we examine inputs and policies that families have themselves shaped or influenced. The best research does one of the following:

- focuses on how achievement changes when *the state*, as opposed to local families, alters school inputs or policies. It is generally necessary to control for other statewide events when pursuing this approach. For instance, a researcher should control for changes in the state's economic prosperity, immigration, and so on.
- focuses on how achievement changes when some arbitrary factor or outside agent (*not* families) alters school inputs or policies. Explicit policy experiments that increase inputs for a randomly selected group of schools or student fall under this heading. "Natural experiments" in which a arbitrary group or schools receive increased inputs also fall under this heading. Natural experiments typically occur through the interaction of laws and a outside event and current laws.

2.2.d Below-Acceptable Research falls short of the Good Research standard and cannot be used to infer causal relationships between inputs and student performance.

2.3 Almost all of the research cited by the plaintiffs falls into the category of Below-Acceptable research. Typically, it falls far short of the standards for Better Research or the Best Research. The plaintiffs' experts routinely cite mere correlations and boldly assert that they are evidence of *causality*. Yet, the plaintiffs' must demonstrate that the relationship they highlight are *causal* if the appropriate remedy is a series of input policies. Moreover, the plaintiffs also must demonstrate that state control of input policies will make inputs better in California's schools. It does not appear that they have even attempted to provide evidence that state control is superior.

2.4 If we review research that at least meets the standard for Good Research, we see that there is no consensus about the effects of school inputs such as textbooks, teacher credentials, class size, or facilities. Moreover, as we move to research that fulfils the standard for Better Research or the Best Research, the lack of consensus grows. A persistent, though not universal, finding in high quality research is that the inputs named have no effect, *in and of themselves*. This is not to say that resources do not matter, but that they must be combined with good management if they are to work. Good management of schools is produced when schools and students are held accountable and face good incentives to perform.

The table below reviews evidence on school inputs, dividing studies by quality. It will be seen that one cannot substantiate the plaintiffs' claim to have definitive evidence on the effects of specific inputs and policies.

	Number of Studies with Results that are:		
	positive & statistically significant	negative & statistically significant	statistically insignificant
Good Quality			
per-pupil spending	37	11	152
class size	25	26	149
Better Quality			
per-pupil spending	10	22	69
class size	0	7	66
teacher experience	36	2	62
Best Quality			
class size	1	0	2

Notes: Author's classification of studies into Good, Better, and Best categories. All of the studies are listed in the References section of Eric Hanushek, "Publicly Provided Education," in A.J. Auerbach and M. Feldstein, eds. *Handbook of Public Economics*, Volume 4. Amsterdam and New York: Elsevier Science, 2002.

Clearly, there is no known, right way to run a public school. Therefore, plaintiffs' argument that California public schools must be run according to their preferred model is arbitrary. There is no evidence that the policies they recommend are superior to the tight-loose system on the basis of which California public schools are currently run.

### 3. Does it Make Sense for a State to Focus on Input Policies?

**3.1** In the previous section, we saw that evidence provides us with no known, right way to run a public school. A more fundamental problem with the plaintiffs' argument is there is *inherently* no one right way to run a public school. There is *inherently* no set of inputs that can make a public school good. Of course, a school needs resources, but there is no substitute for good management that takes account of local circumstances and allocates resources accordingly.

**3.2** The most effective role that the state can play is to:

- ensure that each school has a relatively equal level of resources and that schools that use these resources *efficiently* are able to meet California's performance standards. California schools have among the most equal spending in the United States.
- provide incentives for schools to use their resources efficiently by monitoring their performance on statewide achievement tests, college admissions tests, high school graduation, the post-graduation activities of students, and other outcomes important to Californians;
- provide schools with information that they may use to improve achievement and maximize the effectiveness of their resources. Such information includes curriculum frameworks and standards and studies of the management techniques employed by administrators who run

schools that are unusually high achieving, given their resources and student bodies.

**3.3** There is a dramatic difference between (a) providing schools with resources, incentives, and information and (b) forcing a specific set of inputs and input policies on schools. In the former case, good managers are equipped with the resources they need and schools are encouraged to hire and reward good managers. The latter case, a good manager may find himself unable to use resources effectively because his local circumstances would dictate a different set of inputs and policies than those forced upon him. He or she may end up spending considerable time and energy finding ways to work around state-determined input policies and reallocate his or her resources toward more productive uses. Indeed, many of the innovative management techniques employed by successful administrators would not have been discovered and could not have implemented had those managers been forced to follow a specific set of input policies.

**3.4** Showing that inputs have a causal relationships with performance is not sufficient to justify state determination of input policies. This is because a state can easily manage inputs less well than schools. States that attempt to manage inputs face a extraordinarily difficult task because:

- any reasonably simple state policy on inputs is a one-size-fits-all policy;
- any state policy on inputs that attempts to take account of all local circumstances is so complicated that it is unworkable. Moreover, we have far too little evidence to even consider constructing such a complicated policy from evidence. Such a complicated policy must be based almost entirely on guesswork.

**3.5** How do we know that good school management is important?

There are literally hundreds of studies that demonstrate that there is considerable variation in achievement among schools that have similar resources, similar student bodies, and similar neighborhoods. However, let us consider some recent data from California specifically.

#### 3.5.a Evidence from the National Education Longitudinal Study

Let us first examine evidence based on the National Education Longitudinal Study (United States Department of Education, 1994). The data from this study have several advantages:

- the study contains an enormous amount of information on students' family backgrounds, prior test scores, schools, and neighborhoods;
- the study is conducted by the United States Department of Education and data collection is of a high standard;
- the data are collected in a such a way that they are representative (with appropriate use of survey weights);
- all of the students in the survey take a common set of achievement tests in reading, mathematics, science, and history/social studies.

The data from this study have the disadvantage that they are less recent and less comprehensive than the administrative data that California has in its STAR system. (We will look at California STAR data next.)

I ran four regressions using data from the National Education Longitudinal Study. Each

regression explains tenth graders' achievement on one of the four subject area tests: reading, mathematics, science, or history/social studies. Each regression uses correct survey weights and controls for the following factors:

- student's own prior achievement in this subject, in the eighth grade;
- family income, parents' education, student demographics (see table notes for details);
- educational and learning resources provided in the home (for table notes for details);
- parents' educative behavior (see table notes for details);
- parents' ability to devote time to each of their children (see table notes for details);
- neighborhood income and demographics (see table notes for details);
- school resources, teacher salaries and credentials; class size (see table notes for details).

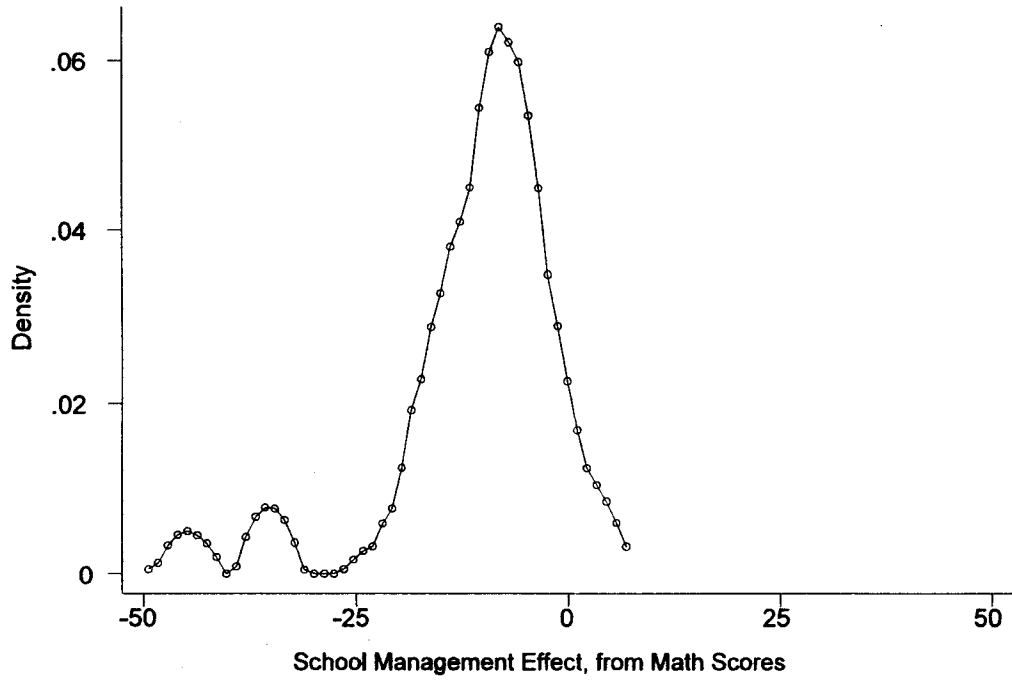
It will thus be seen that these estimates fulfil the Better Research standard.

Controlling for all of the factors listed above, I estimated a management effect for each school (also known as a common effect or fixed effect). This estimated effect measures the quality of management at each school—that is, it measures how much better or worse a school's students do than very similar students in schools with very similar resources in neighborhoods with very similar characteristics.

In the charts on the next two pages, I show the distribution of estimated school management effects for California schools in the National Education Longitudinal Study. Each distribution looks like a rough bell, showing that most schools have a similar quality of school management. Notice, however, that each distribution has "tails" that cover much of the possible range of management effects (-50 to 50 because the test is scored from 0 to 100). This tells us that management can differ greatly, even among schools with extremely similar students, neighborhoods, and resources.

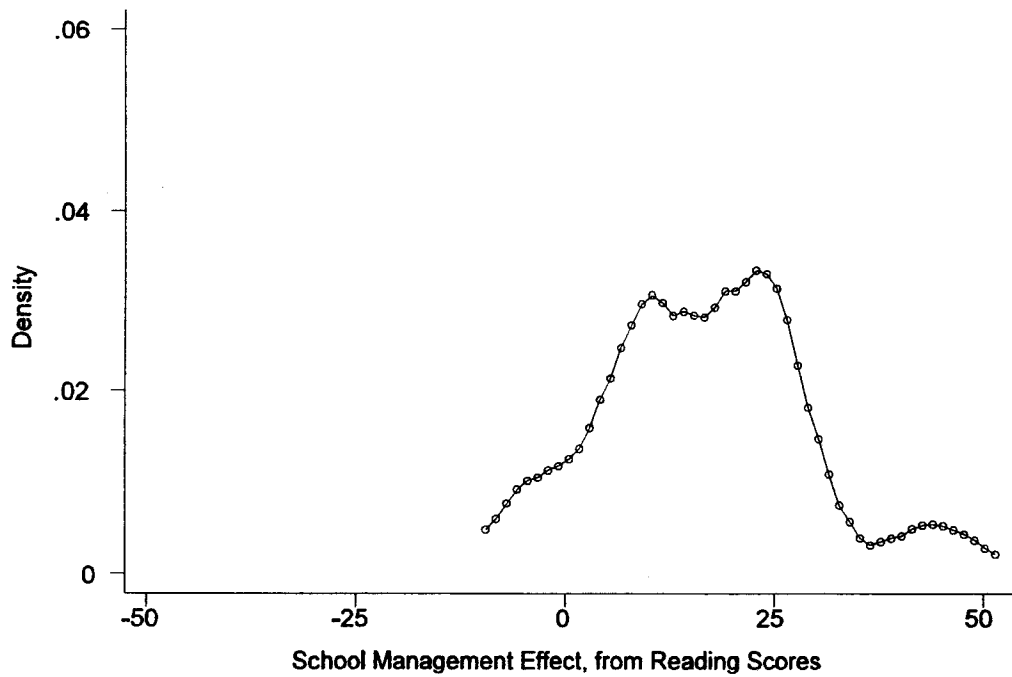
### School Management Effects in California Schools

(based on math scores of Californian students in NELS\*, controlling for family background, neighborhood and school resources)



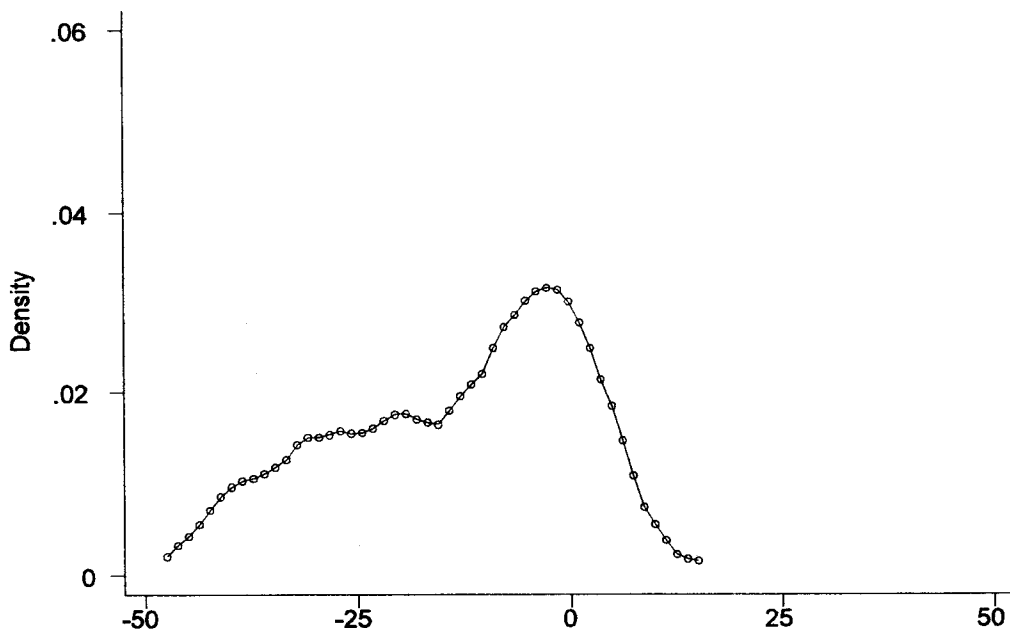
### School Management Effects in California Schools

(based on reading scores of Californian students in NELS\*, controlling for family background, neighborhood and school resources)



### School Management Effects in California Schools

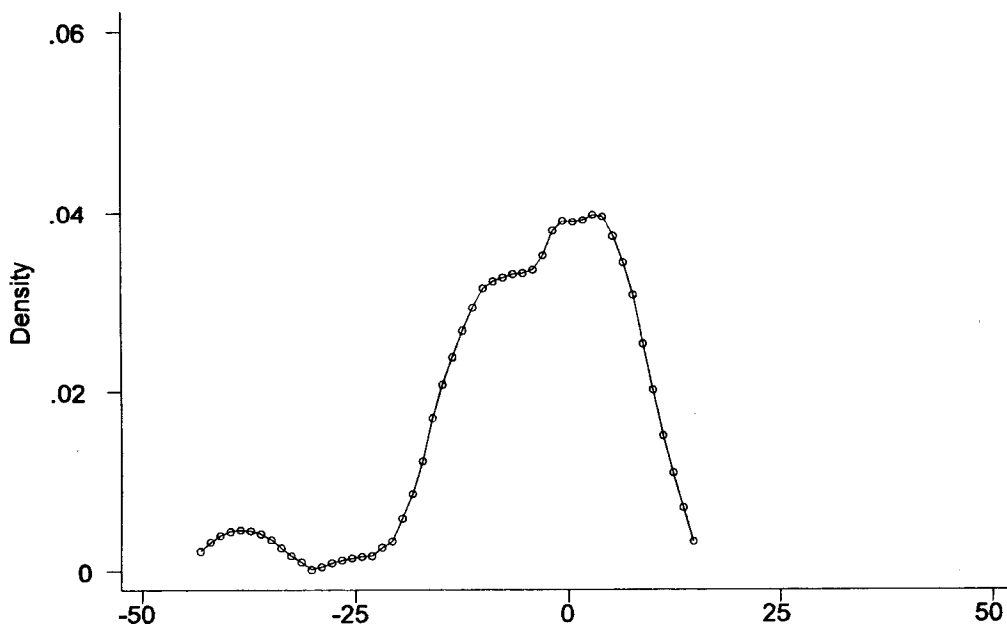
(based on history/social studies scores of Californian students in NELS\*, controlling for family background, neighborhood and school resources)



School Management Effect, from History/Social Studies Scores

### School Management Effects in California Schools

(based on science scores of Californian students in NELS\*, controlling for family background, neighborhood and school resources)



School Management Effect, from Science Scores



### 3.5.b Evidence from California STAR Data Before the Full Implementation of Accountability

Let us now examine evidence based on California's 1997-98 STAR data, which are from the period just at the beginning of the implementation of California's accountability system. These data have several advantages:

- they are relatively recent, yet they are not from the past couple of years, in which California schools have faced clearer incentives for good management. We may therefore hope to see the range of management that exists in the absence of a strong accountability system.
- Although the data precede the full implementation of California's STAR testing system, they can be compared to the most recent available STAR test results.
- The data are comprehensive.
- Some demographic data about each school's students are available, as are some demographic data about the neighborhood of each school.

The STAR data have the disadvantage that we cannot control for a student's own prior test scores or a full array of family and neighborhood variables.

I ran a regression for each grade in which students were tested in 1997-98, in reading and mathematics (a separate regression for each subject). Each regression explains students' achievement, measured in national percentile rank scores, and controls for the following factors:

- student demographics, free/reduced-price lunch status, and Limited English Proficiency;
- family incomes, adults' education, and demographics in the neighborhood around the school (for table notes for details);
- school resources, teacher salaries and credentials; class size (see table notes for details).

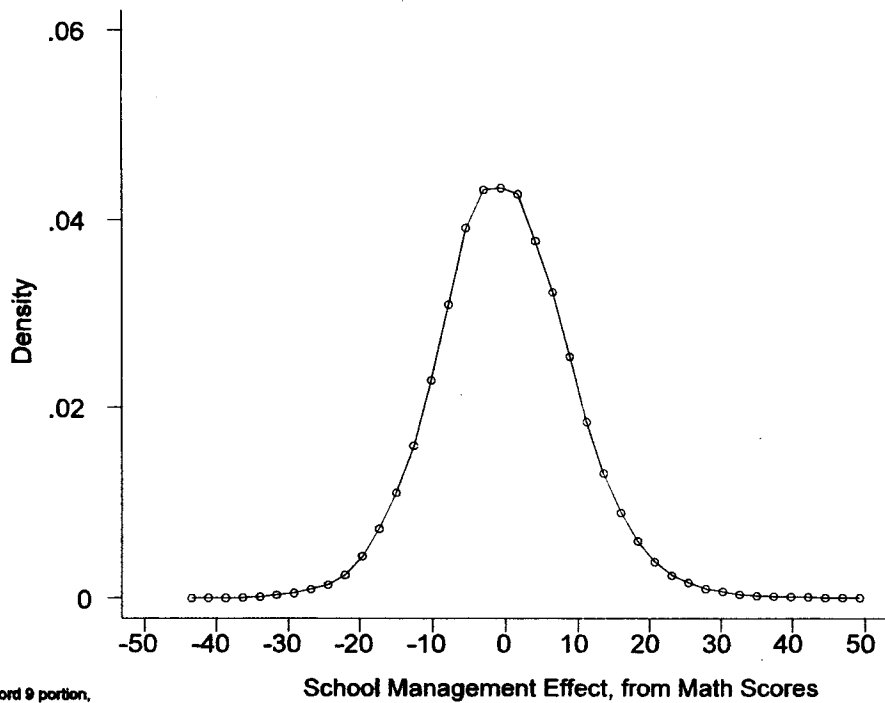
I control for these factors at such a high level of detail that the regression is equivalent to dividing California schools up into small groups with very similar circumstances.

Controlling for all of the factors listed above, I estimated a management effect for each school (also called a common effect or fixed effect). This is equivalent to measuring the range of schools' systematic effect on achievement *within* each small group of schools with very similar circumstances.

In the charts below, I show the distribution of estimated school management effects for California schools, for all grades, from the 1997-98 STAR data. The distributions based on the STAR data are consistent with the evidence based on the NELS and confirm that management can differ greatly among very similarly situated schools.

### School Management Effects in California Schools

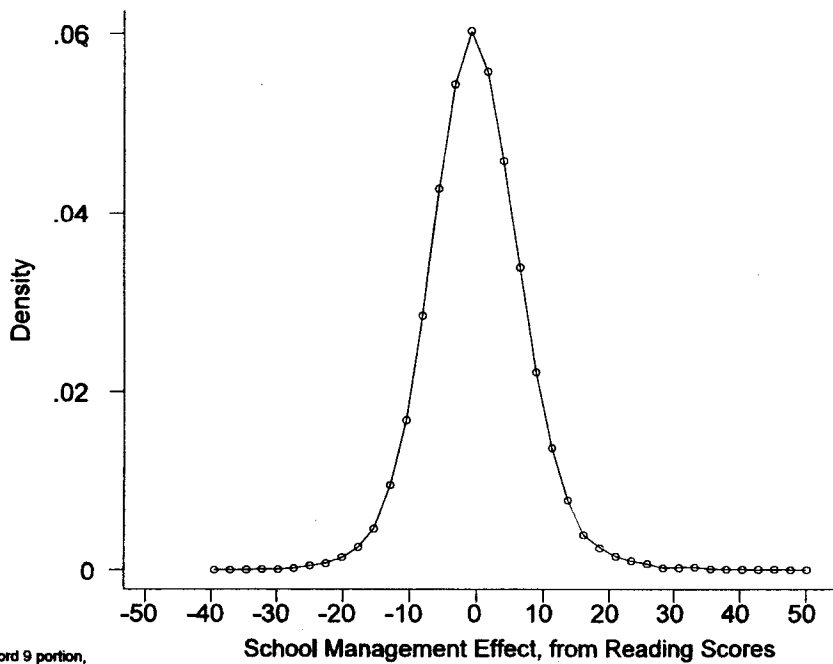
(based on 1997-98 California STAR math scores\*, controlling for family background, neighborhood and school resources)



\*Stanford 9 portion, National Percentile Rank Scores

### School Management Effects in California Schools

(based on 1997-98 California STAR reading scores\*, controlling for family background, neighborhood and school resources)



\*Stanford 9 portion, National Percentile Rank Scores

#### 4. How Important *are* Schools in Determining Achievement? How Important is Parental and Local Involvement?

**4.1** The plaintiffs focus on how school inputs affect achievement, but this focus is very misleading. In fact, the vast majority of variation in students' achievement is explained *not* by the their schools, but by what their parents do and how much their neighborhood supports education. I demonstrate this below.

**4.2** A reasonable question might be, "Why does it matter that parents and neighborhoods are important, perhaps much more important than schools? After all, doesn't state policy only affect what schools do?" This is a sound question, but the answer is no.

If a state's policies towards its public schools decrease parents' or neighborhood support for education, the state is likely to have done far more harm than good, even if the state's policies seem good for the schools themselves (in the sense of improving the *schools'* effect on achievement). This is because parents' and neighborhood effects on students are so great, compared to schools', that a policy that decreases parents' or neighborhood effects will almost certainly be harmful overall, even it improves schools' effect on students. Put another way, the state must take the greatest care to ensure that its policies designed to improve schools do not simultaneously alienate parental or neighborhood support.

**4.3** Let us now examine evidence on the relative importance of families, schools, and neighborhoods.

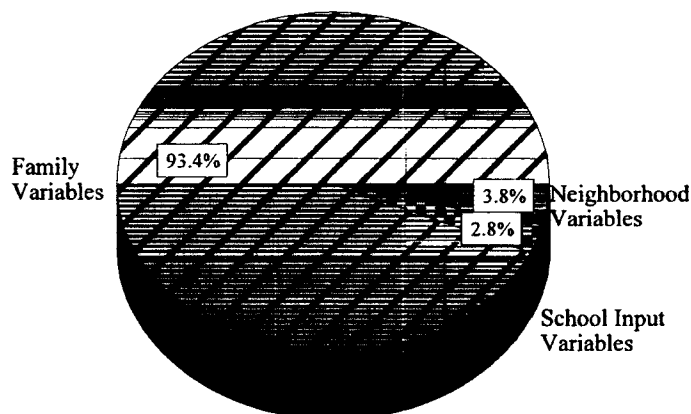
In order to see how important schools, families, and neighborhoods are in explaining achievement, one divides the variables that affect achievement into three groups. We have already described these factors, above. (Also, see the notes accompanying each figure below. These list the exact set of variables in each category: school, family, and neighborhood.) One can use regression to apportion the explained variation in the students' achievement among school input variables, family background variables, and neighborhood variables.

##### 4.3.a Evidence based on tests scores, from the National Education Longitudinal Study

If we perform such analysis using data on twelfth graders' mathematics achievement from the National Education Longitudinal Study, we obtain the first figure on the next page, which summarizes how the explained variation in students' scores is apportioned among school, family, and neighborhood variables. It shows that family variables account for 93.4% of the explained variation in twelfth graders' scores, neighborhood variables account for 3.8%, and school variables account for 2.8%.

One obtains this using regression analysis, which shows how an outcome (like twelfth graders' math scores) is correlated with many family, neighborhood, and school input variables. Regression uncovers how much each variable is correlated with the students' outcomes, taking account of all of the other variables' simultaneous influence. For instance, parents who interact more with their school have children who achieve more, and regression tells us how much parental interaction is worth *taking account of all other circumstances* such as how many resources the school has, how well off the parents are, and educated people are in the student's neighborhood. The figure comes from a published study: C.M. Hoxby, "If Families Matter Most, Where Do Schools Fit In?" in T. Moe, ed., *A Primer on American Schools*.

Shares of Explained Variation in 12-Graders' Math Scores  
that are Explained by Family, School Input, and Neighborhood Variables



#### 4.3.b Evidence based on educational attainment, from the National Longitudinal Survey of Youth

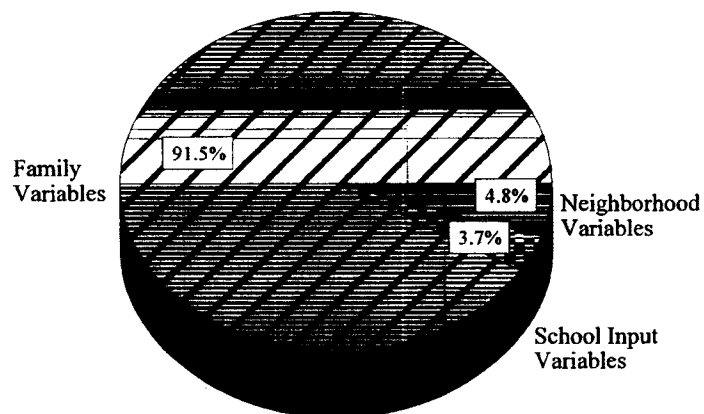
Test scores have their limitations. The advantage of test scores is that they measure skills during a student's actual school experience. The disadvantage of test scores is that they are an intermediate outcome—that is, one cares about test scores not so much for themselves, but because they are good predictors of later outcomes about which we care more directly—for instance, a student's ultimate educational attainment, occupation, income, and so on.

In order to examine later outcomes, I turn to the National Longitudinal Survey of Youth (United States Department of Labor, Bureau of Labor Statistics, 2003), another representative survey. This survey has followed individuals from their mid-teens through their late 30s. By regressing each person's ultimate education attainment (measured in years of schooling completed) on all of the school, family, and neighborhood variables, I obtain the figure on the next page, which shows how the explained variation in educational attainment is apportioned. It shows that family variables account for 91.5% of the explained variation in students' ultimate education attainment, neighborhood variables account for 4.8%, and school variables account for 3.7%.

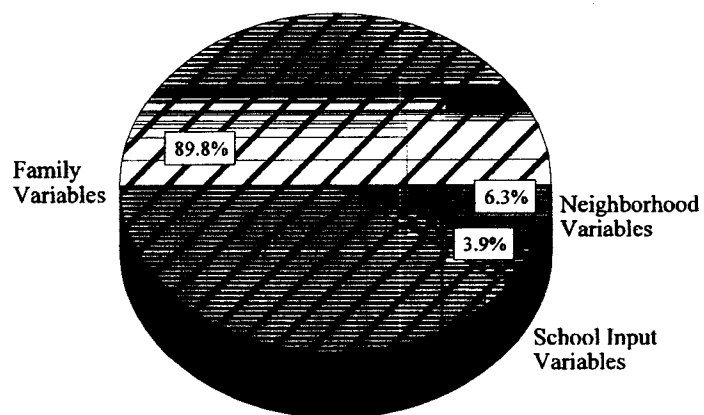
#### 4.3.c Evidence based on income, from the National Longitudinal Survey of Youth

Finally, let us examine income, which is undoubtedly an important later outcome for students. Again using data from the National Longitudinal Survey of Youth, I examine wages at age 33. (A person's wage is his income from wage and salaries, divided by his hours of work.) It is useful to look at a person's wage at about age 33 because, at that age, people are still early in their careers but almost no one is still in school. By regressing each person's wage on all of the school, family, and neighborhood variables, I obtain the second figure on the next page, which shows that family variables account for 89.8% of the explained variation in 33-year-olds' wages, neighborhood variables account for 6.3%, and school variables account for 3.9%.

**Shares of Explained Variation in 33-Year-Olds' Educational Attainment**  
that are Explained by Family, School Input, and Neighborhood Variables



**Shares of Explained Variation in 33-Year-Olds' Incomes**  
that are Explained by Family, School Input, and Neighborhood Variables



**4.4** Summing up, it is worth reiterating that a state's school policies *do* matter, not only because they affect schools, but also because they indirectly affect how families and neighborhoods function. However, the state must always be mindful of how its school policies affect families and neighborhoods because they are so important to students. For instance, if we look at the figure that apportions twelfth graders' mathematics test scores, we see that a policy that *doubles* the effectiveness of schools will be counterproductive if it makes family effects just 3% worse than they were initially ( $3\% = \frac{100 - 3.8 - (2.8 \times 2)}{93.4}$ ).

The most effective state policies for schools will be those that not only improve schools, but also induce parents and neighborhoods to be more supportive of their schools.

## 5. Evidence on the Effects of Local and Centralized Control

**5.1** The plaintiffs implicitly argue for more centralized control of inputs and input policies in California schools. For instance, they would like to see the state set detailed requirements on the textbooks, teacher credentials, class size, and facilities for each California school. The evidence suggests, however, that such centralization makes schools worse, not better. Admittedly, we do not have the benefit of evidence from a massive randomized experiment in which a state centralizes input decision for half of its schools and leaves the other half with discretion. We do have several pieces of highly suggestive evidence, however, and they all point in the direction of *more centralization* → *poorer achievement*. The pieces of evidence are as follows:

- states that have more centralized control of inputs have lower average student outcomes, measured by test scores, high school graduation, or college enrollment. This is true even if we control for the differences in the income and demographics of states' populations.
- States that have substantially increased their centralized control over public schools' inputs during the last 30 years have experienced slower than average growth in student performance. This is true even if we control for changes in the income and demographics of states' populations.
- Compared to other American states, Californian education is already more than average in centralization, yet its students' performance is worse than that of students from much less centralized states. This is especially true if we compare California to other states with similar income. There is little reason to think that, by increasing its centralization of inputs still further, California will raise its students' performance.

Let us examine each of these pieces of evidence in more detail.

**5.2** States with historically high levels of centralization have had worse student achievement.

One can rank states according to how centralized their control of inputs has been, historically. The first statistic I examine is the state's share of non-federal revenue, in each state (*Digest of Education Statistics*, United States Department of Education, 2001). This tells how much the state controls the overall

resources that its schools enjoy.<sup>1</sup> The second statistic I examine is the state's control of key input policies, either through mandates or through statewide purchasing. The key input policies are:

- a state policy on year-round school calendars;
- state selection and recommendation of textbooks;
- a state schedule of minimum teacher salaries;
- in-service professional development for teachers based on state standards;
- hours of professional development (or equivalent in courses) for teaching license renewal;
- state required in-classroom teaching assessment.

If a state has the maximum mandates or control over all of these policies, it gets a statistic of 100%.<sup>2</sup> If has the maximum mandates or control over 5 of the 6 policies, it gets a statistic of 80%, and so on.

The table on the next page shows how each state does, on each of the two statistics for centralized control of inputs. Column (3) in the table shows the average of the two statistics—that is, it shows an approximate measure of how centralized each state's inputs are. In the table, the states are ordered from most to least centralized, based on the average in column (3). Columns (4) and (5) show each state's grade 4 and grade 8 mathematics scores on the most recent National Assessment of Educational Progress (NAEP).

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<sup>1</sup> Note that we must exclude federal revenues because these simply reflect how a state's poverty and other circumstances. A state gets more federal revenue if its students are poorer, more disabled, and more limited in their English proficiency. For instance, Mississippi schools get an large proportion of their revenue from the federal government than do Connecticut schools. This is simply because Mississippi is a poorer state and its students are eligible for more federal programs. The larger federal role in Mississippi is not a sign that the state has centralized control of education. It is simply a sign of Mississippi's being a relatively poor state.

<sup>2</sup> Each of the calendar, minimum teacher salary, state in-service professional development, and state required teaching assessment variables is equal to 100 if the state has the policy, 0 otherwise. The textbook variable is equal to 100 if the state selects and provides textbooks, 67 if it selects and recommends textbooks, 33 if it only recommends textbooks, and 0 if textbook decisions are purely local. The hours of professional development variable is equal to  $(\text{annual hours required}/60)*100$ . For sources see notes below the table.

State	(1) State's % of Revenue for Public Schools <sup>a</sup>	(2) Centralization of 6 School Policies <sup>b</sup>	(3) Centralization Index: average of columns (1) & (2)	(4) Mean NAEP Score, 4 <sup>th</sup> Graders <sup>c</sup>	(5) Mean NAEP Score, 8 <sup>th</sup> Graders <sup>c</sup>
Oklahoma	96.0	90.3	93.1	225	272
South Carolina	94.0	75.9	85.0	220	266
West Virginia	70.0	87.0	78.5	225	271
Hawaii	100.0	50.0	74.5	216	263
Kentucky	70.0	70.0	70.0	221	272
North Carolina	76.0	63.9	69.9	232	280
Texas	48.0	82.9	65.4	233	275
Florida	57.0	73.3	65.2		264
Alabama	72.0	53.7	62.9	218	262
Michigan	96.0	25.9	61.0	231	278
Mississippi	66.0	55.6	60.8	211	254
Oregon	63.0	57.0	60.0	227	281
Tennessee	56.0	59.3	57.6	220	263
Vermont	81.0	33.3	57.2	232	283
Washington	72.0	41.7	56.8		
Iowa	57.0	55.6	56.3	233	284
Arkansas	69.0	41.7	55.3	217	261
Delaware	70.0	38.0	54.0		267
Georgia	54.0	53.7	53.9	220	266
Kansas	95.0	12.3	53.7	232	284
Virginia	37.0	65.6	51.3	230	277
New Mexico	38.0	61.1	49.6	214	260
Alaska	73.0	25.9	49.5		
Idaho	67.0	27.8	47.4	227	278
Utah	67.0	27.8	47.4	227	275
California	66.0	27.2	46.6	214	262
Minnesota	63.0	28.2	45.6	235	288
Louisiana	58.0	26.7	42.3	218	259
Illinois	33.0	45.7	39.3	225	277
South Dakota	41.0	37.0	39.0		
Pennsylvania	41.0	34.7	37.9		
Arizona	49.0	25.0	37.0	219	271
Nevada	35.0	38.9	36.9	220	268
Ohio	47.0	26.7	36.8	231	283
Indiana	57.0	10.6	33.8	234	283
Rhode Island	45.0	22.2	33.6	225	273
Wisconsin	57.0	10.0	33.5		283
Maine	50.0	16.7	33.3	231	284
Colorado	47.0	19.4	33.2		276
New Jersey	44.0	22.2	33.1		
Maryland	43.0	22.2	32.6	222	276
Connecticut	42.0	21.7	31.8	234	282
Wyoming	58.0	0.0	29.0	229	277
Nebraska	42.0	15.1	28.5	226	281
Montana	53.0	3.3	28.2	230	287
New York	45.0	9.7	27.4	227	276
Missouri	44.0	8.3	26.2	229	274
Massachusetts	45.0	0.0	22.5	235	283
New Hampshire	9.0	6.9	8.0		
North Dakota	9.0	3.7	6.3	231	283

Notes: See next page for notes.



**Table Notes:**

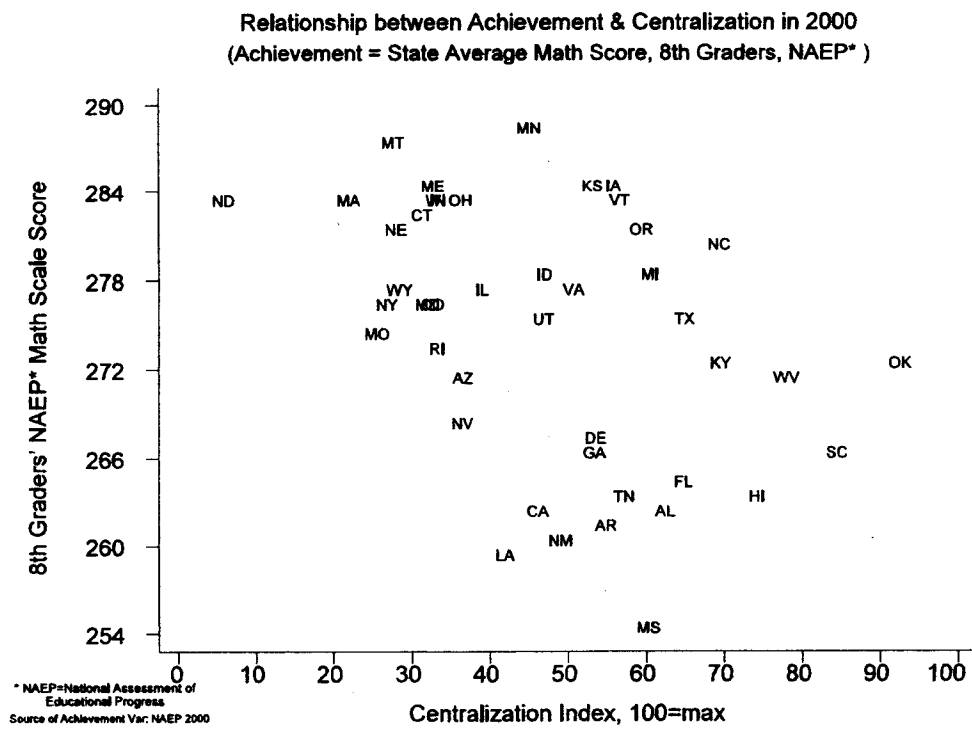
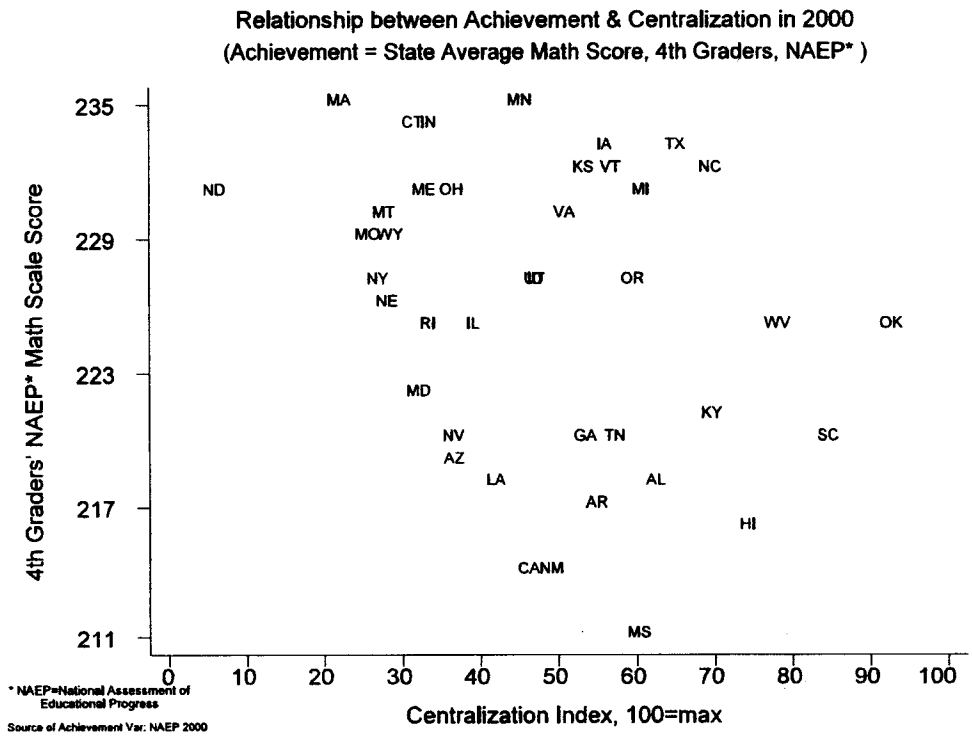
a. Percentage of non-federal revenue from the state. The source is U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. *Digest of Education Statistics*, 2001.

b. Mean of the six variables described above, each of which varies from 0 to 100: a state policy on year-round school calendars, state selection and recommendation of textbooks, a state schedule of minimum teacher salaries, in-service professional development for teachers based on state standards, hours of professional development for teaching license renewal, state required in-classroom teaching assessment. Sources: State Departments of Education, CCSSO Policies and Practices Survey, 2002, Council of Chief State School Officers, Division of State Services and Technical Assistance, Washington, D.C. Public School Finance Programs of the United States and Canada, 1998-99.

c. Mean scale score on the 2000 National Assessment of Educational Progress (NAEP) state examinations in mathematics. The source is U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. *The Nation's Report Card: Mathematics 2000*, NCES 2001-517, by J.S. Braswell, A.D. Lutkus, W.S. Grigg, S.L. Santapau, B.S.-H. Tay-Lim, and M.S. Johnson. Washington, DC: 2001.

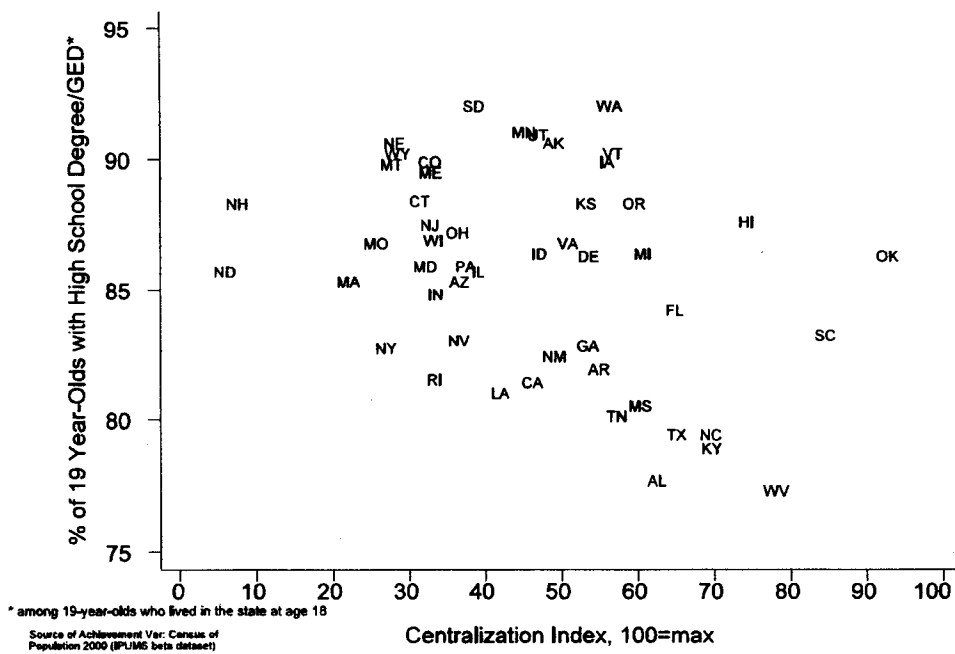
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Making sense of the data in the table. The figures below show the relationship between state centralization of inputs (column (3) of the table) and performance on the NAEP (columns (4) and (5) of the table).

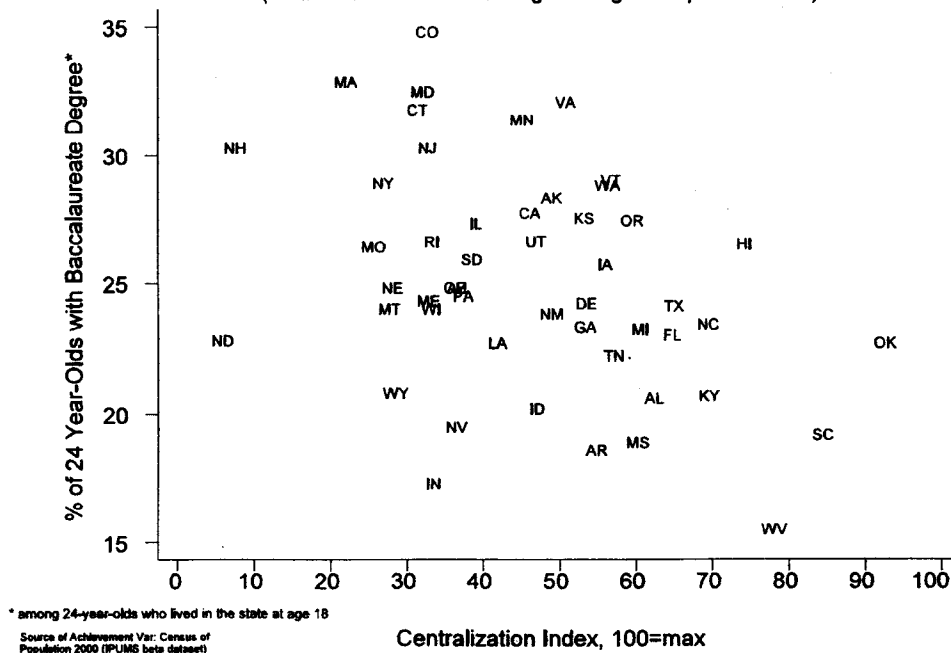


The figures below show the relationship between state centralization of inputs (column (3)) and two other measures of achievement: the share of a state's 19-year-olds who have a high school degree or GED and the share of a state's 24-year-olds who have a baccalaureate degree. Note that people are associated with the state where they lived at the age of 18.

Relationship between Achievement & Centralization in 2000  
(Achievement = State Average High School Graduation Rate\*)



Relationship between Achievement & Centralization in 2000  
(Achievement = State Average College Completion Rate\*)



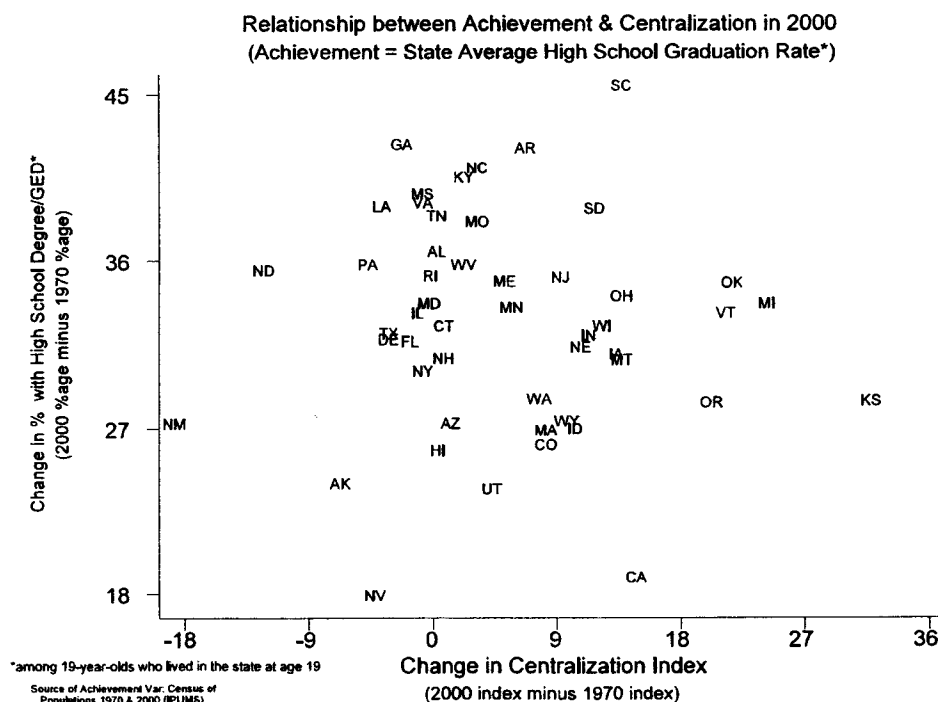
All four figures—the two showing NAEP scores and the two showing educational attainment—show that more centralized states do not have better achievement. In fact, all the figures display a downward diagonal scatter of points, suggesting that centralization is strongly associated with *worse* achievement in the United States. Clearly, there may be risks or unintended negative consequences associated with centralization. I describe these more, below.

### 5.3 States that have substantially increased their centralized control over public schools' inputs

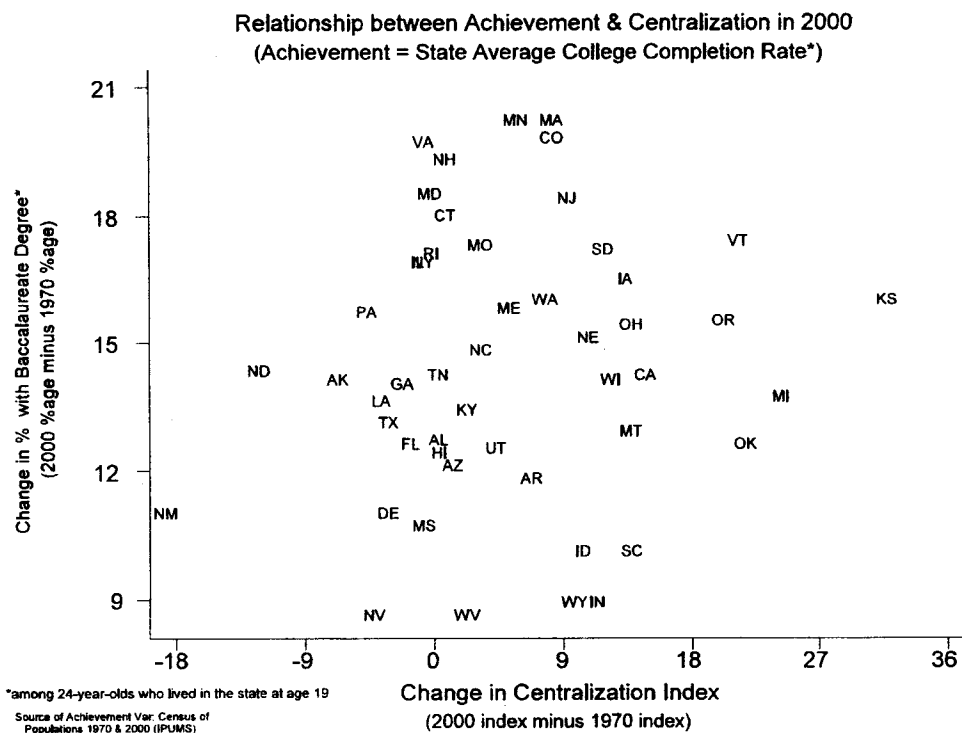
As admitted above, we do not have evidence from an ideal experiment in which a state chose to subject one randomly selected group of its schools to centralization and let another group enjoy decentralization. However, we can examine states that have substantially increased their control over their public schools' inputs during the last 30 years. Has their student performance improved more than that of other states?

I calculated each state's change from 1970 to 2000 in the centralization statistic shown in column (3) of the table above. Using this *change* in each state's centralization, we can now ask whether states that increased their centralization the most had unusually good *improvements* in achievement. In other words, we can ask whether, given a state's initial circumstances, is there value-added in centralizing? We would like to measure states' change in achievement using the NAEP, but there are unfortunately no state-level data before 1990. Thus, in the figures below, I show the change from 1970 to 2000 in each state's percentage of 19-year-olds who have a high school degree or GED and each state's percentage of 24-year-olds who have a baccalaureate degree.

In the figure below, the horizontal axis records each state's *change* in the centralized control of its inputs (its 2000 centralization index minus its 1970 centralization index). The vertical axis records each state's *change* in the percentage of its 19-year-olds with a high school degree or GED (its 2000 percentage minus its 1970 percentage).



In the figure below, the horizontal axis records each state's *change* in the centralized control of its inputs. The vertical axis records each state's *change* in the percentage of its 24-year-olds with a baccalaureate degree.



The two preceding figures show a cloud of points with no clear relationship. That is, they demonstrate that states that have increased their centralization have *not* done particularly well in raising educational attainment. The data strongly suggest that centralization is not an engine for raising student achievement.

#### **5.4** Let us now focus on California and few other comparison states.

California, as we have seen already from the table above, has a relatively high degree of centralization, especially compared to the other high income states in the United States (California has the highest median family income of any state). For instance, compare California to several other high income states that also took the 2000 NAEP tests: New York, Arizona, Massachusetts, Maryland, Connecticut, Illinois, and Pennsylvania. All of these states are substantially less centralized than California; and all of these states increased their centralization less than California did, from 1970 to 2000. Yet, all of these states have significantly higher NAEP scores than California. On average these states' eighth graders score 16 points and their fourth graders scores 13 points higher than California's. These differences in scores are statistically different from zero with 95 percent confidence.

While we cannot say that California's greater centralization is *responsible* for its poorer performance, California's centralization has not guarded it against lower achievement.

## 6. Explanations for the Poor Record of States with Centralized Control of Inputs

We have seen that states that have practiced centralized control over their public schools' inputs have not enjoyed better student achievement than those that have allowed more decentralization. If anything, their performance has been worse. What explains this evidence?

**6.1** School administrators need flexibility in order to deal with local circumstances effectively. For instance, one school might face a tight local labor market and need to allocate more of its resources to teacher salaries, in order to recruit good teachers. Another school might have a lot of children who benefit from after-school programs. A school might need to provide very small classes for its youngest students but make a compensating adjustment elsewhere (larger classes for older children, fewer children receiving remedial help outside of class, etc.). Yet another school might have an unusual need for advanced placement courses and or advanced curriculum. In a diverse state such as California, centralized control of inputs is likely to interfere with administrators' responding effectively to local circumstances.

**6.2** There may be multiple models of effective school management. College presidents, firms' chief executive officers, hospitals' managers, and many other leaders of organizations differ in their management styles. We often observe that multiple management styles are equally effective, so long as the manager believes in his or her practices and convinces staff and his constituents to coordinate their efforts with his or hers. Administrators of schools are no different. There are remarkable school leaders all over the United States, and they do *not* all follow the same model of school management. In other words, good school leaders may all be able to create high levels of achievement, given a student body, but they may get to the same goal in different ways.

**6.3** When a state practices a high degree of control over its schools' inputs, it necessarily means that local parents and residents have less control. Parents and neighbors can find this alienating. Parents and neighbors ask, "What's the point of being active in the local schools if most of the decisions are out of our hands, anyway?" Parents and residents may also be less willing to make efforts that are *complementary* to the school's activities if they have little say in the basic allocation of the school's resources.

When we remember how important parents and neighborhoods are, compared to schools, in determining students' achievement, we realize how centralized control over inputs may harm achievement, even if it does not harm schools *per se*. Indeed, even if centralized control over inputs is beneficial for schools (in the sense of improving their effect on students), the overall effect of centralization can very easily be negative if it suppresses parental or neighborhood support for education.

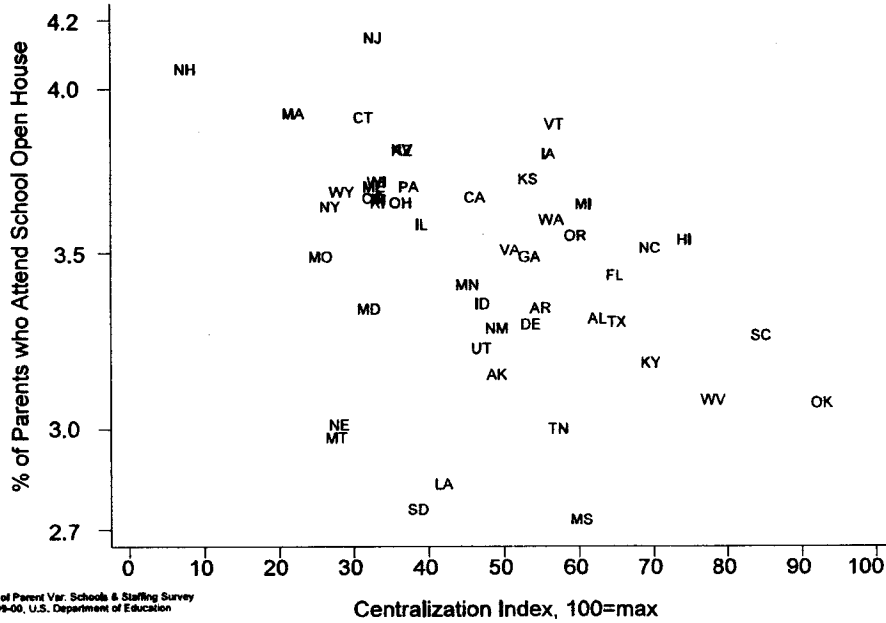
In the figures that follow, I show the relationship between centralization and three common measures of parent involvement. Each of these measures is taken from the School and Staffing Survey 1999-2000, which is by far the largest survey of teachers and principals in the United States (United States Department of Education, 2002). The measures of parental involvement are based on what teachers and principals report, and they are:

- the percentage of parents who attend school open houses and similar events;
- the percentage of parents who attend scheduled parent-teacher conferences;
- the principal's rating of whether parent involvement is sufficient. (This rating goes from "long way to go" to "reached our goal" and is very similar to teachers' rating of how supportive parents are.)

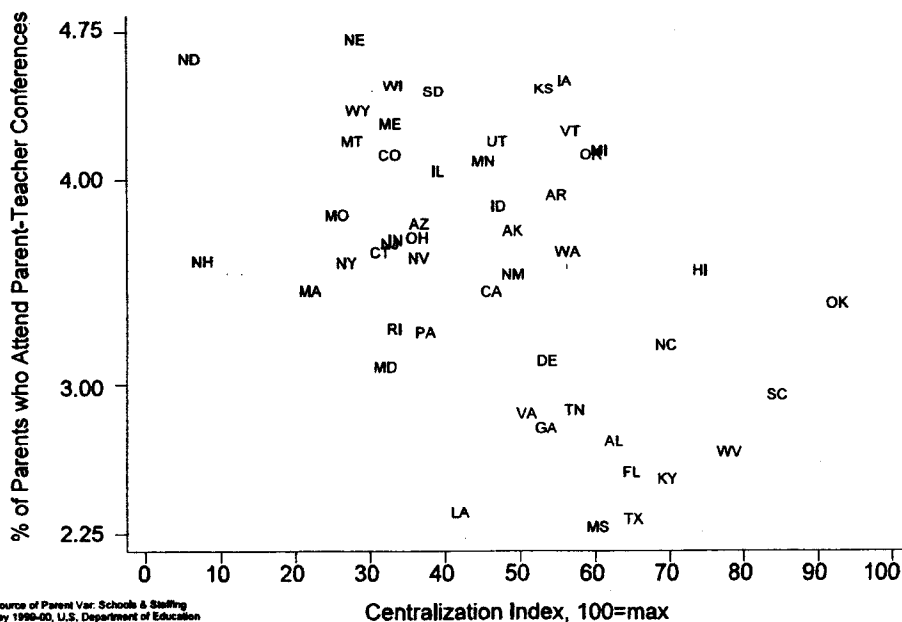
All three figures show a distinct downward diagonal scatter of points, suggesting that parents are less involved in their schools when they live in states with more centralized school systems. California's

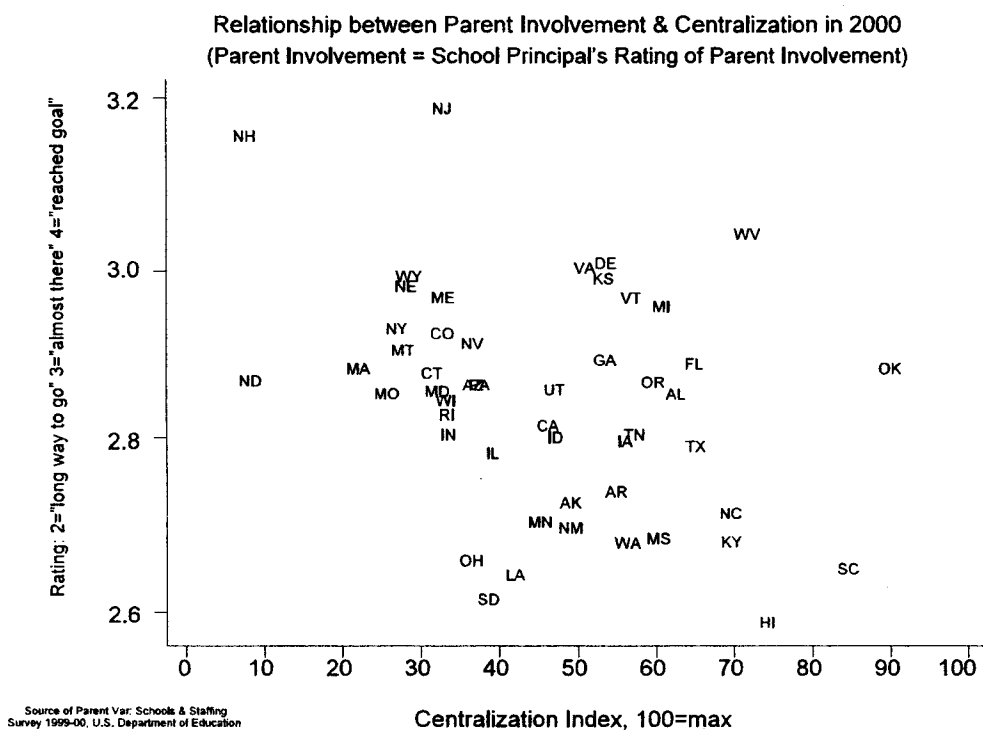
parents are fairly typical of parents in states with quite centralized systems, but California's parents are significantly less involved than parents in other high income states, all of which are less centralized. While we cannot definitively conclude that centralization suppresses parental involvement, the evidence strongly suggests that it does and we should be concerned about this likelihood. Remember how greatly parents affect achievement, compared to schools.

Relationship between Parent Involvement & Centralization in 2000  
(Parent Involvement = Percentage of Parents who Attend School Open House)



Relationship between Parent Involvement & Centralization in 2000  
(Parent Involvement = Percentage of Parents who Attend Parent-Teacher Conferences)





### 7. A Common Misconception: Centralization Means Equality

A common misconception is that, in order to ensure that all students in the state have access to a good education, the state must practice centralized control of inputs. This is incorrect, for two reasons.

**7.1** First, if a state is attempting to ensure that each of its districts has an equal level of resources, it need only direct resources toward certain districts; it need not control a large share of resources overall. For instance, state revenues may play a large role in districts that serve poor families or that have low property wealth. But, they need play only a small role in districts that serve middle-income families or that have average property wealth. A state can do a lot of redistribution without a great deal of centralization overall: it just needs to focus its funds on needy districts.

In the figure below, the horizontal axis records a state's share of non-federal revenue. This measures the state's degree of finance centralization. The vertical axis records the coefficient of variation in per-pupil spending within a state. This is a frequently-used measure of the dispersion or inequality in per-pupil spending within a state, and it is as follows:

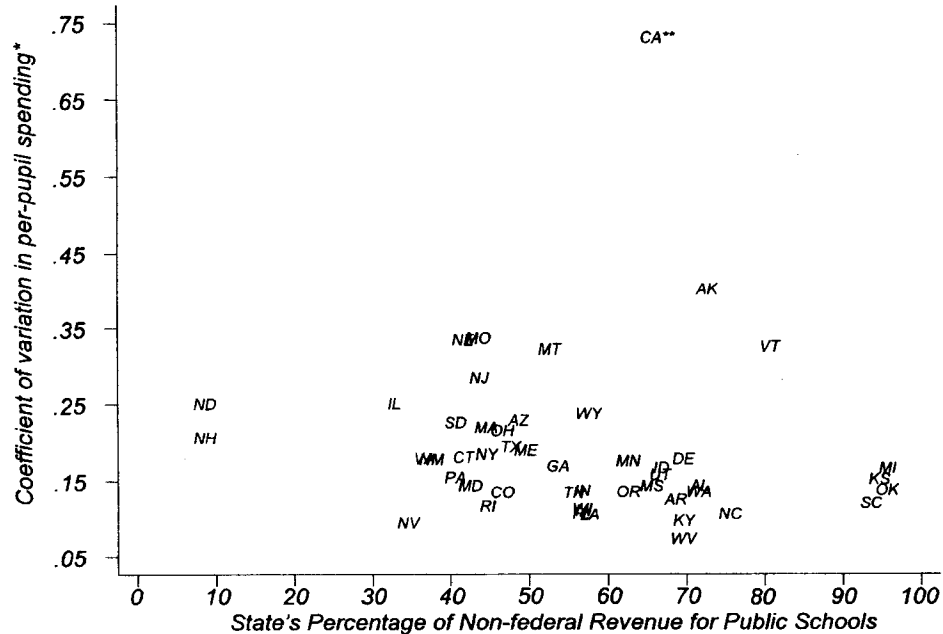
$$\text{coefficient of variation in per-pupil spending} = \frac{\text{standard deviation of per-pupil spending in state}}{\text{average per-pupil spending in state}}$$

The figure shows a nearly horizontal scattering of points, which demonstrates that states can achieve a similar level of spending equality with a variety of degrees of finance centralization. The states that have low centralization and low inequality achieve their low inequality by focusing their efforts on needy districts. Look at Rhode Island, Maryland, Connecticut, Colorado, Pennsylvania and so on.

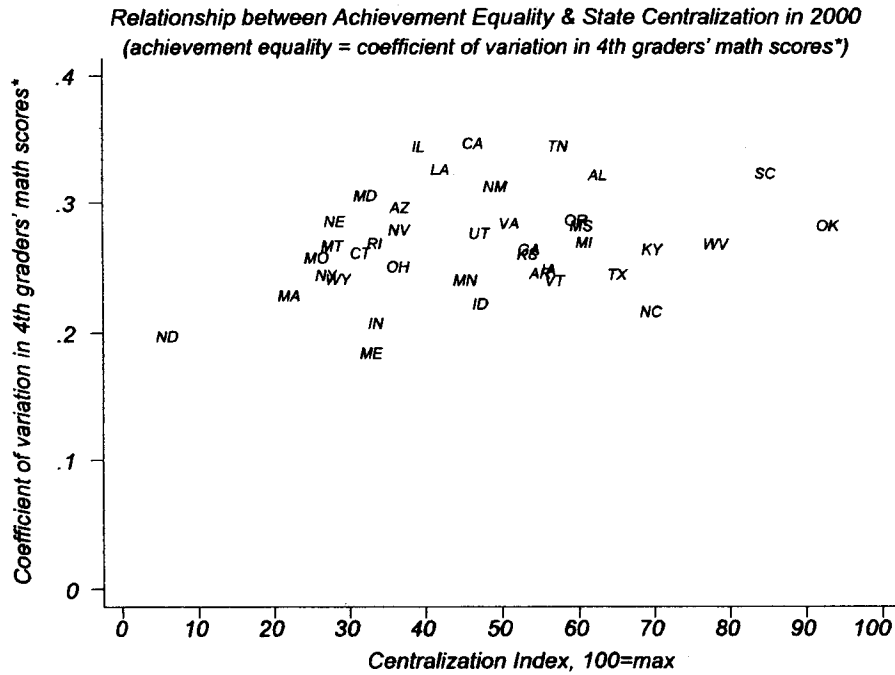


(California's high level of spending inequality is a peculiarity of the way it administers special education. It has special education administrative districts that are formally education agencies—just like other school districts. Some of California's special education students experience very high per-pupil

Relationship between School Spending Equality & State Control of School Revenue in 2000  
(school spending equality = coefficient of variation in per-pupil spending\*)

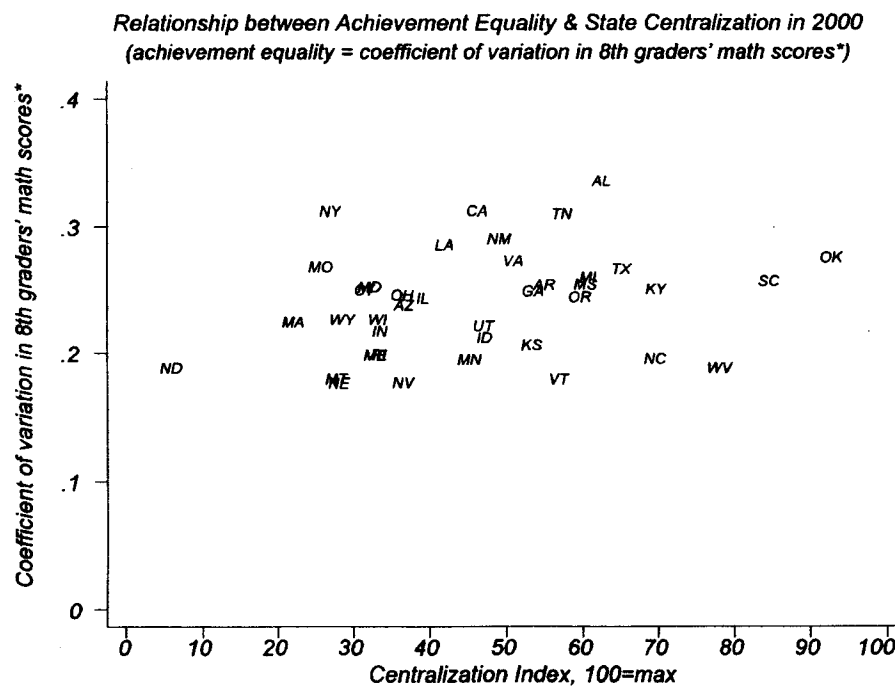


The figures below show roughly horizontal scatterings of points. This means that states that are more centralized do not have student achievement that is more equal. There is *no* relationship in the data between a state's degree of centralization and whether its students share a common level of achievement. Centralizing a state does equalize achievement.



Source of Achievement Var: NAEP 2000

\* coefficient of variation = std deviation of math scores/avg math score



Source of Achievement Var: NAEP 2000

\* coefficient of variation = std deviation of math scores/avg math score

## 8. The Costs of Centralized Control over Inputs

Having the state practice a high degree of centralized control over inputs does not make economic sense. This is for two reasons.

**8.1** If the state is to do anything resembling a good job in its centralized direction of inputs, it must observe and measure local conditions, adjust inputs accordingly, distribute inputs to schools, and finally audit or monitor schools to ensure that they are using the inputs as directed. It must do these things in a timely manner, at a remove. Obviously, these activities have a cost.

Of course, if such activities are carried out well, they may benefit schools in the state that manage their resources poorly despite having direct knowledge of their local circumstances. However, the point about centralization is that the state substitutes its management not only for that of poorly managed schools but for *all* schools. This is a waste of state resources. If the state focuses its attention on poorly managed schools, it can be effective. But, a state that attempts to substitute its input management for local management in all its schools can find itself with an overwhelming task of observation, measurement, and monitoring. The state is likely to have far less attention for the schools where its monitoring and intervention would most make a difference.

Most schools can do a good job of managing their resources, and they will do so if they are given incentives to perform. Moreover, schools observe their local conditions for free: principals do not need to conduct expensive studies to learn about their students or the neighborhoods in which they operate. The same can never be said of the state: observing local conditions is an imprecise and costly business. Also, the state can never hope to be aware of today's conditions; it can only observe and evaluate local conditions with a lag.

In summary, centralized control of inputs is costly because the state does not limit its intervention and monitoring to schools in which they are needed. It is also costly because it needlessly forgoes timely information that is available for free.

**8.2** There are also long-run costs of centralization that evolve as parents and local residents find themselves increasingly locked out of decision-making at their local schools. When parents and local residents are engaged in their schools, they are more likely donate their time, effort, and resources to the schools. (Here, I am relying on evidence published in C.M. Hoxby, "If Families Matter Most, Where Do Schools Fit In?" T. Moe, ed., *A Primer on American Schools*.) Such donations can take the form of explicit volunteering in the classroom or gifts of technology or money. Just as often, such donations are informal. Do parents volunteer to help chaperone field trips? Do they offer the school books or materials that teachers find useful for projects? Do parents reinforce their child's lessons with trips to a library or museum or by reminding their child to watch a documentary? Do parents actively aid the school in its latest campaign to have less tardiness, fewer absences, fewer lost books, more nutritious lunches, *et cetera*?

Although it is hard to offer a quantitative measure, we know that it would be very costly for a school to substitute its own activities for all the activities parents can conduct voluntarily. Indeed, it is unrealistic to think that the state has sufficient resources to make up for parents' failing to pursue activities with their children that are complimentary to school. Yet, we have seen that teachers and administrators report less parental involvement if they work in states that practice more centralized control over inputs.

**8.4** Centralized control over inputs not only fails to make economic sense, it is impractical. The plaintiffs record numerous problems in schools that the state would find it highly impractical to control: infestations of insects or rodents, toilets in disrepair, playgrounds with poor surfacing, and so on.

Problems can be serious without being susceptible to state standards or enforcement. Facilities, grounds, and equipment problems are particularly difficult for a state to observe and manage efficiently. Such problems require immediate, direct observation and remedy; not periodic monitoring and state-provided or state-authorized services. Making the state responsible might even cause local administrators to abdicate their responsibility to correct the facilities and grounds problems they see. Such a disincentive would be highly counterproductive. All homeowners and renters know that there is no substitute for being on the spot, observing problems as they arise; and having a list of reliable local repairmen or contractors.

When dealing with problems like infestation or disrepair, the state will find it more effective to ensure that local schools have the overall resources to deal with problems and the incentives to keep good teachers and satisfy parents. Teachers and parents observe the state in which a school is maintained. If the state gives a school incentives to perform, and the school needs to keep its good teachers to do this, it will remedy conditions that drive away good teachers. Similarly, if the state creates policies that give schools incentives to satisfy parents (parental voice or choice), schools will remedy conditions that drive away parents. It is practical for the state to be the ultimate monitor of performance and the ultimate arbiter of whether a school has sufficient resources overall. It is not practical for the state to provide day-to-day management of schools.

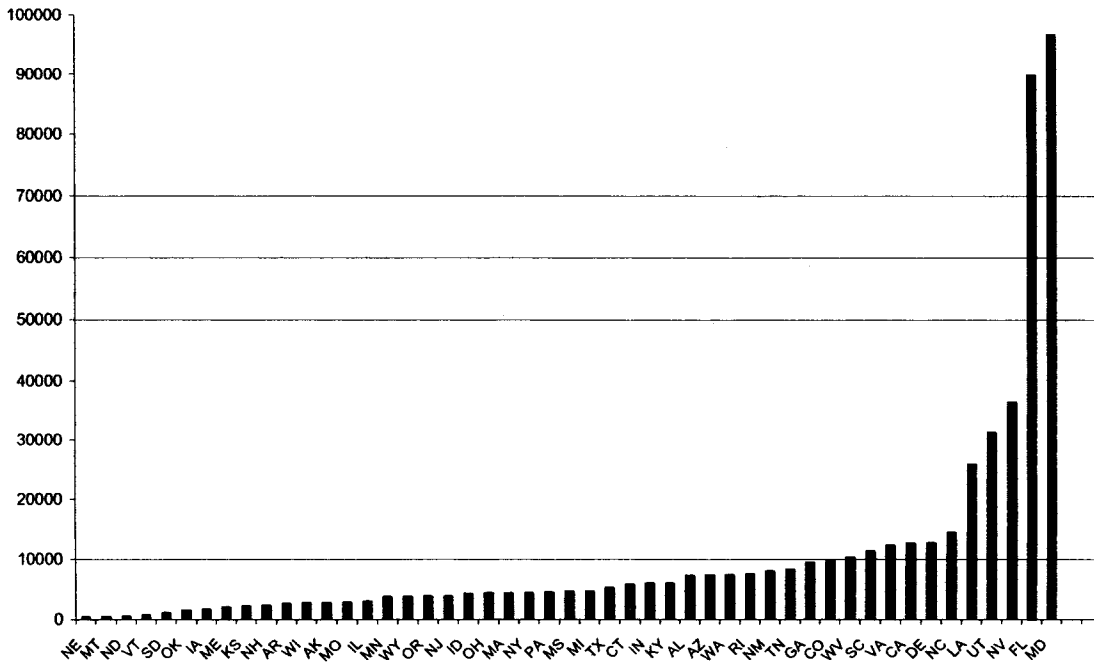
### 9. California: A Diverse State

It is ironic that the plaintiffs are arguing for more state management of inputs and less local management of inputs in the state that is the largest and most diverse in the United States. California has a remarkably diverse population, on every dimension. The state also has a variety of local geography, weather conditions, industries, and labor markets. Finally, the state is simply very large. The plaintiffs argue for an centralized inspectorate of schools, somewhat like that used in England. Even putting aside the effectiveness of England's approach, it seems that the plaintiffs do not realize that England would fit in less than one-third of California's land area. It may be practical for English inspectors to emanate from London, able to visit schools in all locations and yet work mainly out of a single location where they can interact sufficiently to maintain common standards. The same approach would not be practical in California.

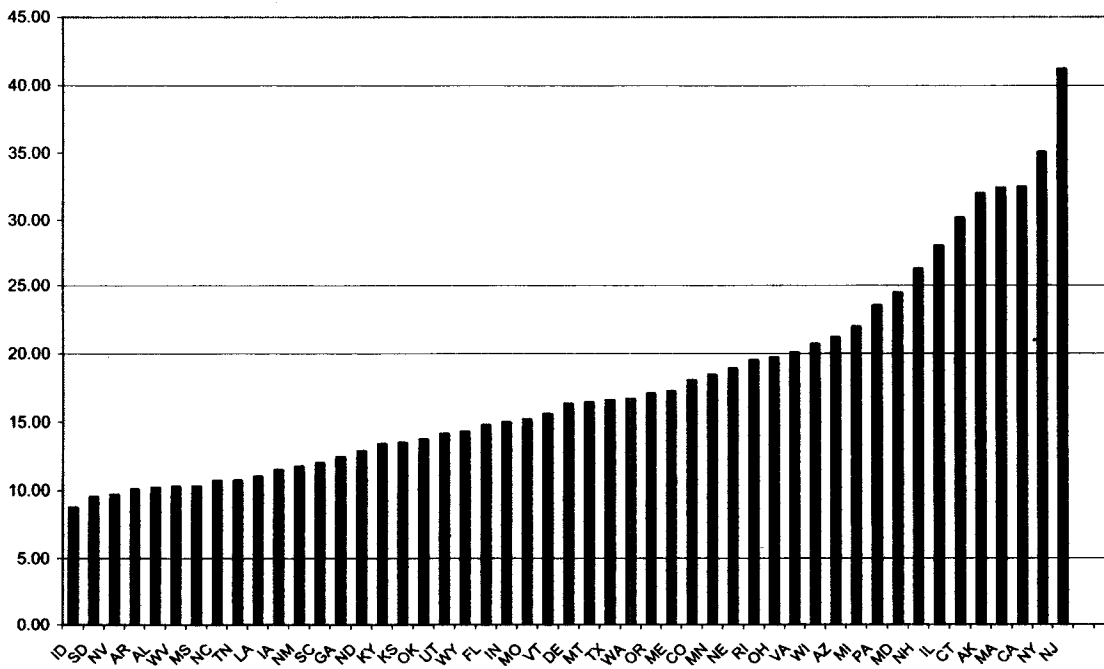
The figures below show that California is one of the most diverse states on *many* common measures of population diversity, industrial diversity, labor market diversity, and geographic diversity. To construct each figure, I picked a particular variable, like income, and recorded the difference between the district at the 90<sup>th</sup> percentile and the district at the 10<sup>th</sup> percentile in the state. I then put the states in order, from that with the smallest difference between the 90<sup>th</sup> and 10<sup>th</sup> percentile districts to that with the largest difference. Thus, a state that has diverse school districts will consistently appear towards the right-hand side of the figures. California does appear toward the right-hand side of each figure, and it very often appears in the top few states.

Thus, of all the states in the United States, California is probably the least likely to be able to *successfully* manage its schools' inputs in a centralized fashion. This is simply because it faces a much harder task than other states would face. It may be worth reiterating that the obstacles to centralized management of inputs in California need not keep the state from effective monitoring of schools' ultimate performance and efficient allocation of the state resources to needy school districts.

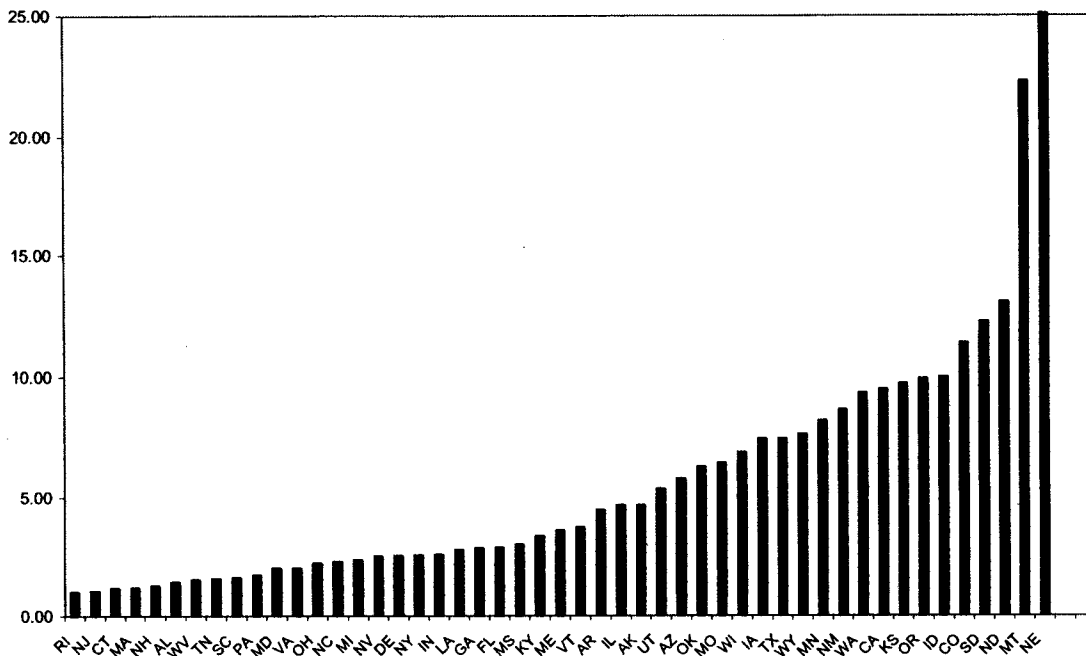
Number of Students in District,  
Difference between the 90th & 10th Percentile School Districts



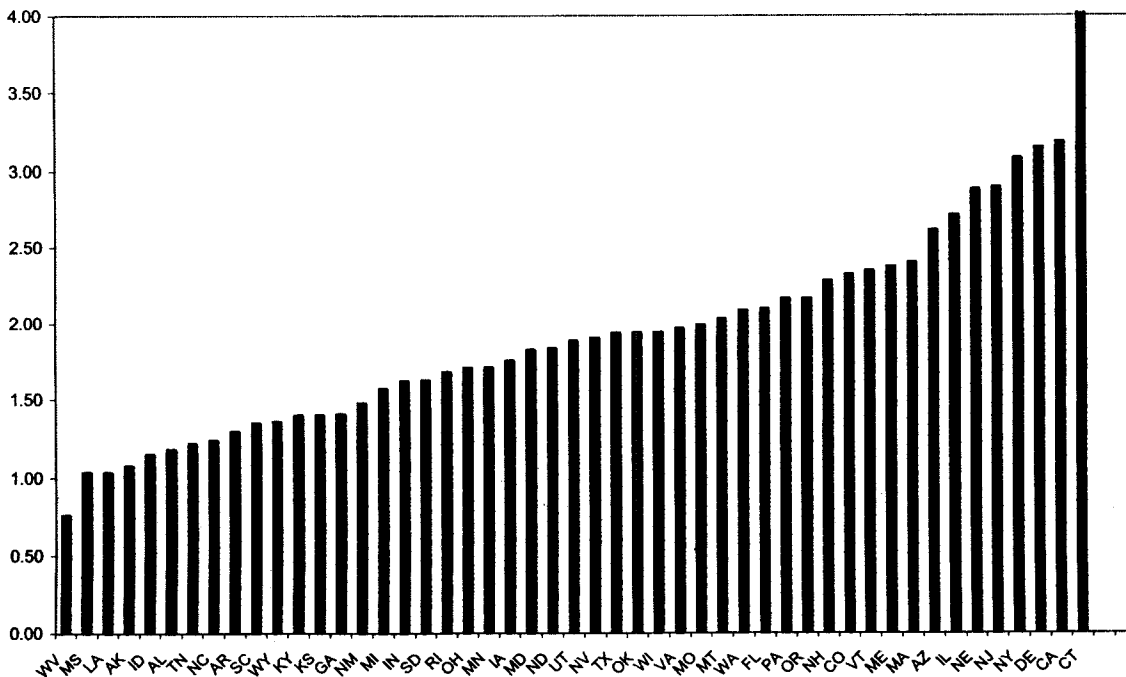
Mean Income of Households in District,  
Difference between the 90th & 10th Percentile School Districts



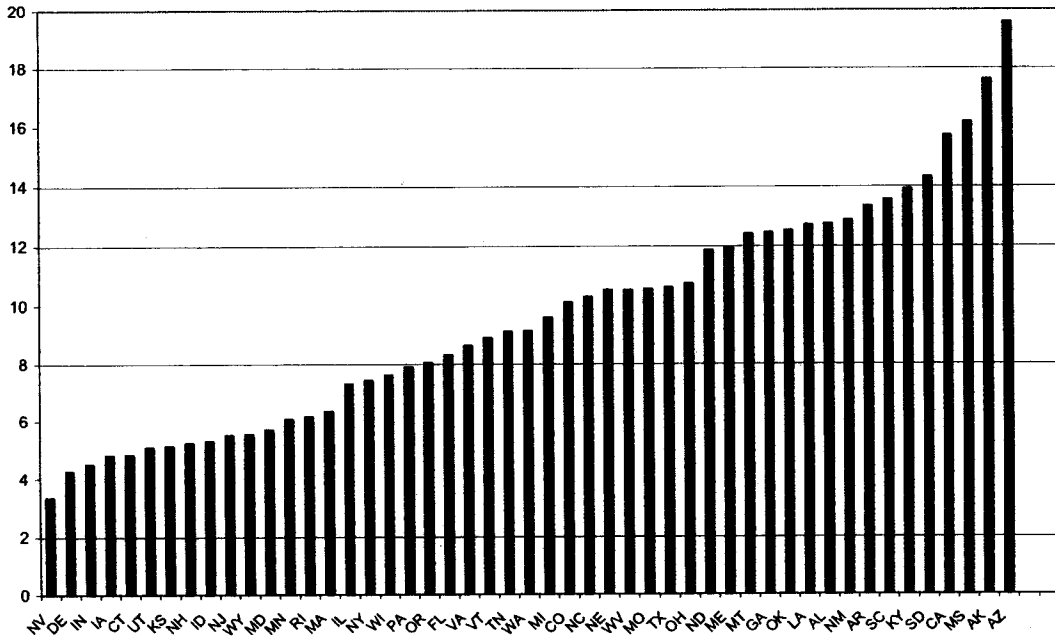
Percent of Employees in Agriculture  
Difference between the 90th & 10th Percentile School Districts



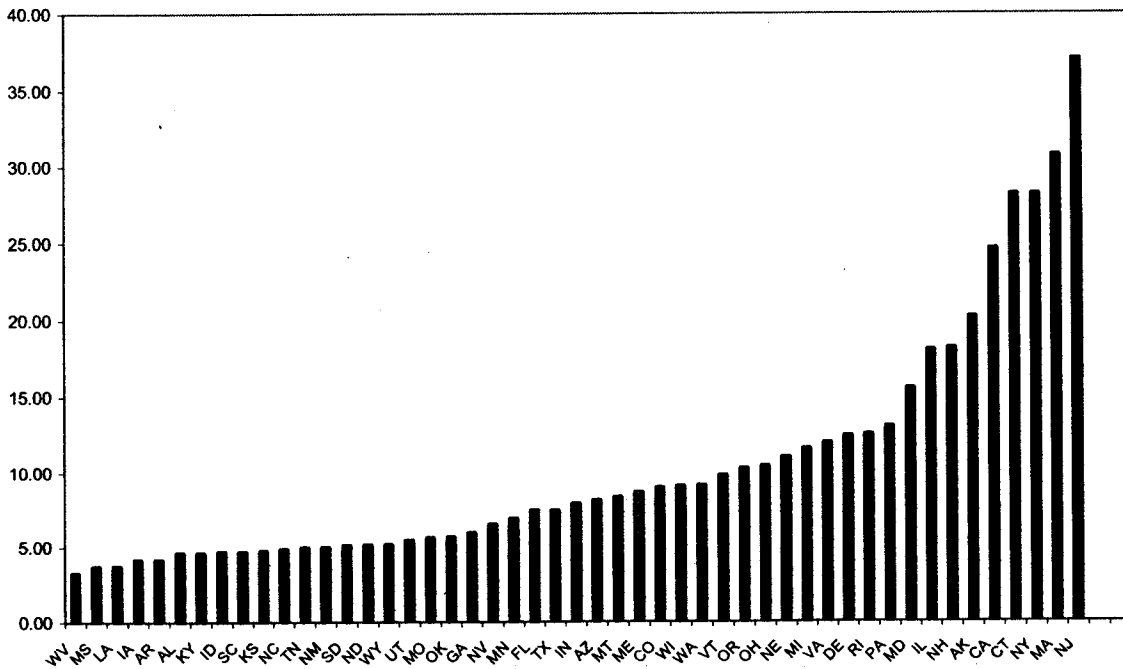
Percentage of Employees in High Skill Professional Industries  
Difference between the 90th & 10th Percentile School Districts



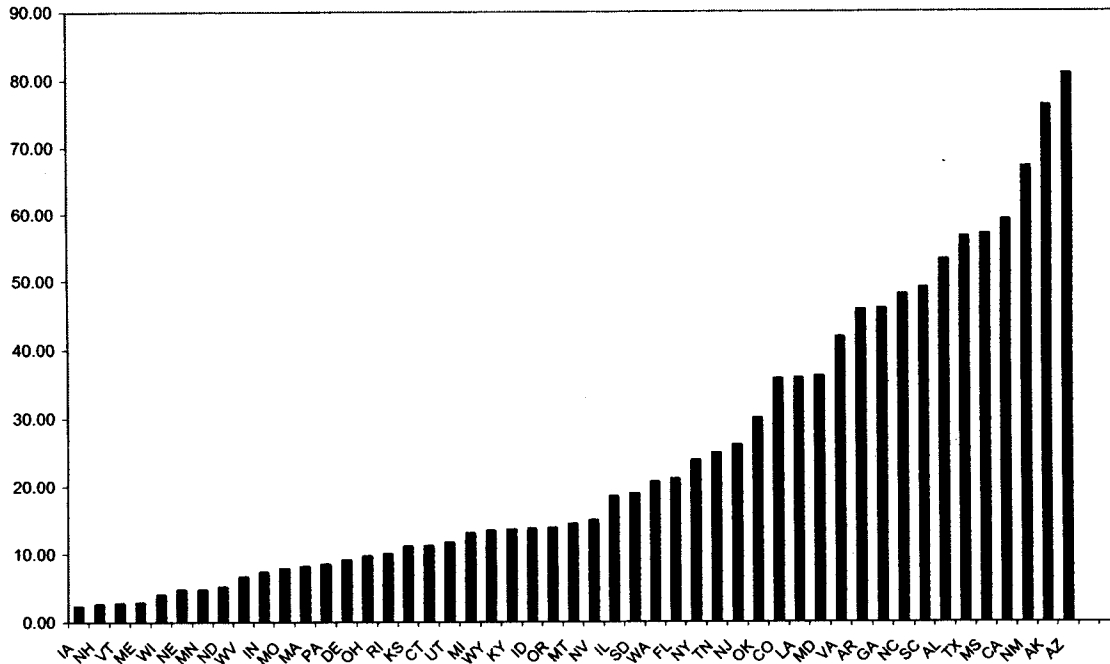
Percentage of the Population who are on Welfare  
Difference between the 90th and 10th Percentile School Districts



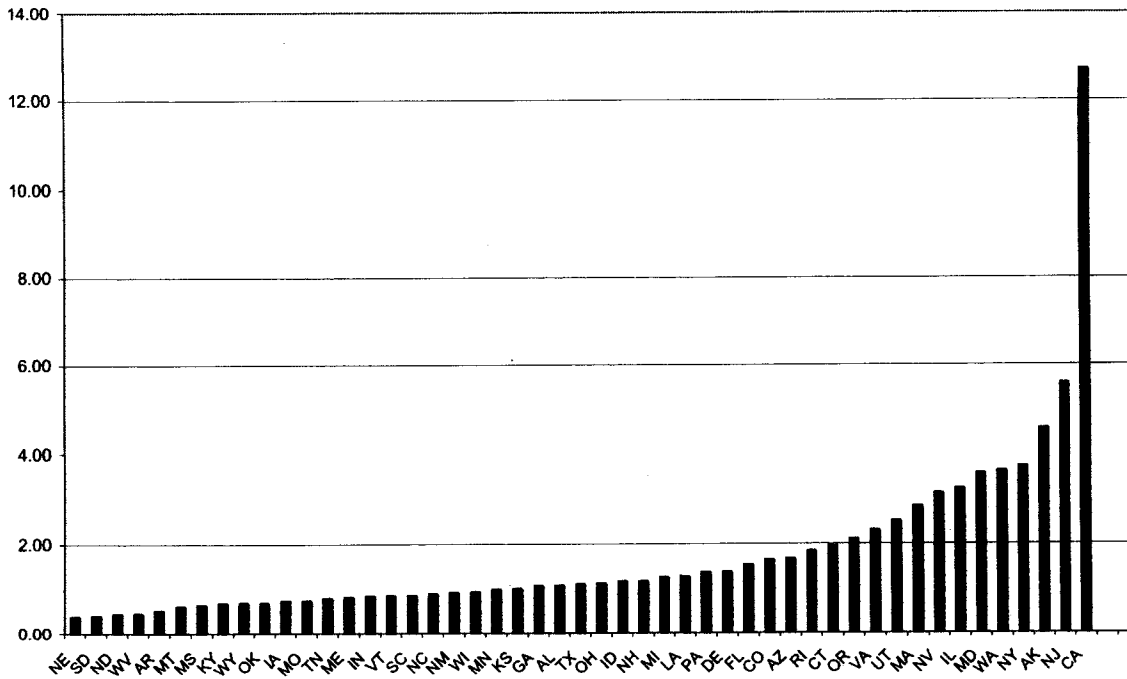
Percent of Households with High Incomes (\$110k +)  
Difference between the 90th & 10th Percentile School Districts



Percentage of the Population that is White  
 Difference between the 90th & 10th Percentile School Districts

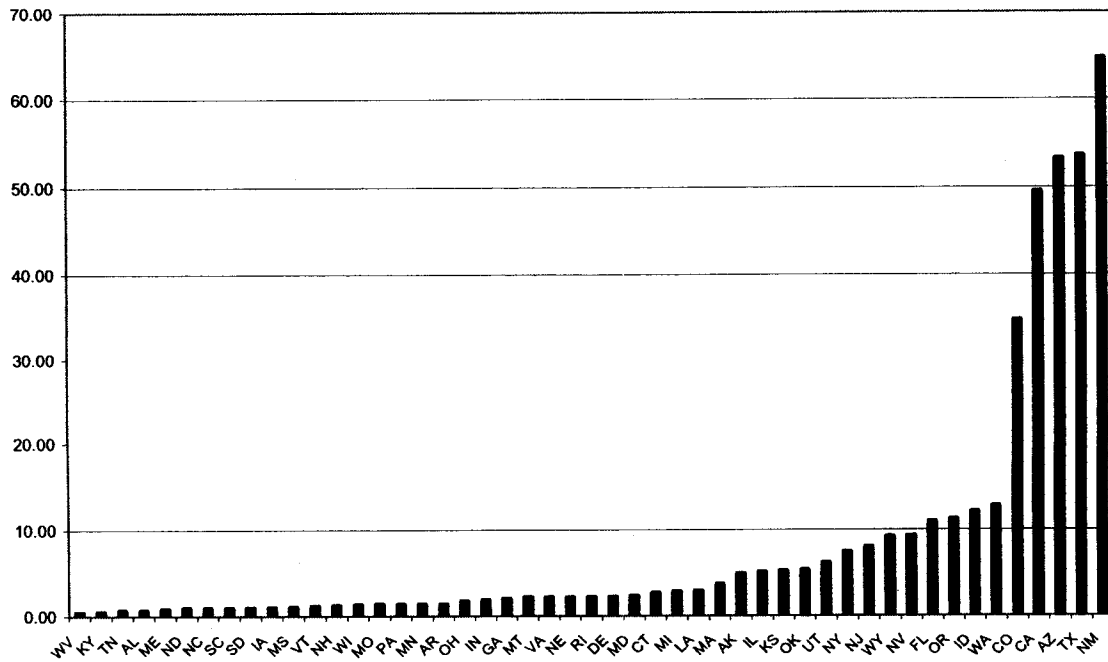


Percentage of Population that is Asian  
 Difference between the 90th & 10th Percentile School Districts

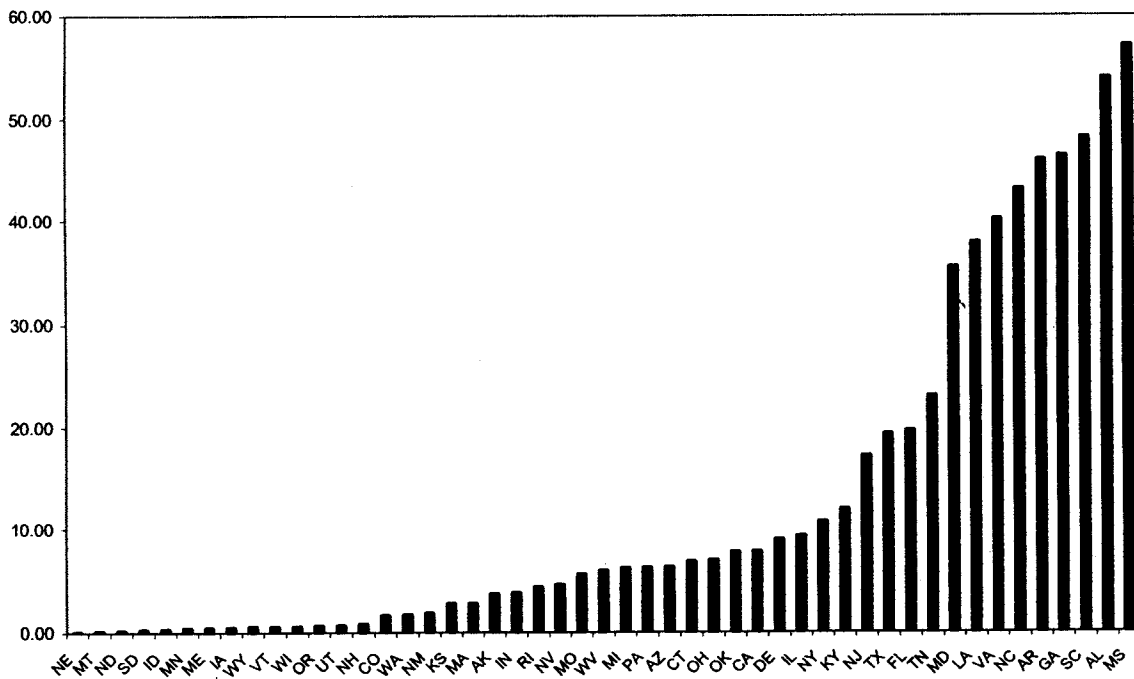




Percentage of Population that is Hispanic  
Difference between the 90th & 10th Percentile School Districts

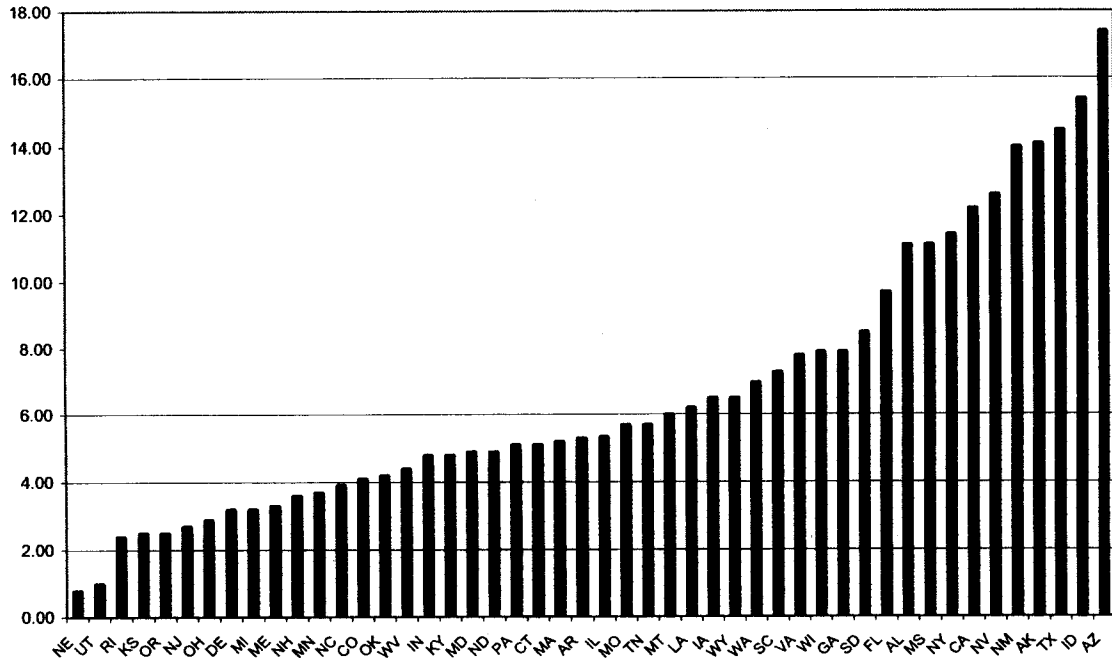


Percentage of Population that is African-American  
Difference between the 90th & 10th Percentile School Districts

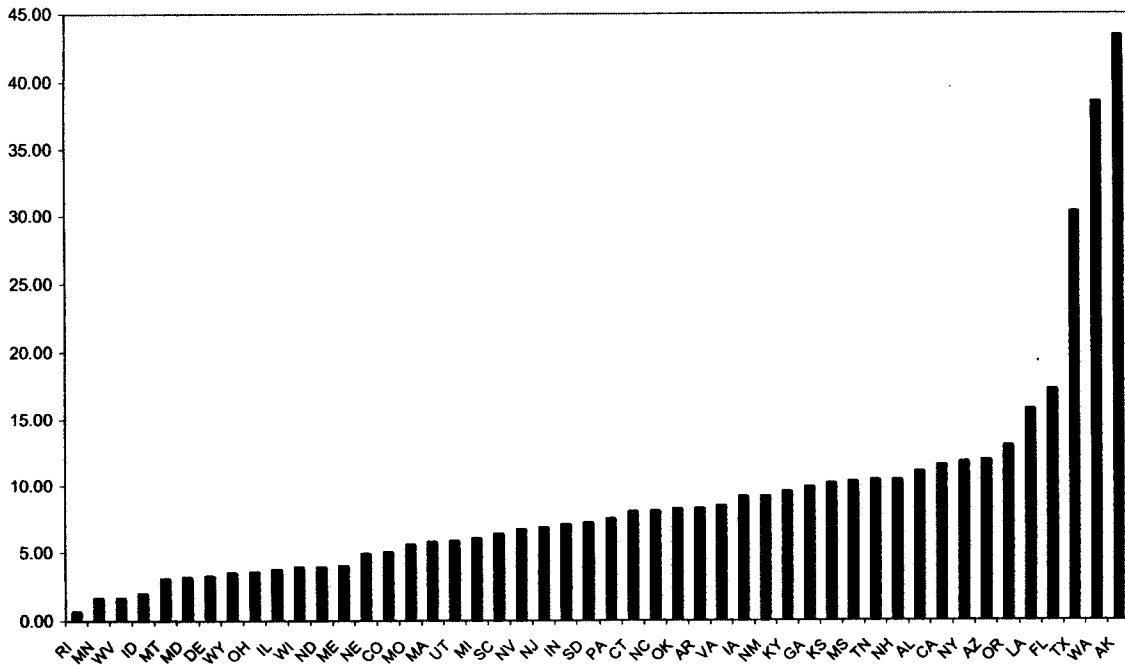




January Temperature (degrees Fahrenheit)  
Difference between the 90th & 10th Percentile School Districts



Annual Precipitation (inches)  
Difference between the 90th and 10th Percentile School Districts



## 10. The Unintended Consequences of State Education Policy

School policies that are enacted with the best of intentions sometimes have consequences that are negative, serious, and hard to un-do. When problematic policies are enacted, it is usually not because their proponents intend to cause long-run harm; it is generally because their proponents take too narrow a view of how their preferred policies affect schools, teachers, parents, and other citizens. Fortunately, we now have sufficient evidence to show that some policies that look good at first sight have unfortunate consequences. The policies favored by the plaintiffs are particularly likely to have negative long-term consequences. While it may seem like a good idea to have the state manage many school inputs, it is naive to think that the state will do this easily, well. It is more than naive to think that greater state management of inputs will not reduce parents' and neighbors' support of their local schools, which is so vital to children's achievement. It seems foolhardy to ignore the systematic empirical relationship between greater state control and reduced parental support. A policy that makes schools better will almost certainly do overall harm if it makes parents' less involved. Moreover, there is no good evidence that state management of inputs *will* improve schools, even in a narrow sense.

California's Serrano II decision was undoubtedly well-intentioned, but nearly all research now agrees that the plan it ushered in was poorly formulated compared to other states' school finance equalization plans. It has been shown to be a prime cause of Proposition 13, of well-off parents' increasingly sending their children to private schools, and of low per-pupil spending in California during the 1980s and the first half of the 1990s—in fact, until the recent wave of policy that culminated in the tight-loose system that California has just begun to enjoy. (For evidence on the effects of the Serrano II school finance system, see: William Fischel, "Did Serrano Cause Proposition 13?" *National Tax Journal*, XLII (1989) and "How Serrano Caused Proposition 13," Working Paper No. 94-23, Dartmouth College Economics Department, 1994; Fabio Silva and Jon Sonstelie, "Did Serrano Cause a Decline in School Spending?" *National Tax Journal*, XLVIII (1995); Caroline Hoxby, "All School Finance Equalizations are Not Created Equal," *Quarterly Journal of Economics*, XVI.4 (2001) and "How to Do (And Not to Do) School Finance: The Legacy and Lessons of Serrano," *Proceedings of the National Tax Association*, 1997; Eric Brunner and Jon Sonstelie, "Coping with Serrano: Voluntary Contributions to California's Local Public Schools," *Proceedings of the National Tax Association*, 1997.)

Similarly, many states had desegregation plans that were undoubtedly well-intentioned, but that turned out to work poorly compared to those of other states. Kansas City's plan is a particularly well-known disaster, but many poorly designed plans had similar consequences. They drove well-off parents (both white and black) out of the city, local business's followed well-off families out of the city, the city's property tax base fell as a result of the out-migration, and school spending was under constant pressure from falling house prices. Several researchers have shown that well-intentioned but poorly designed desegregation plans left minority students *more isolated* racially and in schools with *fewer resources*. (For recent evidence of the long-term effects of school desegregation policies, see Charles Clotfelter "Public School Segregation in Metropolitan Areas," *Land Economics*, Vol 25, November 1999, pp. 487-504; Charles Clotfelter, "Are Whites Still Fleeing? Racial Patterns and Enrollment Shifts in Urban Public Schools, 1987-1996" <http://www.pubpol.duke.edu/people/faculty/clotfelter/flight.PDF>; Sarah Reber, "Court-Ordered School Desegregation: Successes and Failures in Integration Since Brown vs. Board of Education" <http://www.people.fas.harvard.edu/~sreber/papers/Reber.JobMkt.Paper.pdf>.)

In short, **well-intentioned policies** are not always good for schools. The devil is truly in the details of a policy. The plaintiffs should be required to *demonstrate* that their preferred policies will have a positive, *causal* effect on California schools. If we quickly change a policy course that appears to successful merely because plaintiffs offer suggestive evidence about associations, as opposed to causal effects, we are just as likely to reduce achievement and equity within California schools as to raise them.