

## **Incentive Funding Programs and School District Response: California and Senate Bill 813**

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*In 1983, the California legislature enacted a series of incentive programs intended, in part, to encourage local school districts to devote more resources toward instructional expenditures. Analysis of district response to those incentives shows they were more effective in directing spending toward direct instruction than were general or categorical grants. However, it appears that as the incentive funds were rolled into general aid revenues, district spending patterns began to revert to the same distribution of expenditures observed prior to enactment of the incentives.*

During the 1980s, states devoted large sums of new money to education. Much of this increase occurred after the publication of *A Nation At Risk* in 1983. Nationwide, total school funding rose 83% in nominal terms between 1980 and 1988, and 43% between 1983 and 1988. When inflation is taken into account, real spending for K–12 education increased 26% between 1980 and 1988, and 20% from the beginning of the reform movement in 1983 to 1988 (Odden, 1990). These funding increases were accompanied by a growing interest in the use of incentives or “market based” programs in state school finance systems to encourage improved school performance. Incentives were viewed as an alternative to the regulatory approaches of the past for assuring local responsiveness to state reform goals. Policymakers viewed incentives as being more effective than the mandates and sanctions used in the past in assuring local responsiveness to state reform goals. They stressed the “moral superiority” of voluntary compliance and argued that incentives minimize the need for “coercion as a means of organizing society” (Church & Heumann, 1989).

The purpose of many intergovernmental grant instruments is to get recipients to un-

dertake some desired behavior or activity. Incentives differ from other intergovernmental grant mechanisms used for this purpose because they leave implementation decisions up to the recipient, rather than specifying how the state’s policy objectives are to be achieved. Consequently, some view incentives as more effective than mandates or other forms of regulation in attaining the ends of public policy. Unfortunately, researchers have made no empirical tests of this to date, within or outside of education (Church & Heumann, 1989). This study attempts to correct this deficiency by looking at the reactions of unified school districts in California to legislatively enacted financial incentives for increasing instructional time and beginning teachers’ salaries.

Incentives differ from traditional general and categorical aid programs because assistance is contingent on educational performance. Two distinct models for incentive programs were identified:

1. *Direct* performance incentives provide funds to districts for improvement on the basis of some agreed upon measure. Rewards, financial or otherwise, are based on past performance. Typical performance measures include student performance on standardized tests and school attendance

(Richards & Shujaa, 1990). Other measures that could be used include reductions in school dropout rates and the percentage of high school graduates enrolling in college. Merit pay plans and career ladders can also be used to reward individuals for improved performance although the success of these plans has been questioned by a number of authors (see, for example, Johnson, 1986; Murnane & Cohen, 1986; Richards, 1985;). Finally, some states and even districts have experimented with deregulation as a reward for meeting certain performance goals.

2. *Indirect* performance incentives provide funds to districts that enact certain policies or undertake desired activities. These incentives can be provided to districts that enact policies thought to improve student performance or some other schooling outcome. They can also be used to encourage other district actions. Examples of indirect incentives that have been enacted in one or more states include additional funding for increasing the school day or year, providing funds to increase beginning teachers' salaries across the board, and capital financing incentives for year-round schools (Picus, 1988).

The major difference between direct and indirect incentives as discussed here is that indirect incentives *encourage* actions thought to improve educational performance, whereas direct incentives *reward* actual performance. With direct incentives, a district must first meet some improvement standard to benefit from the incentive. Only those districts that show improvement are eligible for the incentive funds. Although the incentive may stimulate district responses, some districts may not be able to bring the necessary resources to bear on the problems they face. Indirect incentives have the advantage of potentially providing the resources necessary for carrying out desired reforms. As a result, indirect incentives may be more expensive because all school districts in a state would have access to the incentive program. The question is, if indirect incentives are used, will recipients use the funds they receive for the intended purpose?

Although there is a growing body of research on direct incentive programs in education (Boe, 1990; Cibulka, 1989; Richards &

Shujaa, 1990;), little has been written on the impact of indirect incentive programs on school district behavior. Consequently, this study focuses on indirect incentive programs, specifically, the effect of California's financial incentives for a longer school day, longer school year, and increased salaries for beginning teachers on school district spending decisions between 1980–1981 and 1985–1986. With the use of a framework suggested by intergovernmental grant theory, the responses of unified school districts in California to a set of financial incentives are analyzed empirically.

Hoенack (1983) argues that an employer will use incentives to encourage employees to make more efficient use of resource inputs up to the point where the marginal cost of the incentives equals the marginal benefit derived from the incentive. Similarly, one would expect state policymakers to employ incentive programs up to the point where the marginal cost of the program equaled the marginal value of the gain. Because schooling outcomes are more difficult to measure than the outputs of a private firm (which can be valued monetarily), an alternative approach is to see if the dollars spent by the state through incentives result in increased expenditures by recipient districts in those program areas thought to be related to improved performance—for example, increased spending on direct instruction. This measure of the success of an incentive program is particularly well suited to analysis of indirect incentives where funds are provided to encourage specific behavior. The success of an indirect incentive program could then be measured by the extent to which an additional dollar of incentive aid was allocated by recipient governments to the desired expenditure category.

In California, passage of Senate Bill 813 (SB 813) in 1983 resulted in the appropriation of an additional one billion dollars a year for each of four years to K–12 schools. Recent actions, including the 1988 passage of Proposition 98, which guarantees that at least 40% of the state's general fund budget will be devoted to K–12 public schools and community colleges, have helped schools to maintain a relatively consistent funding base. Be-

tween fiscal years 1987–1988 and 1989–1990, school districts received nearly \$1.5 billion in additional funds (California Commission on State Finance, 1989). Although there is substantial evidence that most of that \$1.5 billion was eaten away by inflation and increases in student enrollment, there is still a perception among both the legislature and the public that the fiscal condition of California schools has improved dramatically in recent years.

State legislators attempting to influence how school districts choose to spend those resources have two options: They can mandate changes in the operation of school districts, or they can attempt to change local behavior through the use of grants designed to elicit the desired behavior. In the past, the California legislature has been reluctant to establish new mandates because state law requires the state to reimburse school districts for the costs of those new mandates. The purpose of this study is to help state policymakers determine the effectiveness of indirect incentive grants on school district spending patterns. Information on how local school districts respond to these grants is important as state policymakers consider their options for apportioning new funds to school districts. This study analyzes spending by California's unified school districts between 1980–1981 and 1985–1986 to determine how those districts responded to SB 813's financial incentives for improving the quality of education. This analysis will help policymakers match their policy goals with the fiscal instruments that are most effective in achieving their objectives within different local contexts.

The data for this study were derived from several sources. Data on school district revenues and expenditures were available from the California State Department of Education's *School District Financial Transactions* report (Forms J-41 and J-41a),<sup>1</sup> prepared annually. The California Basic Education Data System's (CBEDS) Professional Assignment Information File (PAIF) contains data on staffing patterns and salaries. Data on minority enrollments are also available from CBEDS, and the California Teachers Association provided data on school district teacher salary schedules.

The next section of this article establishes the conceptual framework for the analysis of the state's impact on local spending decisions. It begins with a brief description of the state role in California school finance, the factors that led to the current finance structure, and the decision to use fiscal incentives as part of the state's 1983 reform legislation. It concludes with an analysis of how local school districts might be expected to react to indirect incentive grants.

An analysis of local school district response to Senate Bill 813's incentives follows in the next section. This includes a discussion of the implications of these findings for the distribution of state funds in the future. The article concludes with some observations, conclusions, and suggestions for the design of future fund distribution mechanisms in relation to alternative policy goals.

### **Can the State Influence Local District Spending Decisions?**

If a state legislature wants to influence local government decisions, it can either mandate changes in the way local services are provided, or it can use intergovernmental grants to influence local behavior. Although mandates are the most direct way to achieve legislative goals, California's legal requirement that the state reimburse local governments for the costs of implementing mandates can make this option very expensive for the state. Consequently, in SB 813, the California legislature elected to use incentives embedded in the school funding formula to stimulate desired local action.

#### *The Fiscal Context in California*

Two crucial events in the history of California school finance—the *Serrano*<sup>2</sup> case and the passage of Proposition 13—have given the California legislature considerable influence over the finances of local school districts. In response to the *Serrano* rulings of the 1970s, the California legislature moved to equalize revenues and reduce spending disparities among local school districts. To accomplish this goal, the state created a revenue limit for each school district. These revenue limits, which continue to be the basis of the California school finance formula today, determine

the amount of general revenue a school district may receive. Created by SB 90 in 1972, school district revenue limits were first used in 1973–1974. A district's initial revenue limit was based on the revenues it received in 1972–1973. Each district's revenue limit is determined by the legislature. During most of the 1970s, the legislature increased the revenue limits of low-spending districts faster than the revenue limits of high-spending districts. The goal of this so-called "squeeze factor" was to reduce spending disparities and eventually bring the state into compliance with *Serrano's* requirement that wealth-related spending differences be no more than \$100 per pupil.

The revenue limits achieved only moderate success in meeting the *Serrano* equity requirements. It took voter approval of Proposition 13 in 1978 to get the state to make genuine progress toward meeting the court's requirements. By limiting *ad valorem* taxes to 1% of assessed value, and by limiting the growth of that assessed value, Proposition 13 took local property tax decisions out of the hands of local governments. With property tax rates restricted, the legislature took responsibility for determining how the property taxes that were collected would be distributed among taxing jurisdictions. Today, a school district's general state aid, still called its revenue limit aid, amounts to the difference between the property tax collections it receives from its share of the 1% levy and its revenue limit. In other words, the state determines how much general revenue a district is entitled to and compensates the district for the difference between that amount and its property tax entitlement. Thus, the state effectively determines how much general revenue a school district has available each year. In a few districts, property tax collections exceed the revenue limit. The state has no recapture provision, and there is a constitutionally required basic grant of \$120 per average daily attendance (ADA) which all districts receive, even if they will exceed the revenue limit. In addition to its revenue limit income, a school district may be entitled to funds through one or more of over 30 state categorical programs, including special education assistance, Economic Impact Aid, and Desegregation Assistance.

Because the state has considerable influence over how much and what kind of revenue a school district receives, an important issue is whether the way in which the state distributes those revenues influences school district spending decisions. Specifically, can an incentive grant, distributed through the state general aid formulas, encourage local school districts to increase spending in program areas deemed important by state policymakers. Although the California legislature relies on a number of different grant instruments, including categorical and matching grants, the analysis that follows focuses on incentive grants.

#### *The Expected Effects of Incentive Grants on School District Spending*

An incentive grant is one which is offered to a school district in exchange for the establishment of a specific program or implementation of a specific policy. For example, an incentive grant could be offered to a local school district on the condition that students attend school a minimum number of days and hours or that teachers be paid a minimum annual salary. Incentive grants offer an alternative to the grant instruments states typically use to distribute aid to local school districts. Decisions on how the incentive funds will be spent are left up to the recipient district, as long as the conditions for receipt of the grant are met. Like basic or general aid, incentive grants do not stipulate how the funds must be spent. Unlike basic aid, the recipient of the funds must meet the conditions of the grant to receive the funds. Districts that have previously implemented the policy still qualify for funds, as do districts that implement the policy in response to the grant. Moreover, regardless of the cost of implementing the incentive policy, the amount of the grant is generally a fixed amount.

Another tool states use to distribute aid to local school districts is the categorical grant. Incentives are like categorical grants because they are designed to elicit specific behavior on the part of the recipient. Unlike categorical grants, incentive grants have fewer restrictions on use of the funds. In both cases, the decision to accept the funds and the related conditions lies with the district.

State policymakers frequently use another intergovernmental grant mechanism—the matching grant. Matching grants reduce the cost of the supported program to the district by encouraging increased expenditures on that program or service. The problem with matching grants is that they are generally subject to a legislative appropriation limitation, and consequent proration among recipients frequently results when demand for funds exceeds the appropriation. Incentives reduce this problem by fixing in advance the funds available to each district. Conversely, incentives do not provide the same direct price advantage for supported programs.

The advantage of an incentive grant is that it allows the recipient district considerable latitude in determining how to provide the new level of service. On the other hand, local districts are not required to accept the incentive funds, and thus 100% compliance with legislative goals is unlikely. Assuming that incentive grants are available to all districts that elect to comply with the incentive or who are already in compliance, the following effects of an incentive grant can be outlined:

- I. The district currently operates the program.
  - A. The district is in compliance with the requirements of the incentive. It takes the money and uses it as a general grant. The state has spent money and not accomplished anything.
  - B. The district is not in compliance with the requirements.
    1. The cost of compliance is less than the amount of the grant. The district complies, takes the grant, and uses the excess as a general grant. The state has accomplished compliance, but the cost has been greater than mandating it and paying the full costs of the mandate.
    2. The cost to the district is greater than the amount of the grant.
      - a. The district complies and accepts the grant. Extra district money is used to comply. The grant has had a multiplier effect.

- b. The district does not comply and does not take the grant. The state has failed in getting the district to accept the requirements, but there has been no cost to the state.
- II. The district does not currently operate the program.
  - A. The cost of compliance is less than the amount of the grant. The district complies, takes the grant, and uses the excess as a general grant. The state has accomplished compliance, but the cost has been greater than mandating it and paying the full costs of the mandate.
  - B. The cost to the district is greater than the amount of the grant.
    1. The district complies and accepts the grant. Extra district money is used to comply. The grant has had a multiplier effect.
    2. The district does not comply and does not take the grant. The state has failed in getting the district to accept the requirements, but there has been no cost to the state.

### *California's School Finance Incentive Program*

In 1983, the California legislature passed and the governor signed Senate Bill 813. Known as the Hughes-Hart Education Act of 1983, SB 813 was California's first response to the national education reform movement. The legislation linked increased funding to the implementation of educational reform. Specifically, SB 813 differed from previous school finance legislation in three ways (Guthrie, Odden, Cagampang, & Picus, 1988):

- It linked some of the additional revenue available for schools to performance incentives rather than to equalization.
- It emphasized a core curriculum and tougher graduation requirements rather than additional services for special categories of students.
- It focused considerable attention on the importance of teachers.

Although a substantial portion of the additional revenue provided by SB 813 went to

general grants to finance increased school district revenue limits, an important policy contribution of this legislation was the introduction of funding incentives. SB 813 included incentives to increase the length of the school day and the school year and to increase the salaries of beginning teachers.

Picus (1988) argues that most legislators expected that passing SB 813 would encourage better school performance as measured by test scores, reduced dropout rates, increased instructional time, and better teachers. Most members of the legislature expected the additional funds appropriated for education to go to teachers and students in direct instructional programs and not to other district functions such as administration, transportation, or maintenance and operations. The incentives in SB 813 were designed to encourage these expenditure patterns. A brief description of each incentive program follows.

*Longer school day and year.* SB 813 provided incentives for school districts to increase the length of the school year to 180 days. Districts that increased the number of school days to 180 (or who already had 180-day school years) received payments of \$35 per ADA in 1984–1985.

Districts were also encouraged to increase daily instruction time over a three-year period. Districts meeting the new instructional time goals received incentive payments of \$20 per ADA in grades K–8, and \$40 per ADA in grades 9–12 in each of three years (1984–1985, 1985–1986, and 1986–1987) if they increased instructional time by at least one-third of the amount between their 1982–1983 levels and the goals stated in SB 813. The funds generated by these incentives were added to district revenue limits and became permanent additions to their income.

The California Tax Foundation Study (CalTax; Kaye, 1985) of the implementation of SB 813 found that almost every district in the state maintained or increased instructional time to meet the SB 813 goals. In addition, all 24 of the districts surveyed by CalTax increased the length of their instructional year to a least 180 days. The study found that most districts increased instructional time all at once, rather than phasing it in over three

years. The surveyed districts indicated that virtually all of the instructional-time incentive funding was used to increase salaries for existing teachers, although districts that added an extra class period in the high schools used some of the funds to hire additional teachers. CalTax stated that most districts were satisfied that the funds they received for a longer school day and year were sufficient to cover the increased costs.

*Increased minimum salary for teachers.* Districts were offered incentives to increase salaries of beginning teachers. To participate in the program, a district had to increase the lowest salary on its salary schedule by up to 10% to a maximum of \$18,000 in 1983–1984, \$19,084 in 1984–1985, and \$20,200 in 1985–1986. Other steps in the salary schedule that did not meet the new minimum also had to be increased to at least the new minimum. The state provided funds to pay for the increases above the existing teachers salary schedules. Once done, districts had to permanently incorporate the new figures into their salary schedules. Only 50% of the districts took advantage of this incentive program. The California Tax Foundation Study found the program has successfully raised beginning teachers' salaries between 5% and 15% in participating districts. CalTax added that there was considerable opposition to the program from senior teachers who were concerned about the flattening of the salary schedule (Kaye, 1985).

Although the funds that districts received for meeting the program requirements did not come with specific strings attached, the clear intent of the legislature in establishing this program was to increase spending on direct instructional programs. The following section describes the effects of these incentives on school district spending patterns, particularly spending for instruction.

#### **California School District Response to Incentives**

Policymakers are concerned with how the funds they distribute to school districts are allocated among program categories. Specifically, they want to know what portion of total revenue is devoted to each category and whether or not those proportions are in line

with their expectations. For example, if school districts are spending half of their revenue on instruction, what impact will an incentive grant of \$35 per pupil have on the proportion of revenue spent on instruction? This section begins with a brief description of the expenditure and revenue patterns of California school districts between 1980–1981 and 1985–1986. It then summarizes findings regarding the impact of incentive grants on school district spending decisions.

*School District Expenditure Patterns:  
From 1980–1981 to 1985–1986*

The *California School Accounting Manual* (California State Department of Education, 1986) identifies seven program classifications for school district expenditures: (a) instruction, (b) administration,<sup>3</sup> (c) auxiliary and other expenditures, (d) instructional support, (e) maintenance and operations, (f) pupil transportation, and (g) pupil services.

Table 1 shows that in 1985–1986, unified school districts in California spent an average of \$3,643 per pupil in these seven classifications. Over half of this amount, \$1,886, was devoted to direct instructional programs, with the balance being spent in the other six program areas. Table 1 also displays similar data, adjusted to 1985–1986 dollars, for each of the other years of the study (1980–1981 to 1984–1985). Columns one and three show that in real terms, total educational expenditures dropped by over \$200 per pupil between 1980–1981 and 1981–1982, from \$3,219 to \$3,015. Although inflation-adjusted expenditures grew each year after that, they did not return to 1980–1981 levels until 1983–1984, the first year that districts received funds from SB 813.

The percentage of total expenditures devoted to each of these seven classifications is summarized in Table 1. The table shows that the percentage of total expenditures devoted to instruction increased from 50.2% in 1980–1981 to a high of almost 52% in 1983–1984, dropping slightly to 51.77% by 1985–1986. Although this change does not appear to be a dramatic shift of spending priorities, Table 2 shows that by 1985–1986, districts were spending over \$155 million more per year on instruction than they would have spent if the

proportion devoted to instruction had remained constant during the six-year period. Over the six years of the study, the cumulative increase in spending on instruction amounted to more than \$612 million.

Spending for administration also increased as a percentage of total expenditures, growing from 12.21% in 1980–1981 to 13.37% in 1985–1986. To compensate for these increases, spending on auxiliary programs and instructional support declined as a percentage of total expenditures during the six years. Pupil services and transportation remained relatively constant, while maintenance and operations increased as a percentage of total expenditures between 1980–1981 and 1983–1984 and then declined to a level slightly higher than the 1980–1981 share.

*School District Revenue Patterns:  
From 1980–1981 to 1985–1986*

The California legislature has used general aid, categorical grants, and incentive programs to finance school district operations.<sup>4</sup> In addition, most California school districts receive funds from the federal government, and many receive a small amount of money from the state to compensate them for the costs of state mandates. A total of seven distinct revenue categories were identified. They include the following: (a) general revenues, (b) federal funds, (c) general state categorical funds, (d) instructional support categorical funds, (e) other state categorical funds, (f) state incentive funds, and (g) state mandate reimbursement funds. Table 3 displays yearly revenues per ADA for unified school districts in 1986 dollars for each of the seven revenue categories, as well as each revenue source, as a percentage of total revenue for each year.

The three categorical grant categories listed above require additional explanation. General categorical grants are grants which are made to a school district for a specific reason but which can be spent on any district function. Two examples are Urban Impact Aid and Meade grants. Both programs distribute funds to local school districts in urban areas. The objective of both programs is to help compensate districts in urban areas for

TABLE 1

*Total Expenditures Per Pupil and Program Expenditures as a Percentage of Total Expenditures in California Unified School Districts, 1980–1986*

Expenditure classification	1980–1981		1981–1982		1982–1983		1983–1984		1984–1985		1985–1986	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Instruction	1,616	50.20	1,542	51.14	1,609	51.80	1,694	51.95	1,806	51.69	1,886	51.77
Administration	393	12.21	381	12.64	401	12.91	416	12.76	445	12.74	487	13.37
Auxiliary	271	8.42	201	6.67	197	6.34	202	6.19	236	6.75	249	6.84
Instructional support	324	10.07	294	9.75	286	9.21	297	9.11	320	9.16	320	8.78
Pupil services	93	2.89	90	2.99	92	2.96	91	2.79	96	2.75	102	2.80
Maintenance and operations	386	11.99	375	12.44	387	12.46	419	12.85	443	12.68	443	12.16
Transportation	136	4.22	132	4.38	134	4.31	142	4.35	148	4.24	156	4.28
Total	3,219		3,015		3,106		3,261		3,494		3,643	

*Note.* Expenditures are adjusted for inflation to 1985–1986 dollars on the basis of the California consumer price index.



**TABLE 2**  
*Unified School District Expenditures for Instruction: Actual Compared With Expected at 50.2% of Total Expenditures, 1981–1986*

Year	Expenditure (dollars)			
	Total	Actual for instruction	Expected instructional at 50.2% of total	Increase in spending for instruction
1981–1982	7,213,510,000	3,688,989,014	3,621,182,020	67,806,994
1982–1983	7,352,000,000	3,808,336,000	3,690,704,000	117,632,000
1983–1984	7,933,020,000	4,121,203,890	3,982,376,040	138,827,850
1984–1985	8,903,920,000	4,602,436,248	4,469,767,840	132,668,408
1985–1986	9,890,310,000	5,120,213,487	4,964,935,620	155,277,867
Cumulative increase				612,213,119

the additional costs of providing education in large cities. In both programs, districts must meet certain criteria to qualify for funds. However, there are no constraints on how the districts spend those funds once received. In 1989–1990, the legislature rolled these funds into recipient district revenue limits.

Instructional support categorical funds are funds sent to school districts to supplement and improve the instructional program. These include gifted and talented education, instructional television, demonstration programs in reading and math, and funds for the purchase of instructional materials. Although this category includes a number of programs, none represents a large amount of money.

Other categorical grants include funding for programs outside of direct instruction but which can be identified with a specific spending category. Transportation is the largest component of this revenue source.

One of the most important aspects of SB 813 was the use of incentive funds to encourage school districts to undertake desired activities, most notably to encourage them to increase instructional time and to raise the salaries of beginning teachers. The incentive funds that a district received in one year were added to their revenue limits in subsequent years. To ensure that districts continued the policies and programs required to receive the incentive funds, SB 813 imposed severe fiscal penalties on districts that relaxed the time or salary minimums needed to receive the in-

centive funds. Even though the incentive could be thought of as continuing, the fact that the money was distributed through the general aid (revenue limit) formula in future years, combined with the severity of the penalties imposed if districts backed off from the program requirements, makes the grant behave more like a general grant after the first year. Consequently, in this analysis, funds were treated as incentive funds only in the first year they were received. Once the money was included in the district's revenue limit, it was treated as a general revenue source from that point forward.

Funds for increasing minimum salaries for teachers were first available in 1983–1984. Unified districts reported receiving only \$2.259 million that year for this program. Among the districts receiving those funds, they represented approximately one dollar per ADA. The first year that districts could receive funds for both increasing minimum teacher salaries and for lengthening the school day and year was 1984–1985. Table 3 shows that incentive funds amounted to \$66 per ADA, or nearly 2% of total revenue that year. Although the incentives for higher salaries of beginning teachers and the longer school day continued, incentive funds for a longer school year were available only in 1984–1985. Consequently, the additional incentive funds for the longer day amounted to only \$29 per ADA in 1985–1986, or just over 0.75% of total revenue.

TABLE 3  
*Total Revenue Per ADA By Revenue Source and Revenues as a Percentage of Total District Revenue in California Unified School Districts, 1980–1986*

Revenue category	1980–1981		1981–1982		1982–1983		1983–1984		1984–1985		1985–1986	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
General	2,653	82.26	2,488	81.52	2,556	82.80	2,763	82.48	2,838	82.24	3,086	83.29
Federal	277	8.59	223	7.31	198	6.41	217	6.48	216	6.26	209	5.64
State categorical												
General	146	4.53	156	5.11	163	5.28	170	5.07	115	3.33	157	4.24
Instructionally related	16	0.50	17	0.56	15	0.49	31	0.93	43	1.25	51	1.38
Other	122	3.78	148	4.85	145	4.70	156	4.66	155	4.49	164	4.43
State incentive funds	—	—	—	—	—	—	1	0.03	66	1.91	29	0.78
State mandate reimbursement	11	0.34	20	0.66	10	0.32	12	0.36	18	0.52	9	0.24
Total	3,225		3,052		3,087		3,350		3,451		3,705	

*Note.* Expenditures are adjusted for inflation to 1986 dollars on the basis of the California consumer price index. ADA = average daily attendance. Dashes mean that program was not operative in those years.

### *The Effects of Incentive Grants on District Spending*

How effective are incentive grants in getting school districts to increase the share of their budget devoted to instruction? To answer this question, a model using six years of pooled data from California unified school districts was developed. Seven separate regression equations were estimated, one for each expenditure category. The discussion that follows describes the modeling approach used in the analysis and describes how unified school districts would be expected to react to the receipt of an additional dollar of revenue from each of the seven revenue categories.

#### *Analysis Variables*

The dependent variables in this system of equations are the percentage of total revenue devoted to each expenditure category. Most previous research has used per pupil expenditures as the dependent variable (Tsang & Levin, 1983). When per pupil spending is the dependent variable, the regression coefficients describe the estimated amount of an additional revenue dollar spent on each expenditure category but do not indicate whether the grant resulted in an increased, decreased, or constant portion of total revenue being devoted to that expenditure category. The portion of total revenue spent in a given budget category depends on the marginal propensity of the district to consume in that category compared with the marginal propensity to consume in all other expenditure categories.

Previous research was concerned with how school districts divided grant money between educational expenditures and other expenditures, including returning funds to taxpayers. Hence, per pupil expenditures was the logical dependent variable. Because California school districts cannot return funds to local taxpayers, they will spend all of their additional grant money, and the variable of interest is the relative share of revenue devoted to each expenditure category.

The question that policymakers want answered is, will incentive grants increase spending on instruction? In other words, did school districts use their new incentive reve-

nues for instructional programs, or were those revenues largely devoted to other expenditure categories? If a school district that is spending 50 cents of each dollar on instruction devotes only 30 cents of a new grant dollar to instruction, the share of total revenue devoted to instruction will decline, whereas if it spends 70 cents of each new grant dollar on instruction, the share of revenue devoted to instruction will increase. In 1983, legislators wanted districts to devote more of their resources to instruction, even at the expense of reducing spending in other categories. The incentives in SB 813 were designed to encourage a shift toward spending for instruction.

Analyzing the change in the portion of total revenue devoted to each spending category in response to additional revenue from incentives makes it possible to ascertain whether or not those incentives stimulate instructional spending above current levels. This is important to policymakers who want school districts to put more emphasis on instruction and who want to know if incentives will be successful in directing resources to instruction.

State policymakers also want to know how much of each additional grant dollar is spent on instruction compared with other expenditure categories. It is a simple process to convert the predicted changes in the percentage of total revenue devoted to each expenditure category into estimates of the portion of each grant dollar devoted to that expenditure category.

*Revenue variables.* The seven revenue sources introduced above are used as independent variables and are summarized in Table 4. It is assumed that funds received through each of these mechanisms will be spent in one of the seven expenditure categories, also identified above. The effect of an increase in per pupil revenue on spending in one of the seven expenditure categories depends on the district's preference for spending in that category compared with the other six categories. For example, if a district spending 50% of its revenue on instruction receives a general grant, the coefficient for general grants will be positive if more than 50 cents of each grant dollar from the new grant

TABLE 4  
*Independent Variables for Model of School District Response to Intergovernmental Grants*

Variable	Description	Expected effect on instruction
<b>Revenue</b>		
RGEN	General revenue per pupil in average daily attendance (ADA) in 1986 dollars. General revenue includes state basic assistance grants, as well as local revenue sources.	contingent <sup>a</sup>
RFEDL	Federal revenue per ADA in 1986 dollars	contingent <sup>b</sup>
RCATGEN	State categorical revenue for general purposes per ADA in 1986 dollars	contingent <sup>a</sup>
RCATINS	State categorical revenue for instructional purposes per ADA in 1986 dollars	positive
RCATOTH	State categorical revenue for specific, noninstructional purposes per ADA in 1986 dollars	negative
RSMDT	State mandate reimbursement per ADA in 1986 dollars	contingent <sup>a</sup>
RSINC	State incentive revenue per ADA in 1986 dollars	positive
<b>Price</b>		
AVGTCH	The district's average teacher salary in 1986 dollars	positive
<b>District characteristic</b>		
SCH-PUP	The inverse of the number of pupils per school in each district	negative
TCH-PUP	The ratio of teachers to pupils in each district	positive
AUX-PUP	The ratio of the number of auxiliary staff (instructional support and pupil services staff) to the number of pupils in each district	negative
P-MTY	The percentage of minority students in each district	negative
ADAP	The percentage change in ADA in each district	indeterminate
SMALL	A dummy variable for district size <sup>c</sup>	positive
<b>District characteristic</b>		
WEALTH	District property wealth per ADA in 1978, the year Proposition 13 was passed	positive
YEAR1- YEAR5	Five dummy variables for year in the pooled regressions <sup>d</sup>	indeterminate

<sup>a</sup>In the case of general grants, the sign of the coefficient depends on the marginal propensity of the district to spend funds on instruction compared with noninstruction. If it spends a higher portion of the grant on instruction, the sign will be positive, and if it spends a higher portion on other functions, the sign will be negative.

<sup>b</sup>The sign will depend on the purpose of the grant. Grants whose purpose is to improve instruction are expected to have a positive sign, and grants having to do with noninstructional matters are expected to have a negative sign.

<sup>c</sup>SMALL = 1 if total enrollment is 1,500 or less; otherwise, SMALL = 0.

<sup>d</sup>FY 1985-1986 is the base case year.

is spent on instruction, and negative if the district spends less than 50 cents of each additional grant dollar on instruction.

In each of the seven equations, revenue instruments with positive coefficients are successful in shifting district expenditures toward that expenditure category, and revenue instruments with negative coefficients indicate that school districts spend a smaller portion of the new revenue on the expenditure category than they spent on that category prior to receipt of the grant.

Table 4 summarizes the expected sign of the coefficients for the instruction equation. The expected sign of the coefficient for general grants (and other grants whose purpose is general, such as general categoricals) will depend on the district's marginal propensity to consume instruction versus noninstruction. If the district spends a higher portion of the grant dollar on instruction than it spends from other sources, the sign will be positive, whereas if it spends a lower portion on instruction, the sign will be negative.

*Price variables.* The prices of educational inputs are an important determinant of how school districts allocate funds across expenditure categories. In this analysis, average teachers' salary is used as the price variable. Teachers' salaries are the largest component of a district's budget and the largest portion of instructional expenditures. Spending on teachers can be expected to have a substantial impact on the percentage of district revenue spent on instruction.

Districts attempt to maintain fixed pupil-teacher ratios. Demand for teachers is inelastic because changes in average salary of teachers are not likely to result in substantial changes in the size of the teaching staff. Consequently, the expected sign of the coefficient for average teachers' salary is positive, indicating that higher teachers' salaries increase the percentage of total revenue spent on instruction.

Salaries of administrators and other certificated personnel were considered as price variables. They did not have a significant effect on the distribution of district funds across expenditure categories and were not included in the final model.

The costs of other educational inputs may also vary across districts in a state the size of California. There is a considerable literature on cost-of-education indices (Chambers, 1980). However, data on differences in the prices of nonpersonnel resources facing California school districts were not available for this study, and development of cost-of-education indices was beyond the scope of this work. Therefore, like most earlier studies, the prices of nonpersonnel educational inputs are assumed to be constant across districts.

*District preference variables.* Individual district preferences also affect spending decisions. Those found to have a significant impact on the share of revenue spent for instruction include average school size, the ratio of teachers to pupils, minority enrollments, district size, and enrollment growth or decline. In addition, because the data were pooled for analysis, five dummy variables, one for each of the first five years analyzed, were included to control for annual changes in district preferences. These preference variables are summarized in Table 4.

A number of other preference variables were tested and found not to have significant effects on spending decisions. These include average salaries of administrators and auxiliary staff, the percentage of residents in urban areas for the county in which the district is located, the ratio of teachers to administrator, the ratio of teachers to auxiliary staff, and the ratio of total salary costs per classroom to average teacher salary.

### *Modeling Approach*

Seven regression equations were estimated, one for each of the dependent variables. Each used pooled data from years 1980-1981 to 1985-1986 for the 261 unified school districts in the study. The results from the seven regression equations are presented in the Appendix. The Appendix displays the estimated coefficients and *t* statistics for each variable and identifies those coefficients that are statistically different from zero.

The ideal way to approach a model of this sort is to analyze data over a substantial period of time during which the change being analyzed is the only significant event (Adams, 1980). Unfortunately, these time periods rarely exist. As the recent history of California school finance shows, major changes seem to occur every few years, making it difficult to obtain sufficient observations over time to adequately assess the impact.

The approach most frequently used by researchers is to analyze data for groups of school districts over one time period. Cross-sectional analyses provide the amount and variance of data for good statistical analysis but do not answer the basic dynamic question of how districts respond over time. Limitations on data collection and the problems with time-series data have made this the most common form of analysis.

One way to overcome this problem is to use pooled data. Several years of data on school districts are combined for analysis. This increases the variance of the data and allows the researcher to test the stability of the results over time (Adams, 1980). Another method used by researchers in dealing with the cross-sectional versus time series issue is to analyze the data in change form.

First-differences methods relate the change in the dependent variable over time to changes in the independent variables over the same time period. This method helps answer the question, What does a district do with a marginal or additional dollar of revenue? Cross-sectional analyses provide information on how districts spend an average dollar of revenue. Tests of first-difference models resulted in few significant coefficients and poor fit to the data. These models did not offer as much explanatory power as did the cross-sectional pooled model and are not reported here.

Previous research has relied on both linear and logarithmic functions to estimate the fiscal response of school districts to grants-in-aid (Adams, 1980; Ladd, 1975; Picus, 1988; Tsang & Levin, 1983). Linear forms allow straightforward interpretation of the coefficients, making it easy to see the effect of a dollar increase in funding on the district's spending decisions. Logarithmic models allow the results to be interpreted as elasticities of response. Because some of the revenue variables used on the right-hand side of the equations for this study contain negative values, a logarithmic transformation is inappropriate.<sup>5</sup>

Another option is the use of a log-linear relationship, where only the dependent variables are transformed into log form. This is often a useful transformation when analysis of the residuals shows a heteroskedastic trend as the predicted value of the dependent variable increases. A log-linear model was tested, and analysis of the residuals indicated an even stronger reverse heteroskedastic trend, with the residuals getting larger as the predicted value declined. The log transformation of the dependent variable may have been too radical because of the limited disparity found in total spending among school districts. Compliance with *Serrano* has dramatically reduced differences in spending levels among school districts. As a result, a log transformation of the dependent variables did not improve the predictive strength of the analysis.

The final functional form selected uses a linear model, regressing the percentage of total revenue devoted to each expenditure

category against the independent variables. Use of these percentages rather than per pupil expenditures for each category improved the model's fit, with the residual plots displaying a more random pattern. Use of a linear model is consistent with previous research.

District spending in the seven expenditure categories cannot exceed total revenue. Because spending levels for all seven are interdependent, factors that influence spending decisions in one category must implicitly affect decisions in other categories. As a result, the same model was used to predict the share of expenditures devoted to each of the seven categories. One difficulty with using the same variable for all seven equations is that the model's fit varies from equation to equation.

One approach to improving the efficiency of the estimates from a series of equations where the error terms are likely to be correlated is to use seemingly unrelated regression. Pindyck and Rubinfeld (1981) point out that this technique does not yield any improvement in the estimates if the independent variables in each of the equations are the same. As explained above, the models reported here use the same independent variables, so that technique was not considered.

The model does an excellent job of predicting the percentage of total revenue devoted to instruction, instructional support transportation, and pupil services; a relatively good job for administration, maintenance, and operations; and a relatively poor job for auxiliary services. Given that the focus of this analysis is on how incentive grants impact spending for instruction, the model provides a rich set of findings which are discussed below.

#### *The Effect of Incentive Grants on Spending for Instruction*

The data in the Appendix were used to estimate the change in the percentage of revenue devoted to each expenditure classification from a \$100 per ADA increase in revenue with respect to different grant mechanisms. This information is displayed in Table 5. It shows that SB 813's incentives for a longer school day and year and for higher

TABLE 5  
*Predicted Percentage of Total Revenue Devoted to Each Expenditure Category and Change in Share Devoted to Each Category With a \$100 Per ADA Revenue Increase for Different Intergovernmental Grant Instruments*

Grant instrument	Instruction		Administration		Auxiliary services		Instructional support		Maintenance & operations		Transportation		Pupil services	
	%	Change	%	Change	%	Change	%	Change	%	Change	%	Change	%	Change
Percentage of total revenue before grant	52.32		12.42		6.29		9.58		12.16		4.01		3.08	
Incentive funds	56.94	4.62	14.40	1.98	5.00	-1.29	5.71	-3.87	12.50	0.34	3.44	-0.57	2.87	-0.21
General revenue	51.92	-0.40	12.44	0.02	6.66	0.37	9.46	-0.08	12.28	0.12	3.99	-0.02	3.05	-0.03
Federal revenue	51.61	-0.71	12.39	-0.03	6.99	0.70	9.52	-0.06	12.10	-0.06	3.94	-0.07	3.03	-0.05
General categorical	51.97	-0.35	12.37	-0.05	5.62	-0.67	10.11	0.53	12.07	-0.09	4.02	0.01	3.06	-0.02
Instructional categorical	50.60	-1.72	12.38	-0.04	5.35	-0.94	11.45	1.87	12.39	0.23	3.71	-0.30	2.90	-0.18
Other categorical	51.19	-1.13	11.95	-0.47	5.90	-0.39	10.02	0.44	11.83	-0.33	6.48	2.47	2.76	-0.32
State mandate reimbursement	52.30	-0.02	12.12	-0.30	6.21	-0.08	9.73	0.15	11.58	-0.58	4.44	0.43	3.07	-0.01

beginning teachers' salaries were effective in increasing the share of school district spending devoted to instruction. Moreover, it appears from Table 5 that larger incentives would have been even more effective in shifting spending toward instruction because a \$100 per ADA increase in incentive revenue was predicted to increase the percentage of revenue devoted to instruction by over 4.5%.

After SB 813 passed, there was little time for districts to implement the bill's provisions and to qualify for the first-year incentive funds. Increased instructional time (as required to receive SB 813's incentive funding) requires teachers to spend more time in the classroom and may require additional teachers. The difficulties of finding qualified teachers on short notice, combined with concern over whether funding for the bill would be available the next year, may have made districts reluctant to commit funds for additional teaching personnel. One way around this problem is to use existing instructional support personnel to meet the increased teaching demand. If funds continued to be available, the district could hire additional teachers and let the instructional support staff return to support functions in the future. When SB 813 passed, it appropriated funds for two years. Governor Deukmejian vetoed the funding for the second year, claiming that it was unwise to make appropriations over two fiscal years. Although funding for the second year was appropriated in the 1984–1985 budget, prudent district fiscal managers were understandably reluctant to make hiring decisions on the basis of funds being available the next year. This was particularly important because in California, school districts must notify teachers in March for terminations effective in September. Moreover, the California legislature does not develop a final budget until the end of June, and sometimes not until the next fiscal year starts in July, a situation that further complicates district fiscal planning.

This may explain the estimated decrease in the share of revenue devoted to instructional support that resulted from increased incentive funding shown in Table 5. Other shifts in spending expected to result from an increase in incentive revenues include increases in the

shares devoted to administration and maintenance and operations, and reductions in the shares devoted to auxiliary services, transportation, and pupil services.

The analysis shows that the legislature's incentive program was successful in influencing districts to increase spending on instruction. The incentive grants offered through SB 813 were almost universally accepted, and, among unified districts, the incentives had a multiplier effect, stimulating expenditures on instruction beyond the level of the grant.

This analysis shows that incentive grants were more effective than other intergovernmental grant instruments in increasing the share of school district budgets devoted to instruction. SB 813's incentives succeeded in getting local districts to lengthen the school day and year and to raise salaries of beginning teachers, thereby increasing instructional time and expenditures for direct instruction. In fact, if the budget percentages are converted to dollars, the average district increased spending on instruction by over twice the amount of the grant received for meeting the state requirements.

The success of incentive programs in garnering school district compliance with legislative goals may be tied to their limited use. A state incentive program in California that represented a much larger share of total district revenue would create a risk that the state might fall out of compliance with the \$100 spending band mandated by *Serrano* if a substantial number of districts elected not to participate. Even the \$66 per pupil average incentive grant received through SB 813 in 1984–1985 could have hampered *Serrano* compliance if a large number of districts had chosen not to participate in the program.

The success of SB 813 in getting virtually 100% compliance with the longer day and year requirements may be due to funding shortfalls in the years preceding its passage. School districts experienced real revenue declines in 1981–1982 and did not make up much ground in 1982–1983. The resulting funding shortfalls may be why they were so willing to accept the incentive requirements to get additional resources. Incentive programs may not be as effective under a less restrictive funding environment, particularly



if the program goals are not as universally accepted as the goal of increasing instructional time. Less commonly accepted goals might result in more districts electing not to accept incentive funds.

Incentive programs may be effective only in the short run. Table 1 shows that the percentage of expenditures devoted to instruction was highest in 1983–1984, the first year that districts received SB 813 incentive funds. The percentage devoted to instruction declined in 1984–1985 and again in 1985–1986, when previously received incentives were rolled into the districts' revenue limits and treated as general revenue. This indicates that after an initial adjustment, districts appear to start returning to previous spending habits. The 1985–1986 expenditures for instruction still represent an increase from the 50.20% in 1980–1981. There appears to be a short-term gain, followed by a partial retreat in spending on instruction.

Incentives are successful, but under limited conditions and for limited time periods. Incentives can be a powerful tool for changing local school district spending behavior, but the harder it is for local districts to retreat from the grant requirements, the greater the long-term success of the incentive program. For example, in 1964, which is the only other time California has experimented with an incentive program, once a group of districts formed a unified district and qualified for the \$20 per ADA incentive, undoing that process was very difficult and costly, and thus de-unification was an unlikely prospect.

On the other hand, once a district incorporates SB 813's incentive funds for lengthening the school day into its budget, reverting to old spending habits is possible by minimizing salary increases for future teachers and increasing spending in other areas. This can be a slow process because the district must continue to meet the instructional time requirements. However, districts that had to reduce funding in one program category to pay for the increased instructional spending necessitated by the greater instructional time requirement may, over time, try to make up for the losses by directing funds back to other program categories. An analysis of spending patterns after 1985–1986 is needed to ascer-

tain whether or not SB 813's incentives had a long-term impact on spending for instruction.

### **Conclusions and Policy Implications**

Experience in California following passage of Senate Bill 813 showed that incentive programs were effective in getting school districts to implement legislatively established goals. By offering funding incentives to increase the length of the school day and school year and to increase the salaries of beginning teachers, the legislature got local districts to increase the share of total expenditures devoted to instructional programs. Although it does not guarantee that student performance will improve or that dropout rates will decline, interviews with state legislators and other participants in the education policy arena indicate that the level of spending on instruction was viewed as one measure of the success of the reform components of SB 813 (Picus, 1988).

SB 813's incentive grants were more successful in directing expenditures toward instruction than other grant instruments have typically been. School districts responded to the incentive grants by increasing the percentage of total expenditure devoted to instruction, whereas the response to general, categorical, and federal grants resulted in increases in other expenditure classifications. It is possible that state categorical programs designed to increase instructional spending might have been equally successful, but data on that type of revenue instrument are not available because the legislature elected to use incentives rather than categorical grants to motivate increased instructional spending. These findings have implications for both California school finance policy and for state–local intergovernmental fiscal relations in general.

A number of factors must be considered if incentives are to be successful. Incentive programs are most effective when the funding represents a small portion of the local government's budget. If incentives represent a substantial share of local government budgets, they are effectively mandates because local governments will have to meet the incentive requirements to balance their budgets.

Incentives can be expected to achieve higher participation rates in times of fiscal constraint. Local governments facing revenue shortfalls will be more willing to accept funds, even if they come with strings attached, than will local governments with adequate fiscal resources.

Incentive programs may be successful only in the short run, particularly if the funds are rolled into general assistance programs in future years. Local governments will modify their spending patterns to qualify for the grant, but over time they can be expected to return to previous patterns. Even when incentive programs require maintaining service levels, it may be possible for local governments to use some of the funds in other areas once incentive programs are implemented.

Finally, incentives may be successful only under limited conditions and for limited time periods. The harder it is for local governments to retreat from the grant requirements, the greater the long-term success of the incentive program. The ability of a local government to retreat from the grant requirements depends on how difficult and costly it is to do so. Incentives that require major reorganizations, although they may be less successful in gaining compliance, are more likely to have a lasting impact on the local governments. On the other hand, incentives that are easily implemented and that are relatively inexpensive, may gain greater compliance, but maintaining that compliance may be more difficult.

This study indicates that legislatures can influence local government spending decisions. However, there is some slippage between legislative goals and local response. State policymakers should remember that there will be many individual interpretations of the state's policy goals. Allowing local governments the flexibility to implement state policies in a manner consistent with their view of local needs will make them more responsive to the varying needs of their constituents. It also means that legislators will not find implementation of their policies to be as neat as they would like. In some instances, legislative goals will not be attained, while in others they will be exceeded. Meet-

ing the challenge of providing quality public services requires both the continued interest and support of the state's policymakers and the patience of locals as they strive to implement legislatively established goals.

### Notes

This study is a follow-up to earlier research conducted at the RAND Graduate School. I would like to thank Steve Carroll, Dan Relles, and Allan Odden for their comments on earlier drafts of this article.

<sup>1</sup>These forms have been replaced by the J-200 series (Revenues and Expenditures of object code) and the J-380 (Expenditures by Program). These forms were created by the Financial Management Advisory Committee (FMAC) and became mandatory for all school districts beginning with the 1987-1988 school year.

<sup>2</sup>*John Serrano, Jr., et al. v. Ivy Baker Priest et al.*, 487 P.2d 1241, 5 Cal. 3d 584.

<sup>3</sup>In this analysis, the costs of school site administration (principals and assistant principals) are considered administration. This is so because school principals are thought of as administrators by many policymakers and because the provisions of the Education Code regarding the administrator-teacher ratio treat principals as administrators. Others have assigned the cost of school site administrators to the instructional support category because principals are often thought of as the instructional leaders of a school, providing leadership, guidance, and assistance to the teaching staff. How one chooses to account for principals has a substantial effect on the relative percentages of a district's budget devoted to instructional support and administration.

<sup>4</sup>California does offer matching grants for deferred maintenance. They were not considered because the data could not be broken out for analysis. In addition, California has a matching program to provide state support for school construction. However, school construction is financed through capital accounts, not school district general operating funds. The problem of an unlimited drain on the state budget that can result if matching grants are not somehow limited is resolved through the use of a special construction account at the state level. School construction is then funded on the basis of a prioritized list of approved projects until the fund is exhausted.

<sup>5</sup>State mandate reimbursement funds are allocated to districts on the basis of an estimate of what those charges will be. If a district is overpaid, it must rebate the overpayment to the state the following year, and this results in negative amounts for this revenue category in certain years.

APPENDIX

Fiscal Response Coefficients for Pooled Regressions

Variable	Instruction		Administration		Auxiliary services		Instructional support		Maintenance and operations		Transportation		Pupil services	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
Intercept	0.483172**	26.436	0.162748**	14.879	-0.027795	-1.413	0.155861**	14.222	0.116458**	11.707	0.063865**	9.243	0.026170**	5.125
General revenue	-0.000040**	-10.647	0.000003	1.305	0.000038**	9.335	-0.000007**	-2.895	0.000012**	5.868	-0.000003*	-2.158	-0.000003*	-2.530
Federal revenue	-0.000070**	-20.918	-0.000003	-1.252	0.000070**	19.420	-0.000009**	-4.351	-0.000007**	-3.702	-0.000007**	-5.834	-0.000004**	-4.623
General categorical	-0.000035**	-2.659	-0.000004	-0.545	-0.000066**	-4.658	0.000053**	6.592	-0.000009	-1.252	3.50E-07	-0.070	-0.000001	-0.357
Instructional categorical	-0.000172**	-3.927	-0.000004	-0.150	-0.000093*	-1.981	0.000187**	7.119	0.000023	0.956	-0.000031	-1.875	-0.000018	-1.497
Other categorical	-0.000113**	-7.030	-0.000047**	-4.785	-0.000038*	-2.219	0.000044**	4.492	-0.000033**	-3.814	0.000247**	40.529	-0.000032**	-7.081
State mandate reimbursement	-0.000002	-0.038	-0.000029	-1.223	-0.000007	-0.166	0.000015	0.614	-0.000058**	-2.700	0.000043**	2.860	-0.000001	-0.102
State incentive revenue	0.000462	1.826	0.000198	1.307	-0.000128	-0.471	-0.000387**	-2.550	0.000034	0.250	0.000345**	-3.608	-0.000020	-0.268
Average teacher salary	0.000008**	16.450	-0.000001**	-2.945	-0.000002**	-3.524	-0.000003**	-10.921	0.000001**	3.122	-0.000001**	-5.346	0.000001**	4.655
School-pupil ratio	6.926606**	8.016	1.809134**	3.496	-5.347622**	-5.750	-1.045863*	-2.017	1.132094*	2.407	0.832886*	2.559	0.506446*	2.012
Teacher-pupil ratio	0.835777**	6.550	-0.293308**	-3.836	-0.441237**	-3.213	0.412948**	5.391	-0.245913**	-3.541	-0.010611	-0.220	-0.078130*	-2.230
Auxiliary staff-pupil ratio	2.760438**	2.645	1.414714*	2.260	-1.125656	-1.002	1.372139	2.188	-1.313230*	-2.312	-0.634952	-1.601	3.685253**	12.616
% minority enrollment	-0.044301**	-8.115	-0.011870**	-3.610	-0.011719*	-1.995	0.075580	22.941	0.003530	1.188	-0.010055**	-4.854	-0.005423**	-3.674
% change in enrollment	-0.078865**	-2.803	-0.066530**	-3.940	0.114587**	3.784	-0.004759	-0.281	-0.772939**	-7.036	0.067997**	6.379	-0.003014	-0.391
Small	0.003212	0.841	0.013389**	5.828	-0.001670	-0.406	-0.003715	-1.614	0.000737	0.354	0.002226	1.539	-0.004147**	-3.855
Wealth	3.918E-07**	6.683	6.107E-08	1.738	-0.000001**	-9.835	1.172E-07**	-3.331	3.251E-07**	10.191	2.726E-07	1.222	1.841E-08	-1.090
Year 1	-0.015452	-1.786	-0.007039	-1.357	0.033066**	3.550	-0.003544*	-0.682	0.000623	0.132	-0.006304	-1.934	0.000027*	0.011
Year 2	-0.015784	-1.802	-0.004327	-0.824	0.031740**	3.367	-0.012030	-2.287	0.004042	0.848	-0.013159**	-3.986	0.000192	0.075
Year 3	-0.010421	-1.200	-0.001046	-0.201	0.032966**	3.527	-0.010000	-1.918	0.003532	0.747	-0.008918**	-2.725	-0.000790	-0.312
Year 4	-0.002500	-0.309	-0.002300	-0.474	0.019768*	2.267	-0.012314*	-2.531	0.004100	0.930	-0.011155**	-3.656	0.000348	0.147
Year 5	-0.019605*	-1.961	-0.009705	-1.621	0.022048*	2.049	0.019356**	3.227	0.003771	0.693	0.013269**	-3.515	0.001006	0.343
Adjusted R <sup>2</sup>	.46		.11		.28		.57		.16		.76		.37	

Note. Coefficients ending in E-0N are displayed in scientific notation.

\*p < .05. \*\*p < .01.

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