Policymakers view incentives as being more effective in ensuring local compliance with state reform goals than the mandates and sanctions used in the past. Also, voluntary compliance is seen as "morally superior" to coercion. This paper describes alternative incentive options available to policymakers and delineates the circumstances under which each would be effective in achieving state policy goals. Two general incentive categories are described: (1) incentives built into a state's education finance formula and designed on the basis of intergovernmental grant theory and (2) state financed incentives provided directly either to districts or to individual schools and designed to spur specific actions or outcomes. In the first section, traditional grant models are examined, and the expected effects of general and categorical grants on school district spending are described. Matching grants are also discussed. The second section analyzes specific state-financed incentive programs directed toward districts or individual schools. The third section summarizes findings and discusses implications for school finance policy. Although incentives were successful in increasing instructional spending, there is no clear evidence that related gains in student performance result. Rewarding outputs is generally more effective than rewarding inputs. (40 references)
USING INCENTIVES TO STIMULATE IMPROVED SCHOOL PERFORMANCE: AN ASSESSMENT OF ALTERNATIVE APPROACHES

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References
Introduction

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. Nation-wide, total school funding rose 83% in nominal terms between 1980 and 1988, and 43% between 1983 and 1988 (Odden, 1990). When inflation is taken into account, real spending for K-12 education increased 30% in the 1980s. This increase occurred on top of real dollar increases of 35% in the 1970s and 67% in the 1960s (National Center for Education Statistics, 1990). The hope was that more money combined with the 1980s reforms would improve student performance. These overall funding increases were accompanied by a series of new, school-based incentive programs created to encourage improved school performance.

Incentives are popular among education policymakers, and have been promoted by the National Governor's Association in recent reports on the status of education reform (David, et. al., 1990; National Governors Association, 1990), but are still in the early stages of development. Policymakers view incentives as an alternative to regulatory approaches used in the past to stimulate local response to state education goals. They often view incentives as being more effective in assuring local responsiveness to state reform goals than the mandates and sanctions used in the past. Many policymakers stress the "moral superiority" of voluntary compliance and argue that incentives minimize the need for "coercion as a means of organizing society" (Church and Heumann, 1989). There is also a growing sense that it is more appropriate for the state to monitor district performance in
meeting established goals, while leaving specific program decisions to the local officials most familiar with the realities of their situation.

The current political movement to decentralize government generally has made this argument popular. By shifting decision making authority from the state to local school districts, incentive proponents can claim that spending changes result from locally established priorities, and are not part of a growing and "bloated" bureaucracy. Some dispute the voluntary aspects of incentive plans because the withdrawal of previously awarded incentives looks like punishment. Supporters of incentives claim that incentives are more effective in attaining the ends of public policy than regulation or mandates. Unfortunately, there have been few empirical studies of this claim -- in or out of education (Church and Heumann, 1989).

The most recent education incentive programs began with merit pay and career ladder programs. The intention was to reward individuals in the education system who were doing an especially good job. Merit pay and career ladder programs have been studied extensively, and their problems documented in studies by Richards (1985), Murnane and Cohen (1986), and Johnson (1986). Other studies have proposed new approaches for rewarding productivity (Lawler, 1990; Blinder, 1990), including paying teachers for productivity (Odden and Conley, 1991). But teacher compensation need not be the only domain of incentive programs. There are numerous incentive options available to state policymakers.

The purpose of this paper is to describe alternative incentive options available to policymakers, and delineate the circumstances under which each would be effective in achieving state policy goals. Two general categories of incentives are described. They are:

1) Incentives built into a state's education finance formula and designed on the basis of intergovernmental grant theory.
2) State financed incentives provided directly either to districts or to individual schools. These incentives can be designed to spur specific actions on the part of recipients, or to reward outcomes.

This paper has three sections. In the first section, traditional intergovernmental grant models are examined, and the expected effects of general and categorical grants on school district spending are described. Another intergovernmental grant mechanism, the matching grant is also discussed. Matching grants are really a special form of either general or categorical grants, depending on the purpose of the grant. The second section analyzes specific, state financed, incentive programs. These incentives can be directed toward either districts or individual schools, they can reward specific actions or inputs (such as increasing time spent on instruction), or they can reward specific outcomes (such as performance). The third section provides a summary of findings and discusses the implications of those findings for school finance policy.
1. Intergovernmental Grant Theory and Incentives

State policymakers have two primary options for directly influencing local school district spending decisions. They can mandate changes in the way school services are provided, or they can use intergovernmental grants to influence local behavior. While mandates offer the most direct way of achieving legislative goals, they carry with them political and financial problems. Consequently, state legislatures often rely on intergovernmental grants to stimulate desired school district action. Two basic grant instruments—general grants and categorical grants—are available to state policymakers. Past empirical research shows that each of these two grant instruments has a different impact on local spending decisions. This section begins with a brief discussion of mandates, and then discusses the two types of intergovernmental grant mechanisms—the formulas usually discussed in school finance policy—and their expected impact on school district spending decisions.

Mandates

A state's authority to impose mandates on local governments has long been recognized. This authority stems from "Dillon's Rule," a 1868 court ruling by Iowa judge John F. Dillon which holds that local governments owe their origin to, and derive their powers from state legislatures, (ACIR, 1989). This principle was upheld by the United States Supreme Court in City of Trenton v. New Jersey\(^1\) in 1923 and is used by state courts today.

Opponents of mandates claim that local governments are in the best position to respond in flexible and diverse ways to community problems and issues. They argue that if revenue and expenditure decisions are mandated, and thus out of local officials' control, their flexibility to respond is constrained. If local and state policies are not aligned, these constraints become divisive. The resulting loss of local control is the most frequently voiced criticism of mandates. Another argument against mandates is that they are often

\(^1\) 262 U.S. 182 (1923)
enacted with little or no information about the costs being passed on to local governments. This makes it difficult for mandate sponsors to consider the benefit-cost tradeoffs of their proposals.

Proponents of mandates argue they are a legitimate tool to spur governmental activity that may not be fully provided by local governments. Mandates also make it possible to move in the direction of uniform levels of service across an entire state. Many mandated programs fall within areas affecting more than one local jurisdiction. Highways, education, and welfare are three examples. Proponents of mandates say for programs like these, over which the state has considerable responsibility, the reordering of local priorities through the use of mandates is an appropriate state action.

One of the major concerns about mandates is their cost. Today, 14 states require mandate reimbursements. As a result reliance on mandates to achieve legislative goals is very costly to state governments. A total of 42 states require an estimate of the local cost burden of new state mandates (GAO, 1988). Because of these requirements, state policymakers often choose to use intergovernmental grants rather than mandates to influence school district spending. The following section describes the expected response of local school districts to different types of intergovernmental grants.

The Incentive Properties of Traditional Intergovernmental Grants

State school finance systems have always used a variety of intergovernmental grants to distribute funds to local school districts. General or block grants are usually used to provide the bulk of state support to districts. Funds allocated through general aid formulas have few restrictions on their use, and their purpose is twofold: 1) to provide general assistance and support for financing education; and 2) to equalize variations in local fiscal capacity. When used for equalizing fiscal capacity, general grants distribute aid (at least to some extent) inversely to local districts' ability to raise revenue from their own sources.
State and federal policy makers also use *categorical* grants to encourage school districts to undertake desired actions, or to provide services to groups of children viewed as needing additional educational resources. Federal categorical programs provide funds to school districts to help children with special needs (e.g. Chapter 1 funds for disadvantaged children, special education funds for handicapped children, and bilingual grants to districts with high concentrations of limited-English proficient children). Other federal categorical programs compensate districts for factors largely out of their control (e.g. Impact Aid which compensates school districts for loss of tax revenue due to a large federal presence, such as a military base, within the district's boundaries). Many states also have categorical grant programs designed to encourage local actions that are in line with established state policy goals.

States rely on both grant mechanisms to distribute state funds to school districts and to influence their spending behavior. Research on the response of local school districts to state intergovernmental grants has focused on the local tradeoff between additional spending for education and other uses of the funds, including tax relief. Research has reached a remarkable consensus about the effects of these two grant mechanisms.

**General grants.** State school finance equalization formulas rely extensively on general grants to local school districts. These dollars can be used as the local district chooses. The two most common school finance general grant mechanisms are foundation programs and guaranteed tax base or power equalizing programs. Each of these provide support for local school district operations, and help equalize disparities in district revenue-raising capabilities. Foundation programs distribute funds to districts through block grants that are used for general operations. Guaranteed tax base programs can be thought of as a matching grant, where the state guarantees a certain level of funding based on the district's local school tax rate. Thus, the state "matches" the district's contribution. For both
mechanisms, the state's share of total expenditures is a function of local district capacity. The greater a district's capacity to raise funds on its own, the lower the state share.²

Past research on the effects of general grants for education has shown that school district spending increases by only a portion of the increase in general aid, with the balance devoted to local property tax relief. Studies of unrestricted or general state grants to school districts consistently find that a portion of the grant is used for tax reductions (or for spending on other government programs). For the most part, local school districts use between 50 and 80 cents of a state general grant dollar on educational programs, with the balance devoted to other uses. Policymakers planning to use general grants to achieve desired policy goals should note only about half of the funds distributed to school districts will be spent for the intended purpose.³

In summary, general grants are a powerful tool for increasing local spending capacity, and for providing local property tax relief for school districts. However, their unrestricted nature makes it difficult for state policymakers to secure local participation in programs they think should receive priority. Thus, the best use of general aid is to support overall educational programs and fiscal capacity equalization. Policymakers interested in stimulating specific actions on the part of local school districts need to consider alternative funding instruments such as categorical grants. These tools are described below.

**Categorical grants.** In contrast to general aid, categorical grants are offered to school districts for a single reason or purpose, and often come with strict application and reporting requirements. Categorical grants are used to ensure that school districts provide services deemed important by the state or federal governments. For example, school districts in several states receive funds from both the federal government and from the state to provide services for disadvantaged and poor children. The federal program, Chapter 1, ²For a discussion of state general aid formulas see Odden and Picus (Forthcoming)
³See for example, Miner (1963); Struyk (1970); Stern (1973); Grubb and Michelson (1974); Ladd (1975); Bowman, (1974); Grubb and Osman (1977); Black, Lewis and Link, (1979); Park and Carroll (1979); Vincent and Adams (1978); and Adams (1980);
provides additional funds to school districts that must be directed toward children identified as economically disadvantaged. Several states have similar programs that provide aid to school districts on the basis of low income students. Services supported through categorical grants are often provided more efficiently at the local level, but without assistance, school districts may not provide the desired level of service.

Many categorical grants are available automatically to recipient governments on the basis of predetermined formulas or characteristics. For example, the federal compensatory education program, Chapter 1, provides dollars to all districts on the basis of the number of children enrolled who come from families with poverty level incomes. Funds appropriated for this program are distributed to the qualifying districts on a per-pupil basis. Other categorical programs have specific application procedures. Districts wishing to participate in a program must apply for funds, usually through a competitive process. Awards are then made to districts submitting the plans that are most highly rated. Federal bilingual grants under Title VII are an example of this type of categorical grant.

Categorical grants can be designed to fully fund the desired program, or they can include a matching component whereby the local district must pay for a portion of the program from its own revenues. Some matching programs are even designed so that over time the state or federal share of the cost of the program declines, leaving the district responsible for maintaining the program.

To insure that categorical grants are used for the intended purpose, states and the federal government have developed a complex system of rules to ensure compliance. For example, maintenance of effort provisions such as Chapter 1's "Supplement not Supplant" requirement are designed to make sure the recipient district uses its Chapter 1 funds on the children who qualify for assistance, and that spending on the supported program district funds does not decline as a result of the grant. Other enforcement mechanisms include audits and evaluations to ensure that recipients establish programs designed to meet the
grant's purpose. Many categorical grants have specific reporting requirements that help the state monitor the use of categorical funds.

Empirical findings about categorical grants have found that unlike general grants, categorical grants stimulate local educational expenditures by more than the amount of the grant. Although an early pre Chapter 1 regulation study by Feldstein (1975) indicated that districts were not using all of their federal Title 1 funds on services for disadvantaged children, research in the late 1970's found these regulations had succeeded in directing not only the full amount of the grant toward its intended purpose, but in many cases stimulated additional local spending on the program. As a result, researchers found districts increased spending on categorical programs by as much as $1.10 to $1.20 for each categorical grant dollar they received.4

Categorical grants are a powerful tool for state and federal policymakers who want to encourage specific actions on the part of local districts. By focusing resources on targeted populations or programs, categorical grants not only get used for their intended purpose, but frequently stimulate local districts to provide additional funding from their own resources.

Summary

As this discussion shows, there are a variety of grant mechanisms available to states. The type of grant instrument chosen, as well as the distribution mechanism used, can affect how the funds are spent by local districts. General grants are most effective when the state's goal is to provide districts with general revenue to support education, or to equalize fiscal capacity. These grants leave allocation decisions up to the district, and consequently are not as effective if the state's goal is to get districts to offer specific services or programs. Given the opportunity to use the new dollars as they see fit, districts are likely to make different spending decisions than the state would choose. Indeed,

4See for example, Grubb and Michelson, (1974); Ladd, (1975); and Vincent and Adams, (1978); Tsang and Levin, (1983).
districts often use half of an increase in state aid to support education and use the other half to reduce local taxes.

Categorical grants can be given to school districts to serve a specific population, or to get them to implement a particular program. These grants are considered categorical rather than general grants because they are distributed to a limited number of districts whereas general grants are available to all districts. Categorical grants designed to meet a specific purpose frequently include one or more mechanisms or "strings" designed to ensure compliance with the grant's goals. Research shows these grants are not only spent for the intended purpose, but often stimulate some district spending from other sources as well.

An alternative to these types of grants is to provide financial incentives to school districts, or directly to schools that undertake desired actions, or that meet certain performance goals. These fiscal incentives are the topic of the next section.

2. The Use of Incentives To Implement State Policy Goals

An alternative to using grants to stimulate school district behaviors is to offer incentives for districts, or schools, that undertake desired actions or meet certain performance standards. While still somewhat of a novelty in education today, incentives are increasingly being used in the private sector and in some other public sectors. The approach taken more and more often is to provide incentives for operational units (production divisions or departments -- the analog in education would be schools) rather than for individuals. In the private sector, incentives are often linked to the productivity of individual units, which are rewarded on the basis of performance over a multiple year time period (Stansberry, 1985; Swinford, 1987; Goggin, 1986; and Blinder, 1990).5

5Moreover, in both the private sector and in schools, there is increasing recognition that individual performance incentives can work at cross purposes to the kind of team efforts required to develop and sustain a productive organizational climate (Swinehart, 1986; Conley and Bacharach, In press; Rosenholz, 1989; Lawler, 1990).
There are two overall design elements that need to be considered in establishing an incentive program. Incentives can be directed toward either districts or individual schools, and they can reward specific actions or inputs (such as increasing time spent on instruction) or they can reward outputs (such as improved performance). In effect, policymakers can choose among four possible incentive options depending on the level to which the incentive is directed and the way awards are distributed. These four options are summarized in Figure 1.

Table 1: Alternative Incentive Models Available to State Policy Makers

<table>
<thead>
<tr>
<th>Award Distribution</th>
<th>Level</th>
<th>District</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Outcomes</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

To date, only two of these options have been used in education, and little research on their effectiveness has been conducted. One state, California has experimented with input incentives to school districts (model 1), while a number of states have begun experimenting with school based incentive programs, generally designed to reward schools on the basis of outcomes (model 4). This section begins with a discussion of California's incentive program to lengthen the school day and year and to increase beginning teacher salaries, a model 1 incentive program where school districts received additional funds from meeting certain organizational and salary requirements. The second part of this section discusses the growing use of school based outcome or performance incentives in a number of states, a model 4 incentive program.
District Based Input Incentive Programs

One option is for states to use incentives to get local school districts to offer desired service levels. States could offer incentive grants to districts with the condition that certain service levels be achieved. In exchange, the district receives additional funding, usually in the form of a general grant. Decisions on how the incentive funds are be spent are up to the recipient government, as long as the service requirements of the grant are met.

The advantage of an incentive grant is that it allows the district considerable latitude in determining how to provide the new level of service. However, because school districts are not required to accept the incentive funds, it is unlikely such incentives will produce compliance by all districts with established state policy goals. Assuming 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 identified:

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.

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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.

Because these incentives are a relatively new school finance concept, little empirical research on their effectiveness is available. In one California study, Picus (1988) analyzed the effect of formula based incentives for a longer school year and longer school day in that state's 1983 education reform act, and found that incentives of this type had a stimulative impact on district spending for instructional programs.

Under Senate Bill (SB) 813, California school districts were eligible for incentive payments of $35 per student in 1984-85 if they increased the length of the school year to 180 days. Districts that already had 180 day school years also received these incentive payments. In addition, districts that increased the length of the school day to a state established minimum received incentive payments of $20 per pupil in grades K-8 and $40 per pupil in grades 9-12 for each of three years beginning in 1984-85. Almost all districts in the state took advantage of these incentives. Another incentive program designed to increase beginning teacher salaries paid districts the cost of increasing teacher salaries to a minimum of $18,000. Only about half of the districts in the state took advantage of this part of the program.

An important component of these incentive programs was that once a district met the time requirements and received the incentive payments, future payments were rolled into the district's revenue limit. Including the payment as part of a district's (block grant) revenue limit assured continued funding for the program. To keep local districts from receiving the funds, and then reverting back to old schedules that did not meet the incentive program's minimum requirements, the legislature enacted a penalty provision that reduces a district's state aid by an amount greater than what they received through the incentive
program. This penalty is still in effect today to insure compliance. As a result, districts that elected to extend their school days and years to receive the incentive funds have not reduced school time "after the fact."

Picus (1988) notes that the legislature expected districts to use the incentive funds to increase spending on direct instructional programs. Figure 2 shows Picus' estimates of changes in spending by program area that resulted from a one dollar increase in incentive revenue for California unified districts. This figure shows that for every incentive dollar a district received, it increased spending on instruction by over $2.00. In addition, Figure 2 shows other changes in district spending patterns as a result of the incentive program. For example, a one dollar increase in incentive funds led to an increase of approximately 78 cents in spending on administration, and a smaller increase in spending on maintenance and operations. On the other hand, spending for instructional support, transportation, auxiliary and student services declined in response to the incentive funding.
Figure 2
ESTIMATED IMPACT OF A DOLLAR INCREASE IN INCENTIVE REVENUE ON SCHOOL DISTRICT SPENDING BY EXPENDITURE CATEGORY: CALIFORNIA UNIFIED SCHOOL DISTRICTS, 1984-85 TO 1985-86

<table>
<thead>
<tr>
<th>Expenditure Classification</th>
<th>Incentive Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction</td>
<td>2.05</td>
</tr>
<tr>
<td>Administration</td>
<td>0.78</td>
</tr>
<tr>
<td>Auxiliary</td>
<td>-0.36</td>
</tr>
<tr>
<td>Instructional Support</td>
<td>-1.18</td>
</tr>
<tr>
<td>Maintenance and Operations</td>
<td>0.24</td>
</tr>
<tr>
<td>Transportation</td>
<td>-1.09</td>
</tr>
<tr>
<td>Pupil Services</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

Source: Picus (1988)

Picus concluded that these California incentives 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 beginning teacher salaries, the legislature stimulated local districts to increase the share of total expenditures devoted to instructional programs. Although increased spending on instruction does not guarantee student performance will improve, or dropout rates will decline, interviews with state legislators and other participants in the education policy arena indicated that increased spending on instruction was viewed as one measure of the success of the reform components of SB 813. Picus' analysis also found that by the end of the six year study period, district spending decisions across functions began to return to the pattern observed prior to enactment of SB 813's incentive components.

Picus also found that 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 percent of total expenditure...
devoted to instruction, whereas the response to general and categorical grants resulted in smaller spending increases in instruction and relatively larger increases in other program areas. It is possible that state categorical programs designed to increase instructional spending might have been equally successful, but no such program was enacted.

Picus' findings have a number of important implications for the design of district level input incentive programs financed through state school finance formulas. They include the following:

- Formula based incentive programs can be an effective grant mechanism stimulating school districts to implement legislative goals. Incentives are a powerful tool for gaining local acceptance of state established goals. Incentives do not carry the negative connotations associated with mandates, and their voluntary nature makes it possible for school districts or local governments to "opt out" of programs they dislike. More importantly, carefully designed incentives make substantial compliance with legislative goals a real possibility.

- Incentive programs are most effective when the funding represents a small portion of a school district's budget. If incentives represent a substantial share of district budgets, they effectively become mandates since districts will have to use a larger portion of their budget to meet the incentive requirements.

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

- Rolling incentive funds into general assistance programs in future years may limit the effectiveness of the incentive. School districts may modify their spending patterns to qualify for the grant, but over time can be expected to return to previous

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6California did not make significant use of matching grants during the years studied by Picus.
patterns. Even when incentive programs require maintaining service levels, once implemented, it may be possible for districts to use some of the funds in other program areas.

- The harder it is for school districts to retreat from the grant requirements, the greater the long term success of the incentive program. The ability of a school district 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 school districts. On the other hand, incentives that are easily implemented, and at relatively low cost, may gain greater compliance, but maintaining that compliance may be more difficult.

School Based Fiscal Incentives

A second incentive program that has been tried and studied in a number of states is school based fiscal incentives designed to reward outputs or school performance. These incentive programs pose a host of different issues. While still something of a novelty in education today, they are increasingly being used in the private sector and in some other public sectors. A number of states have experimented with site based incentive programs in education with varying degrees of success.

This section of the paper contains two parts. The first describes site based incentive programs in the states, with more focused discussion on programs in two states, South Carolina and California. Following this discussion, there is an analysis of the design issues states need to consider in establishing site based incentive programs. Finally, implications for state school finance policy are discussed.

State programs. A number of states have experimented with a variety of site based incentive programs. These programs have taken a number of forms. Some reward schools directly for performance, while others provide funds to districts and allow the district to distribute the reward to schools. In some programs, the state determines the
eligibility criteria for the program and sets the standards by which performance is judged. In other programs, performance is measured on the basis of how well a school, or district meets self-determined educational goals. Current state school-based incentive programs in the states are summarized in Figure 3. Some programs have enjoyed greater success than others. Two specific school-based incentive programs are described more fully below.

**South Carolina's school incentive reward program**

The School Incentive Reward Program is one part of what Peterson (1988) refers to as South Carolina's "carrot and stick" approach to school accountability. The program provides rewards to roughly 250 schools making the largest achievement gains compared to similar schools. In addition, bonuses are available for student and teacher attendance. If a school meets all three outcome standards it can receive about $30 per student. A school must meet student achievement gains to qualify for any award. Eighty percent of the annual per pupil award is based on the achievement standard. The attendance incentives are based on fixed standards, and schools can get an additional 10% of the per pupil award for each attendance standard it meets. In addition to the financial rewards, schools receive flags and certificates signifying their performance. Honorable mention awards are presented to schools whose performance approaches but does not meet the standards required for a monetary reward.

The schools that appear to have gained the most from this program are the state's poorer districts. Richards and Shujaa (1990) show that the schools gaining the most from this program are in poor districts. They cite South Carolina Department of Education reports that schools with fewer resources and historically lower achievement gains who receive awards show the greatest support for the program. Moreover, Richards and Sheu (1990) show that by relying on gains in student achievement, the impact of background factors in award assignment has been "significantly" reduced.

Cibulka (1989) concluded that the program has proven to be a source of motivation to school and teachers. He indicated that there is a great deal of support for the program.
among educators, and that the greatest support has been found among schools with fewer resources and historically lower achievement gains. Because of the program's success, legislation was introduced to release schools that won awards two years in a row from state regulations. Richards and Shujaa note this may complicate analysis of the South Carolina program's success because the most successful schools will be able to escape requirements that limit their performance. If deregulation really does promote higher levels of performance, then repeat winners will have an advantage over other schools for future incentive payments.

South Carolina also has a school district intervention program to help poorly performing schools and districts -- Peterson's "stick." South Carolina districts which have low performance levels on achievement tests, poor student or teacher attendance, and/or high dropout rates, or do not meet accreditation standards are declared to be an Impaired District (Peterson, 1988). Impaired districts are then visited by a team of educators, who issue recommendations which, once approved by the State Board of Education, must be implemented by the local school district. Districts failing to comply with the recommendations face withholding of funds or removal of the district superintendent. State technical assistance is also provided to impaired schools. By 1988, only nine districts in the state had been identified as impaired.

California's cash for CAP

While South Carolina's school based incentive program appears to be a success, not all state incentive programs have been as fortunate. In addition to the formula based incentives described above, California's SB 813 included a program to provide schools with cash awards for high performance on the California Assessment Program (CAP) test. Specifically, high schools received awards on the basis of increases in the standardized achievement test scores obtained on the 12th grade CAP test.

The program was funded in both 1984-85 and 1985-86, but eliminated the following year. In the first year of operation, approximately 49 percent of the state's high
schools received awards ranging from $5 to $192,000, and averaging $26,047. In the second year, 48 percent of the state's high schools received awards. Awards were discretionary and could be used in any manner, as determined by the school -- except to increase salaries.

The program appeared to be successful, in that senior test scores improved, and the number of seniors taking the test increased. However, there were a number of serious implementation problems. Some schools managed to artificially lower the CAP scores in the base year, to maximize their improvement during the award years. Other schools tried to change the definition of a senior so that those most likely to do poorly on the test would not have to take it, thus raising the gain score above what it otherwise would have been. There is also anecdotal evidence of high school seniors threatening to do poorly on the test unless administrators agreed to spend the award funds as designated by the students. There also appear to be cases where students intentionally failed the test to purposely lower their school's gain score.

As these two examples show, the design of an incentive program plays a crucial role in the success of that program. The next part of this section discusses the design elements that must be considered in establishing a school based incentive program.

**Design Elements for School Based Incentive Programs**

In designing a school based incentive program, policymakers need to consider five general areas: 1) eligibility requirements; 2) the size of the incentive program; 3) the distribution mechanics; 4) how incentive funds can be used by recipients; and 5) alternatives to direct financial incentives.

**Eligibility requirements.** Policymakers first need to consider eligibility requirements for an incentive program. Among the issues that must be addressed are the performance measure that will be used, the level for measuring performance, the period of performance, and the standard for which an incentive award is received.
Performance Measure

The most common measure of performance is student achievement as measured through some kind of achievement test. Incentives can then be based either on a school's overall achievement level, or more often, on some measure of improvement. Other testing issues must be resolved including what kind of test to use and what score to consider. There is growing interest in using performance based tests that assess abilities to think and solve problems rather than multiple choice tests that assess basic skills. Using average test scores for all students in a school could result in decreased attention to low achievers and more attention for high achievers. To resolve this problem, test scores across all levels of student achievement would be needed. Improvements for students in the bottom half, or for LEP students, could even be weighted more heavily.

Research has consistently found that socioeconomic status is the single best predictor of student achievement. As a result, systems that reward absolute levels of student achievement, may be biased toward high socioeconomic areas, often the areas least in need of additional recognition or assistance. Improvements or gains in student achievement would insure that rewards did not have a high socioeconomic bias since low performing schools often show larger gains than high performing schools.

In addition to test scores, other measures that have been used in school based incentives include enrollment measurements such as the number of students in advanced placement courses, or the number in core academic programs. Teacher and student attendance rates are also used as a basis for incentive programs in some states as in South Carolina. Finally, other measures could be used, including lowering the dropout rate, improving postsecondary enrollments, and measuring community satisfaction.

Level

A number of existing incentive programs are directed at the school level. For example, The United States Department of Education's outstanding school awards are based on the performance of school sites, as are many state award programs. However,
incentives can also be focused more broadly at school districts, or more narrowly by grade or department (at the high school level). Figure 3 summarizes existing incentive programs in the states, and the fifth column indicates the level incentives are directed toward in each of those states. Since the school, or the department or "house" within a school, are the production units, most incentives should be targeted at those levels.

**Performance Period**

The period of performance is also a critical policy variable in the design of incentive programs. Will schools (or other units) be rewarded for performance on an annual basis, or for their performance over a period of time, say two or three years. Often, single year gains are achieved at the expense of future performance. Thus, using a two or three year average might encourage long term development of successful educational practices rather than implementation of quick-fixes designed to improve test scores rapidly.

Figure 3 shows that most state programs offer rewards based on annual performance, rather than relying on multiple year assessments of progress. One of the concerns of local officials has been whether the program will continue to receive funding at the state level. There is little incentive to develop a three year improvement plan, if there are no assurances that program funding will not be eliminated before the end of the second year. Consequently, there are substantial incentives on the part of local districts to support annual assessments for award determination. Similarly, legislators faced with multiple requests for program funds (both within and outside of education) may prefer to appropriate funds to incentive programs on an annual basis, rather than commit scarce state resources two, three or more years into the future. The immediacy of annual awards places more attention on the program and on the problems it is designed to solve, providing at least the sense of greater accountability. Annual awards could be made though on the basis of a multi-year record of performance.
**Performance Standard**

Another important allocation issue is the performance standard chosen. Richards and Shujaa (1990) describe two such standards, fixed and competitive. In either case, the standard can be based directly on a measure, such as a test score, or the standard can be based on improvement in that measure. A fixed performance standard provides incentive awards to all schools that meet some predetermined criteria for receiving an award, while a competitive standard indicates that schools must compete with other schools to receive the award. Theoretically, all schools in a state could receive incentive awards under the fixed standard, if they all met the established standard. On the other hand, only a certain percentage of the schools in a state could receive an incentive reward based on a competitive performance standard.

Further modifications often must be considered. The demographics of a school's population can make a substantial difference in the schools competitiveness whether the standard is based on total performance, or on improvement. Schools unable to compete because they have a large population of minority, poor or language disadvantaged children could be at a substantial disadvantage. Moreover, if per pupil spending variations exist across a state, those districts with additional funds may be in a better position to implement programs viewed as successful, and hence may be able to show greater improvements in student achievement. To resolve this problem, a number of states, including South Carolina, have established programs where school are grouped into bands configurations of similar schools. Then incentives are offered to the schools showing the best performance or improvement within their grouping. While this strategy addresses the issue of achievement variation by SES, the technical issues entailed in designing such programs can be controversial.

**Program Size.** The second design issue policy makers must consider is the size of the program in comparison to the state's overall school finance system. If the award is too small, schools may may choose not to compete for the incentives, yet if it is too large, incentives.
other components of the finance formula may suffer. South Carolina provides approximately $30 per pupil in incentive funds. While this amounts to a relatively small portion of the total state funding for education, the award level seems to be large enough to generate considerable interest among schools in that state.

There is limited evidence that recognition of achievement is by itself adequate incentive for schools to participate in state incentive programs. Figure 3 shows that rewards in many states are non-monetary and include such things as plaques and flags signifying the school's performance.

Many, perhaps most argue however, that even larger incentives are needed if an incentive program is to succeed. Odden and Conley (1991) suggest that incentives for improved teacher skills and performance should be as high as 20% of teacher salaries, and in Kentucky, there are plans to provide salary bonuses of up to 40% in schools that improve student achievement.

**Distribution Mechanics.** Most school based incentive programs are distributed through separate categorical programs. The issues surrounding the distribution of incentive funds through the state aid formula are discussed above. In general, incentives for performance appear to be better distributed through separate programs, while incentives designed to encourage districts to enact certain types of programs may be better distributed through the general aid formula. The discussion on general grant programs above discusses the effects of general grants on the equalization functions of general aid programs. At present, most incentive programs are small enough that they do not pose a significant threat to the equalization component of state school finance structures.

**Use of Incentive Funds.** Another issue concerns how incentive funds can be used by recipients. For example, can the funds be used to give teachers bonus payments? If so, all teachers would share equally in those payments. In California's Cash for CAP program, schools were not allowed to use the funds they received for payments to teachers. Instead, the funds had to be used for instructional materials and supplies. The same is true.
for the South Carolina incentive program. There seems to be no a priori reason why awards could not be used for salary bonuses, indeed, that is the primary use of production unit incentive awards in the private sector, including knowledge production organizations (Lawler, 1990).

Alternatives to Direct Financial Rewards

School based incentive programs do not have to provide fiscal rewards to be successful. In fact, the incentives don't necessarily have to reward good performance. Alternatives to the fiscal approach described above include relaxing state regulations, and establishing programs whereby the state takes over the operation of school districts that do not perform up to state established minimum standards.

Another option available to designers of school based incentive programs is to reward schools, or school districts, that perform well by exempting them from state regulations (Fuhrman, 1989). This approach offers schools that show they can perform, the opportunity to experiment with programmatic approaches often considered to be unavailable due to state regulations. While this approach is attractive on the surface, it does not appear to have been as successful as one might expect. This lack of success probably stems from a number of factors.

First, even if state regulations are relaxed, district policy and union contract agreements must often be adhered to. While many districts are willing to relax their own policies and regulations along with the state, it is often more problematic to change contract agreements with the teachers bargaining unit.

Second, given that the school has to show success under the state requirements before deregulation is granted, school officials may believe the program they offer is the best possible to meet the needs of their students, and therefore may not be particularly interested in making dramatic changes of the type implied by the relaxation or elimination of state regulation. Moreover, if deregulation is a key to the success of local schools, why should only the successful schools be given this opportunity? Is it possible that those
schools who are not performing well within the framework of state requirements would benefit more from deregulation? This question is as yet unaddressed in the literature on school based incentive programs.

Finally, states can enact negative incentive programs whereby the price of poor performance is substantial state intervention, often including state takeover of the school or school district. New Jersey and Kentucky have both taken over school districts that were not meeting state established minimum levels of performance. In California where a number of districts have run into financial problems, the state has bailed them out, but at the same time appointed a trustee who must approve all school board decisions. A similar program to take over districts that are not meeting minimum academic performance does not exist in California. While negative incentives like state takeover may not result in school districts joining the ranks of the highest performing schools overnight, such disincentives to poor performance may have enough of an impact to at least marginally improve the schools in those districts.

3. Conclusions and Implications for State School Finance Policy

This paper shows there are a wide range of incentive instruments available to state policymakers interested in stimulating certain actions on the part of local school districts. These range from the use of traditional school finance general and categorical aid formulas, to incentive funding programs that operate through the school finance formula, to performance based school site incentives. Choice of a policy instrument depends on the programmatic goals of state policymakers, and how directly they wish to control local behavior. In general, the more specific the program requirements, the more influence the state has on local decisions.

If state policymakers are concerned with resource allocation issues, and want to influence how local school districts spend available funds, the following considerations are important:
• General grants can be expected to have limited success in encouraging school
districts to allocate resources in specific ways deemed desirable by state
policymakers. Empirical research has found that in general, 50 cents of each dollar
granted to local school districts through general grants are used for other purposes
such as t.s.x relief or spending in other areas. Consequently as an incentive tool,
general grants are, not surprisingly, of little or no value. They are effective,
however in compensating for variations in the local property tax base and should
continue to provide the bulk of state education aid.

• Categorical grants offers state policymakers greater opportunity to influence local
spending patterns. Categorical grants usually include substantial compliance
requirements, and have been found to actually stimulate district spending on the
supported program. Districts not only spend all of the grant funds on the program,
but use supplement those funds with their own resources as well. Categorical
grants, perhaps with even greater fiscal capacity equalizing components, are
appropriate for such services as compensatory, special and bilingual education, and
transportation.

• Direct financial incentive programs are effective in getting school districts to meet
specific program or spending requirements. The incentives are designed to
encourage districts to devote additional resources to supported programs by
providing funds only to districts that meet the minimum requirements. An empirical
study of this type of incentive in California showed that local school districts
responded to incentives to increase the length of the school day and school year by
spending an extra two dollars per pupil on instruction for each dollar of incentive
revenue received from the state.

Incentives to change the mix of inputs used by the school district relies on an
indirect link between the incentive and improved student performance. While the incentives
were successful in increasing spending for instruction, there is no clear evidence that
related gains in student performance result. A problem with input based incentive is that they usually reward districts that already meet program objectives. This reduces the effectiveness of the program by giving funds to school districts that don't need the incentive to change.

Policymakers have attempted to resolve these problems by developing school based incentive programs that reward outputs rather than inputs. Under this model, schools are rewarded for improvements in performance. Consequently, funds are targeted to schools that show results, providing the incentive for local officials to implement programs that meet established state goals. Decisions about which programs will best meet policy goals is left to local district and school leaders. A number of important issues must be considered if these site-based incentive programs are to succeed. They include:

- An adequate performance measure must be established. Tests that assess student abilities to think and problem solve are preferred over tests that only assess basic skills. The program should reward schools for improvement in student performance, and not reward "raw" scores or total achievement levels. This will insure that all districts, including the most disadvantaged, have the opportunity to earn incentive payments. Finally, test scores should include more than average scores and could even provide greater rewards for increased performance by the bottom half.

- Measures other than test scores can be used, but there must be enough variance in measured outcomes across schools, or school districts, to make the incentive appear worthwhile. For example, Richards and Sheu (1988) found the component of South Carolina's incentive program that rewards attendance to be less successful than other parts of the program since almost all districts attendance rates were within one or two percentage points, and the distinctions between districts that received rewards and those that did not were very small.
• The size of the reward must be large enough to encourage participation. While some have found small awards -- $30 per pupil -- and non-monetary rewards successful in garnering participation, many others have proposed substantial incentives. Kentucky, for example is suggesting teacher bonuses of as much as 40% of salary.

• Annual rewards provide immediate incentive and help focus schools on the problems the program is designed to resolve, and provide a greater sense of accountability. Annual awards could be based on multiple year improvement data.

• Because financial support for school improvement does not come until after the fact, some schools' ability to establish programs designed to meet the state goals may be impaired.

• All incentives need not be in the form of fiscal rewards for success. Some states have experimented with exemptions from state regulations for districts that succeed in improving student performance, and other states have created disincentives for poor performance by threatening to take away control from districts that are perceived as failing.

The choice of incentive policy instruments at the state level should be driven by the extent to which policymakers want to control local program decisions, and provide capacity to improve. Policymakers desiring a prescriptive incentive program can rely on traditional categorical grants to achieve their goals. Policymakers wanting to increase local capacity to improve student achievement will want to consider formula based incentives and possibly general grants. And policymakers who want to reward strong local performance and leave the decision as to how that performance is achieved up to the local authorities may want to use some kind of school based incentive program.
References


Incentives Paper 30 March 1991


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Figure 3
Summary of Current School Based Incentive Programs by State

<table>
<thead>
<tr>
<th>State</th>
<th>Year Implemented</th>
<th>Program Description</th>
<th>Award Criterion</th>
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<th>Size and Type of Awards</th>
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<tbody>
<tr>
<td>California</td>
<td>1985</td>
<td>California School Recognition Program</td>
<td>CAP test scores; Student attendance; Number of writing and homework assignment; enrollments in core curriculum and courses required for university admission at high schools; SAT and ACT scores; Dropout rates; and locally defined indicators for K-8.</td>
<td>Elementary or secondary school compete in alternate years; nomination, application and site visit required.</td>
<td>Non-Monetary (flags and plaques)</td>
</tr>
<tr>
<td>Florida</td>
<td>1984</td>
<td>The District Quality Instruction Program (Merit Schools)</td>
<td>Performance Criteria locally defined and approved by the State.</td>
<td>All Florida school districts are eligible to submit a plan. Schools must meet their district's performance criteria to be eligible</td>
<td>Awards made to districts who in turn distribute funds to qualifying schools according to prorated student FTE scale. Largest amount received by a district in 1983-89 was $328,000, smallest was $5,700</td>
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</table>
## Figure 3 (Continued)
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<tr>
<td>Indiana</td>
<td>1988</td>
<td>The A-Plus Program for Educational Excellence. Public law 390 (1987)</td>
<td>Pupil attendance rate; English/language arts proficiency; math proficiency; and average total batter score on ISTEP</td>
<td>Schools must show overall improvement statewide against the previous year's performance. They are automatically included if they meet improvement criteria on any 2 of the 4 indicators.</td>
<td>Two tiers of monetary awards: 1. All eligible districts share $4 million 2. all schools receive a weighted share of $6 million according to size of gain.</td>
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<tr>
<td>Kentucky</td>
<td>1983</td>
<td>Flags of Excellence and Flags of Progress</td>
<td>Performance indicators are: Annual drop out rate; scores on state mandated test; pupil attendance; and performance on state accreditation monitoring.</td>
<td>All schools are eligible, award based on overall performance statewide, and annual improvement on performance indicators</td>
<td>Non-monetary awards (flags and plaques)</td>
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<tr>
<td>Louisiana</td>
<td>1988</td>
<td>School, District, and State Progress Profiles/School Incentive Awards</td>
<td>As of 1989-90 state had not decided on which indicators will be used. Measures under consideration include school achievement on state norm-referenced test and Louisiana Educational Assessment Program</td>
<td>All public schools</td>
<td>Monetary awards to begin in 1991, details not yet determined</td>
</tr>
<tr>
<td>State</td>
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<tr>
<td>Mississippi</td>
<td>1990</td>
<td>Mississippi's BEST Education Act of 1990</td>
<td>Index of indicators includes: achievement scores; dropout rates; student attendance; teacher attendance and participation in professional development; percent of students in IHL core; parental/community involvement; student involvement in extracurricular academic and community activities; and ratio of administrators to instructional budget</td>
<td>Schools divided into three categories: Improving schools; Better schools; Lighthouse schools.</td>
<td></td>
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<th>Size and Type of Awards</th>
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<tr>
<td>Improving Schools: up to $200 per Certificated employee (CE) and up to $100 per non-certificated employee (NCE).</td>
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<tr>
<td>Better Schools: up to $400/CE and $300/NCE</td>
</tr>
<tr>
<td>Lighthouse Schools: up to $800/CE and $400/NCE</td>
</tr>
</tbody>
</table>

70% of the funds shall be used for salary expenses for existing personnel and use of the remaining 30% determined by a vote of all school personnel in the school. May not be used for athletics.
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<td>Missouri</td>
<td>1986</td>
<td>Incentives for School Excellence</td>
<td>Public schools compete within four regions, on the basis of performance criteria established in grant applications which must describe the school's goals for improvement</td>
<td>Each application must address one or more of: cognitive improvement; effective improvement; or effective schools criteria</td>
<td>Monetary awards of up to $30,000 per school</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>1988</td>
<td>Act 110 of 1988</td>
<td>Annual performance improvement on: State-wide test scores; dropout rates; proportion of students taking the SAT; and increase in average SAT scores</td>
<td>Schools are automatically included in the program</td>
<td>Monetary awards</td>
</tr>
<tr>
<td>South Carolina</td>
<td>1984</td>
<td>Education Improvement Act of 1984</td>
<td>Annual improvement in three categories, achievement test scores (80%); pupil attendance (10%); and teacher attendance (10%).</td>
<td>Automatic inclusion, no application required</td>
<td>Largest award about $59,000; average is about $1,500. Funds awarded on a per pupil basis. Non-monetary awards also granted to schools that don't quite qualify for monetary awards.</td>
</tr>
</tbody>
</table>
### Figure 3 (Continued)

**Summary of Current School Based Incentive Programs by State**

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<tr>
<td>Tennessee</td>
<td>1986</td>
<td>Ten Great Schools Program (Governor's initiative with corporate financing for first three years)</td>
<td>Schools selected by Department of Education, no specific criteria specified.</td>
<td>&quot;High standards and quality results in student achievement, community involvement, overall curriculum and their instructional programs&quot;</td>
<td>Each of ten schools received an unrestricted cash gift of $10,000 from a private company (Northern Telecom Inc.)</td>
</tr>
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Figure 3 (Continued)
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<tr>
<td>Washington</td>
<td>1988</td>
<td>Schools for the 21st Century</td>
<td>Proposals submitted to State Board of Education and reviewed. 21 schools are funded.</td>
<td>Schools submit application with information on: project objectives; technical assistance needed; budget; staff incentive pay plan; evaluation and accountability process; collective bargaining contract modifications; modification of waiver of school district rules; modification of waiver of state rules; ten-day supplemental contracts for project related instructional employees; assurances of cooperation and support from the local school board, parents businesses and community organizations</td>
<td>Each school selected receives $50,000 per year plus funds to cover the ten supplemental days for instructional staff.</td>
</tr>
</tbody>
</table>

Source: Richards and Shujja (1990), Table 1; Demarest (1990); and phone calls to individual states.