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Pathways for School Finance in California

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Summary

This report demonstrates how California can improve its school finance system steadily over time as economic and demographic conditions permit. The improvements we suggest here are derived from our analysis of California's current system using the following five principles:

- Meet resource needs: Schools should have the resources necessary for their students to meet state academic standards, and the cost of those resources may vary from school to school for a variety of reasons.
- Structure incentives properly: The formulas allocating revenue to schools should not give schools incentives to deviate from actions in the best interest of students and taxpayers.
- Allocate funds transparently: The formulas for allocating revenue to schools should be clear and relatively simple.
- Treat similar districts equitably: When the state has chosen the factors that determine the revenue a school district receives, school districts with the same values for those factors should receive the same revenue.
- Balance state and local authority: Restrictions on the use of funds must properly balance the state objectives with the realities that schools differ widely across the state and that school administrators have unique knowledge about local conditions.

California's school finance system violates these principles in many ways. Under the current system, different districts are funded at different rates, a clear violation of horizontal equity. Unlike school finance systems in other large states, California does not adjust revenue to school districts based on regional differences in the cost of hiring employees, failing to recognize a large and obvious cost difference among districts. Because of the many state categorical programs directing revenue to public schools, the allocation of revenue to districts is not transparent, and the many restrictions on the use of funds in those programs unduly constrain local school administrators. Moreover, although California does provide additional funds for school districts with many economically disadvantaged students, the additional funds are not large enough to compensate for the differences in student need correlated with poverty. Our analysis also reveals several other areas in which California's system could be improved.

Making improvements without making some districts worse off would require additional revenue, which is now in short supply. However, as the economy improves, state tax revenue will rise, and the state can afford to invest again in its schools. At the same time, school enrollments are projected to rise relatively slowly, allowing an increase in revenue per pupil. This increase will not be dramatic, but it promises to be relatively steady, permitting the state to make slow and steady progress over time.

To illustrate the possibilities, this report simulates this process for a variety of potential improvements. One scenario equalizes funding rates for the main programs in the current system. In another scenario, funding is increased in districts with many economically disadvantaged students. A final scenario demonstrates the consequences of adjusting funding rates for regional differences in the cost of hiring personnel.

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All technical appendices to this paper are available on the PPIC website:
http://www.ppic.org/content/pubs/other/1110MWR_appendix.pdf

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Introduction

California's budget crisis has diminished educational resources for the state's current cohort of public school students. Because school districts have less revenue, class sizes are larger and struggling students receive less assistance. Under these circumstances, it seems beside the point to suggest that California should begin planning for the next cohort of students. Yet, history demonstrates that a failure to plan now will leave the state unprepared for what will surely follow. Although the current recession is deep, economic recovery will come, offering increasing tax revenue and an opportunity for the state legislature to be more generous.

How will the state take advantage of this opportunity? It may respond as it has in the past by allocating new revenue to schools for specific purposes. By 2005–06, the state had more than 60 programs targeting a variety of purposes such as reducing class sizes, hiring counselors, purchasing textbooks, and involving parents (Weston, Sonstelie, and Rose 2009). Alternatively, the state might use additional revenue to address underlying weaknesses in its school finance system. Our paper explores this alternative. We begin by discussing five broad principles for assessing California's school finance system. These principles do not lead to a single superior system, but they do suggest several ways in which California could improve its current system. Through numerical simulations, we illustrate the effects of pursuing some of these improvements steadily over time. The simulations demonstrate that corrective long-term policies could significantly strengthen California's school finance system.

School Finance Principles

California's school finance system is fundamentally different from the systems of most other states. In most states, school districts have the power to set tax rates on real property. They have a robust source of discretionary local revenue. In California, school districts have limited taxing authority. They receive property tax revenue, but the state determines the amount they receive.[1] Yet, school districts are not agencies of the state. Each district has an elected school board that determines how its revenue is spent.

Because the institutions governing schools are not the institutions financing them, conflict between the two is inevitable. Aligning these institutions should be a high priority. Our goal is this paper is more modest, however. We take as a given California's current mixture of state finance and local governance and ask how California's school finance system might be improved, given that mixture. We believe that five principles can be useful in guiding this improvement.

Meet Resource Needs

We expect many things from our schools. Chief among these expectations is that students graduate from high school with a sound education. Over the past several years, California has spent considerable effort defining that education. The result is the state's Academic Content Standards. The state has also implemented a battery of tests to determine whether students meet those standards. Although the tests are imperfect measures of knowledge and the standards do not include everything we expect students to learn, a fundamental goal for any school finance system is to ensure that schools have the resources (teachers, textbooks, aides, counselors, and so on) necessary for their students to meet the state's standards.

Because the relationship between resources and academic achievement has not been firmly established, it is difficult to determine these resources with certainty.[2] For example, several studies have focused on the relationship between class size and student achievement. After reviewing 59 of these studies, Hanushek (1997) judged the research inconclusive: Most studies failed to find a statistically significant effect of class size on achievement, and the positive findings were offset by an equivalent number of negative findings. Reviewing the same set of studies, however, Krueger (2002) concluded that the research supports the belief that smaller class size leads to higher student achievement.

Although these two highly regarded experts disagree on the conclusions to be drawn from existing research, both agree that better research on the relationship between resources and achievement is needed. In particular, researchers need longitudinal data that tracks the academic improvement of individual students over time. Using such data, Rivkin, Hanushek, and Kain (2005) found that students in small classes did improve more rapidly than students in large classes. In that study, however, class sizes for individual students were determined through a process that the researchers did not explicitly account for in their analysis, raising concerns that class size might be related to unmeasured characteristics of students that also affect their achievement. The best response to these concerns would be an experiment in which students are randomly assigned to classes of different sizes. Using data from the only large experiment with class sizes,

[1] School districts may enact a parcel tax if it is approved by two-thirds of the voters. In 2005–06, 98 districts had a parcel tax, representing 0.4 percent of school district revenue.

[2] Recent studies exploring the resource needs of California schools include Chambers, Levin, and DeLancey(2006); Imazeki (2006); and Sonstelie (2007).

Krueger (1999) found that students in smaller classes did progress faster. Taking advantage of a natural experiment in which class sizes were determined through a well-understood process that was unlikely to be affected by unmeasured student characteristics, Angrist and Lavy (1999) reached the same conclusion. Examining data from a similar natural experiment, however, Hoxby (2000) found no significant effect of class size on achievement. In reviewing recent research, Angrist and Pischke conclude that reductions in class size do increase student achievement and that the estimated effects are consistent across studies.

> Reasonably well-identified studies from a number of advanced countries, at different grade levels and subjects, and for class sizes ranging anywhere from a few students to about 40, have produced estimates within a remarkably narrow band.[3]

While we agree that the best recent research tends to find a statistically significant relationship between class size and student achievement, we do not believe this research is sufficient to give precise guidelines about the class sizes sufficient to achieve the state's academic standards.

Reducing class size is also very costly. A more efficient use of resources might be to focus on struggling students through interventions such as after-school tutoring or summer school (Betts, Zau, and Koedel 2010). However, we are not aware of research on these interventions with the scale and statistical sophistication of the best recent research on class size.

Recent research has also confirmed the importance of effective teaching (Rivkin, Hanushek, and Kain 2005). This research suggests that effective teachers may have a more important influence on student achievement than reductions in class size. Accordingly, identifying, recruiting, developing, and retaining such teachers should be a high priority for schools. From this perspective, the most efficient use of a school's revenue may be in providing the compensation and support that will attract and retain excellent teachers. Considering all the possible uses of school revenue, we conclude that although the best research is consistent with a positive relationship between resources and achievement, the parameters of this relationship are not yet well understood.

On the other hand, it is well understood that achievement varies dramatically among students provided with the same level of educational resources. Learning disabilities hinder the progress of some students. Others may lack English language skills. Preparation, motivation, and aptitude may also be issues. To achieve grade-level proficiency, some students may need additional attention from their teachers or after-school tutoring. Because these needs are not uniformly distributed across schools, some schools will require more resources than others to meet the state's standards.

The cost of resources also varies across school districts in the state. More than half of a district's budget consists of the salaries and benefits of its teachers. For the services of these and other employees, school districts must compete with other employers in local labor markets. As Rose and Sengupta (2007) show, the compensation offered by these employers differs significantly across regions of California, and thus the compensation of public school teachers also varies by region. In regions where other employers are offering relatively high salaries and benefits, school districts must do so also. To offer similar levels of educational services to their students, districts in high compensation regions must have higher revenue than similar districts in other regions.

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[3] Angrist and Pischke 2010, p. 24.

Other costs may also vary across districts. As shown in Rose et al. (2008), the cost of transporting pupils to school is higher in rural areas. In the 100 districts with the lowest population density, transportation costs in 2003–04 averaged more than $700 per pupil. In contrast, in the 300 districts with the highest population density, the cost was about $100 per pupil. Utility costs also vary among districts, although not as widely as transportation costs.

Structure Incentives Properly

In addressing cost differences, a school finance system must not inadvertently reward districts for actions not in the best interests of students and taxpayers. For example, to account for differences in transportation costs, the state might reimburse school districts for the cost of transporting students to school. Cost reimbursements would certainly neutralize cost differences across districts, but reimbursements would also remove any incentive school districts might have to control the costs of pupil transportation. This dilemma could be resolved, however, by using a measure of cost outside the control of school districts—for example, population density (see Rose et al. 2008), which is negatively correlated with transportation costs but independent of any action a district might take. The state could address the special needs of rural districts by allocating additional funds to districts with low population density.Districts would have flexibility in the use of these funds and thus have an incentive to use them wisely.

This same concept applies to student achievement. Obviously, students who fall behind need additional instruction. However, if funds were allocated to school districts based on the share of students who fail to achieve proficiency on statewide tests, the districts with a lower share of proficient students would receive more revenue than other districts, reducing funding for districts that were particularly successful in raising student achievement. As in the case of transportation, the resolution is to find a measure that is unaffected by district actions but that is related to the likelihood that a student will fall behind. As many studies have shown, one such measure is the income of a student's parents. Each year, the Census Bureau estimates the percentage of a district's students living below the federal poverty level. This measure is negatively correlated with student achievement, but it cannot be affected by any action taken by the district. Furthermore, this negative correlation exists *within* schools as well as across them, implying that the observed variation across schools cannot be solely due to a negative correlation between poverty and school effectiveness.

Unfortunately, no external measure can precisely capture all of the differences in cost across districts. For example, in the case of transportation, we might have two districts with the same population density; but in one, almost all students are concentrated in one town, while in the other, students are spread evenly throughout the district. Transportation costs in the second district will be much higher than in the first, even though the population density is the same. Likewise, the percentage of students living in poverty is an imperfect indicator of average family income. Districts in which all of the families are just above the poverty line would be quite different from districts in which all of the families are well above the poverty line. These examples demonstrate that the principle of accounting for cost differences can conflict with the principle of structuring incentives properly. A school finance system must find a balance between the two. And if a source of cost variation cannot be closely related to an external measure, it is hard to see how the school finance system can take account of that cost without rewarding inefficiency.

Allocate Funds Transparently

Transparency is important in all areas of government. The lack of transparency breeds distrust and undermines support for public institutions. Transparency is particularly important in the allocation of funds to school districts. Compared to other public services, the resources employed in public schools are clearly evident. Parents generally know the class sizes of their schools and the opportunities available to their children. At this level of the bureaucracy, public schools are relatively transparent, and parents rightly believe that they should be able to understand why resources differ across schools and districts, an understanding that ultimately requires them to know why revenues vary across districts.

Parents are more likely to understand why revenues vary if the rules for allocating school funding are simple. Of course, the simplest and thus most transparent rule is to allocate revenue to districts in proportion to their enrollment, ignoring cost differences among districts. On the other hand, a set of rules for allocating revenue that accounted for every cost difference would be extremely complicated and thus not very transparent. These two extremes illustrate the tension between transparency and the recognition that costs are likely to differ across districts.

This tension requires a pragmatic approach. If cost differences are small, they should be ignored. For example, after investigating the relationship between climate and utility costs, Rose et al. (2008) argue that variations in cost due to climate are not large enough to make climate a significant factor in allocating revenue to schools. In contrast, regional salary differences are large (Rose and Sengupta 2007) and should, in principle, be incorporated in a finance formula, although this would involve a number of complicated practical issues. Regardless of how regional boundaries are drawn, some adjacent districts would end up in different regions and thus receive different cost adjustments. With many regions, these differences would be small; but nonetheless, a system involving many regions would be quite complicated, violating the principle of transparency. Other large states (Florida, New York, Texas) have been able to overcome this obstacle, however.

Treat Similar Districts Equitably

Consideration of costs, incentives, and transparency suggests a number of factors that might be used to allocate revenue across school districts. For example, the factors might be average daily attendance, percentage of students living in poverty, and a regional wage index. Once the factors have been decided upon, every district with the same values for those factors should receive the same revenue, a concept sometimes referred to as horizontal equity.

Horizontal equity is closely related to transparency. If the law is clear about the factors to be considered in allocating revenue, then districts with the same values for those factors should receive the same revenue.

Balance State and Local Authority

The four principles discussed above concern the allocation of revenue to school districts. This last principle concerns the conditions placed on the use of those funds. The bulk of revenue provided to schools is determined by the state legislature, which must weigh the needs of school districts against those of other state agencies and local governments. In this situation, it is only natural that the legislature may consider some uses of school district revenue to have a higher priority than others. In arguing for funds, school districts themselves will tend to emphasize some uses, such as reducing class sizes, over other uses, such as

hiring district administrators. Thus, it should come as no surprise when the legislature places restrictions on how school districts are to use their funds.

Many district administrators also favor some external restriction on the use of funds. In interviews with randomly selected superintendents, two advantages of such restrictions were commonly cited (Rose, Sonstelie, and Reinhard 2006). First, restrictions may protect funds from the collective bargaining process. For example, funds to reduce class size require districts to hire more teachers rather than increase the salaries of current teachers. Second, restrictions may thwart local political pressures. For example, funds for disadvantaged students require districts to provide additional resources to schools with large enrollments of these students. Some superintendents believed that without such restrictions, locally elected school boards might tend to allocate resources equally to all schools, regardless of differences in need.

On the other hand, California is home to a large and complicated K–12 system—more than 8,000 public schools with widely different students and staff. Local administrators have considerable information about the strengths and weaknesses of their personnel and the abilities and backgrounds of their students, more than any central authority could have. The decentralization of knowledge argues for a decentralization of decisions about how revenue should be employed and for few restrictions on the use of funds (Brewer and Smith 2006).

Some have suggested that the tension between state finance and local governance can be eased because of the recent emphasis on standards and accountability (Little Hoover Commission 2008). The state has defined what it expects schools to achieve. It can therefore give schools more authority in how they achieve those objectives. It has defined outputs, so it can loosen its grip on inputs. Although this suggestion seems right in theory, it depends on the clear and fair measurement of outputs and on the power to hold district administrators accountable for meeting those measured objectives. Although California has made progress in measuring student achievement, the state has only limited authority when it comes to holding local administrators accountable, a limit that is a natural consequence of local governance.

It seems to us that the tension between state finance and local governance is unlikely to be resolved and that the restrictions that spring from that tension should be judged on a case-by-case basis. Some restrictions are clearly motivated by a difference in the objectives of the state legislature and those of locally elected school boards. Others, however, can only be rationalized by a difference of opinion about how a common objective is best pursued. In those cases, we believe the state should defer to local authorities.

Assessing California's System

The five principles discussed above provide us with a lens for examining California's current school finance system. Broadly speaking, the system has four funding components. The first is revenue limit funding, which combines local property tax revenue with state aid to generate a source of funds that school districts can use on any educational purpose. Revenue limit funding constitutes approximately 60 percent of the funding received by school districts and forms the foundation of the state's school finance system. The second component is a collection of programs that channel state aid to districts and place restrictions on how that aid is used. These programs, generally referred to as state categorical programs, constitute more than 20 percent of the revenue received by districts. The third component is a collection of federal categorical programs, constituting approximately 10 percent of funding. The last component is discretionary local revenue such as parcel taxes and interest income. These local funds also constitute approximately 10 percent of district funding.

In this discussion, we focus on the revenues controlled by the state legislature—i.e., revenue limit funding and state categorical programs. And in our analysis of state categorical programs, we are concerned about two programs in particular. The first is special education, which funds services for students with learning disabilities. The second is Economic Impact Aid, which targets English learners and economically disadvantaged students. These two programs are the primary vehicles for addressing differences in student need. We analyze the remaining categorical programs together as a single group.

Our analysis does not include a consideration of the state's approach to providing funds for students in sparsely populated areas. Although the provisions for necessary small schools and the program for pupil transportation recognize the higher cost of educating students in sparsely populated areas, the programs do not provide incentives for school districts to find efficient methods to educating students in these areas. When a school achieves necessary small school status, it has little incentive to merge with other schools, even if that merger would reduce costs without diminishing the education of students. Similarly, transportation funds are allocated according to historic costs, removing incentives for districts to find cheaper solutions for educating students in sparsely populated areas. A program that allocated funds according to population density might address the needs of these areas without inadvertantly rewarding inefficiencies, a subject which deserves further study.

In the following discussion, we analyze revenue sources throught the lens of the principles of school finance described above. Different principles come into play in different areas, but one issue cuts across all areas. Unlike other large states such as Florida, New York, and Texas, California does not adjust revenue in any of its programs for regional salary differences. The state ignores the very large variations in the costs of the most important resource school districts employ, a clear violation of our first principle.

Our analysis presents funding rates (dollars per pupil) for school districts. For our purposes, districts are separated into nine groups based on their type (elementary, high school, and unified) and size (small, medium, and large). We chose the size partitions to yield a roughly equal number of districts in the three size classifications for each district type. Our analysis excludes necessary small schools and charter schools. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools. The schools and districts we do include represent 95 percent

of California's public school enrollment. As Table 1 shows, large unified districts include nearly 60 percent of these students.[4]

TABLE 1
School districts by type and size, 2009–2010

Type and size of district		Number of districts	Average daily attendance (ADA)	Percent of total ADA
Elementary	Small (0–250)	132	17,474	0.3
	Medium (251–1,500)	171	110,693	2.0
	Large (1,501+)	175	969,368	17.5
High school	Small (0–1,500)	23	19,607	0.4
	Medium (1,501–6,000)	26	82,848	1.5
	Large (6,001+)	31	444,893	8.0
Unified	Small (0–3,000)	120	151,138	2.7
	Medium (3,001–10,000)	96	556,209	10.2
	Large (10,001+)	110	3,181,060	57.4
All districts		884	5,543,291	100.0

SOURCE: 2009 Principal Apportionment, California Department of Education.

NOTE: Necessary small schools and charter schools are excluded. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools.

Revenue Limit Funding

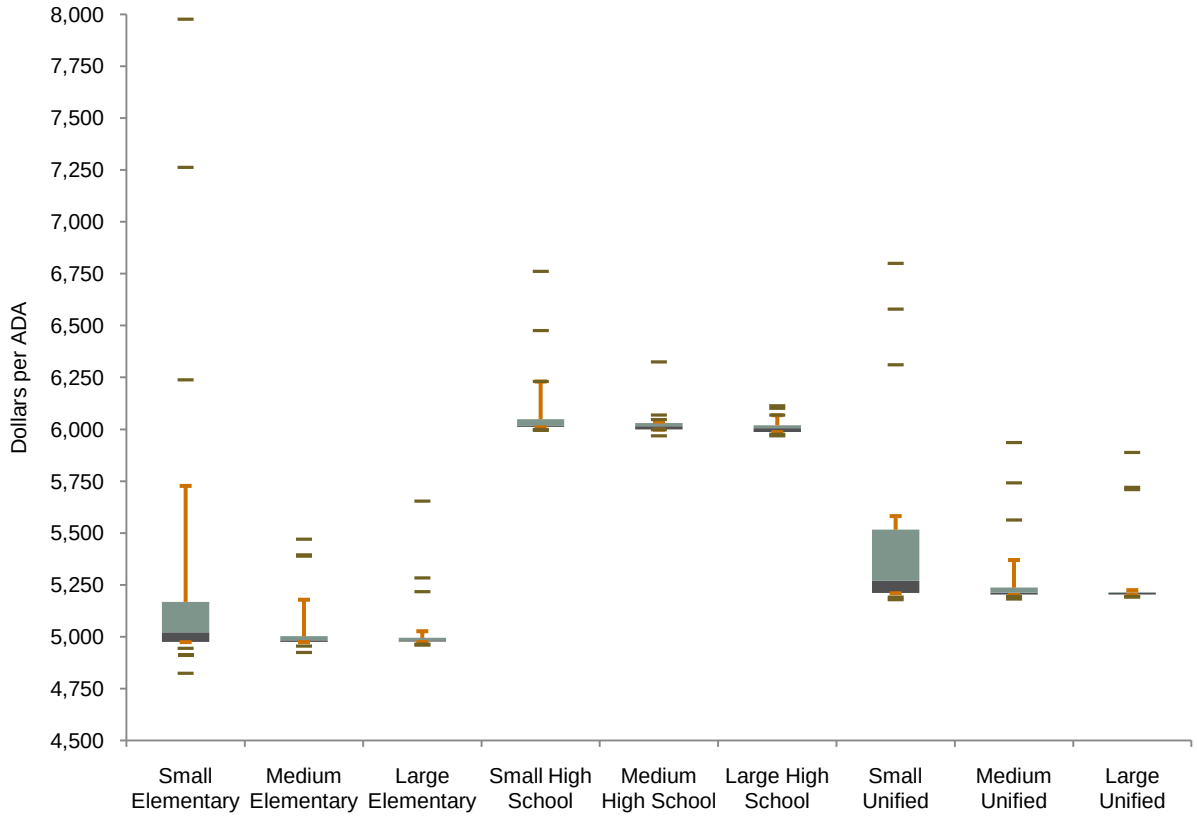
A simple formula determines a school district's revenue limit funding. Every district has a base rate, a dollar amount per pupil. That base rate is multiplied by the district's average daily attendance (ADA) to determine its total funding entitlement. This entitlement is met through local property taxes and state aid. Students in necessary small schools are funded through a different formula.

In addition, the calculation of a district's revenue limit entitlement involves several other adjustments that generally stem from policy decisions made over the years. As Weston (2010a) shows, these adjustments do not contribute much to the variation in revenue limit funding per pupil across school districts in California. The biggest source of variation stems from differences in the base rate among districts.

These variations are represented in Figure 1. The boxes show the distance between the base rate in the 75th and 25th percentile for a group. Percentiles are weighted by the number of students in a district. Within each group, students are assigned the base rate of their district and ranked according to this rate. The 75th percentile is the base rate of the student in the 75th percentile of this ranking. The upper light part of each box is the distance between the median base rate and the base rate in the 75th percentile. The vertical lines show the distances between the 10th and 90th percentile. Each group also has three horizontal hash marks above the box and three below it. These marks show the highest three and the lowest three base rates in each group. When the two or more of the individual base rates are nearly identical, the hash marks for those rates are indistinguishable and appear as just one mark. For example, large unified districts appear to have two hash marks above the box because the second and third highest base rates are nearly the same. For almost every group, the bottom three hash marks are very close or indistinguishable.

[4] The technical appendix provides more details on students and districts excluded in our analysis.

FIGURE 1
Revenue limit base rates, 2009–2010



SOURCE: 2009 Principal Apportionment, California Department of Education.

NOTE: Base rates are statutory rates for 2009–10, with 18.355 deficit factor. Necessary small schools and charter schools are excluded. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools.

Base rates vary significantly across groups. Some of the variation is due to differences between high school districts and other districts. The median rate for each of the three high school groups is approximately $6,000 per pupil. For the elementary groups, all three medians are close to $5,000 per pupil. The medians for the medium and large unified districts are about $5,200. For the small unified districts, the median is $5,517. As the figure demonstrates, there are also variations within groups, primarily among the small elementary and small unified groups. This variation clearly violates the principle of horizontal equity.

These variations reflect a historical process. When the revenue limit system was first introduced in 1973, a district's base rate was its expenditures per pupil in 1972–73. Over time, the state has gradually raised the lowest base rates. To determine the relative position of base rates, districts were classified by type and size. Equalization reduced differences within groups but did not necessarily reduce differences across groups. The higher average rates of high school districts are sometimes justified by the notion that high schools are more expensive to operate than other schools. Although this may be the case, the differences in base rates among district types are not an explicit state policy, and the research that might justify these differences is not conclusive (Sonstelie 2007). Furthermore, if state policy did mandate higher funding rates for high school students, the base rates of unified districts should reflect the percentage of their students attending high school.

On occasion, the state has increased variations in base rates as it introduced new policies or phased out old ones. In 1997, it changed the methods for calculating the ADA of a district. To offset the negative effects this change had on some districts, the state increased their base rates.[5] The rate differences it created by this increase are temporary, however, because of the formula for annually adjusting base rates. Each year, the state calculates an amount per pupil necessary to adjust the average base rate for inflation. Different amounts are calculated for each type of district: high school, elementary, and unified. The state then increases the base rate of every district by the amount of this inflation increase. For districts with base rates above the average, this adjustment is not high enough to keep up with inflation. The base rate of these districts falls in real terms. For districts with base rates below the average, real rates rise. When inflation is low, as it has been for some time, these equalizing changes are small. With this policy, it will take many years to equalize base rates.

Special Education

The state allocates funding for special education through special education local planning areas (SELPA). SELPAs are groups of districts, county offices of education, and charter schools that agree to share special education funding and services. Over 90 percent of this funding is allocated through a simple formula. Each SELPA has a base rate, expressed in dollars per ADA. Its entitlement is this rate multiplied by its ADA. This entitlement is met through property taxes and federal and state aid.

This formula was created by Assembly Bill 602 in 1997. Before that time, special education funding was allocated according to the costs and needs of special education students within each SELPA, creating a fiscal incentive for districts to classify students as disabled. The new bill ended this incentive by allocating special education funds according to the attendance of all students, not just special education students.

Although the current formula is consistent with the principle of structuring incentives properly, it does raise the question of whether the variations in special education costs among districts are adequately addressed, the first of our principles. These variations are partly addressed by three separate funding sources for relatively rare, but severe, disabilities. One provides additional revenue for districts that must purchase special materials and equipment, and the other two fund the placement of students in special facilities. The funding formula also includes a Special Disability Adjustment that provides additional funds for SELPAs that had unusually high incidences of learning disabilities when the new formula was created in 1997.

These adjustments and additional funding sources certainly address some of the cost differences across districts. However, a fundamental question remains: Is the incidence of learning disabilities randomly distributed across districts? Recent research indicates that this is not the case. Using data from a large survey of families, Lipscomb (2009) found that the incidence of severe disabilities among children is negatively correlated with family income. This finding suggests that the formula for allocating special education revenue among SELPAs should include poverty rates as well as ADA. Because poverty rates are outside a district's control, this change would address cost differences among districts without creating incentives for districts to identify students as learning disabled.

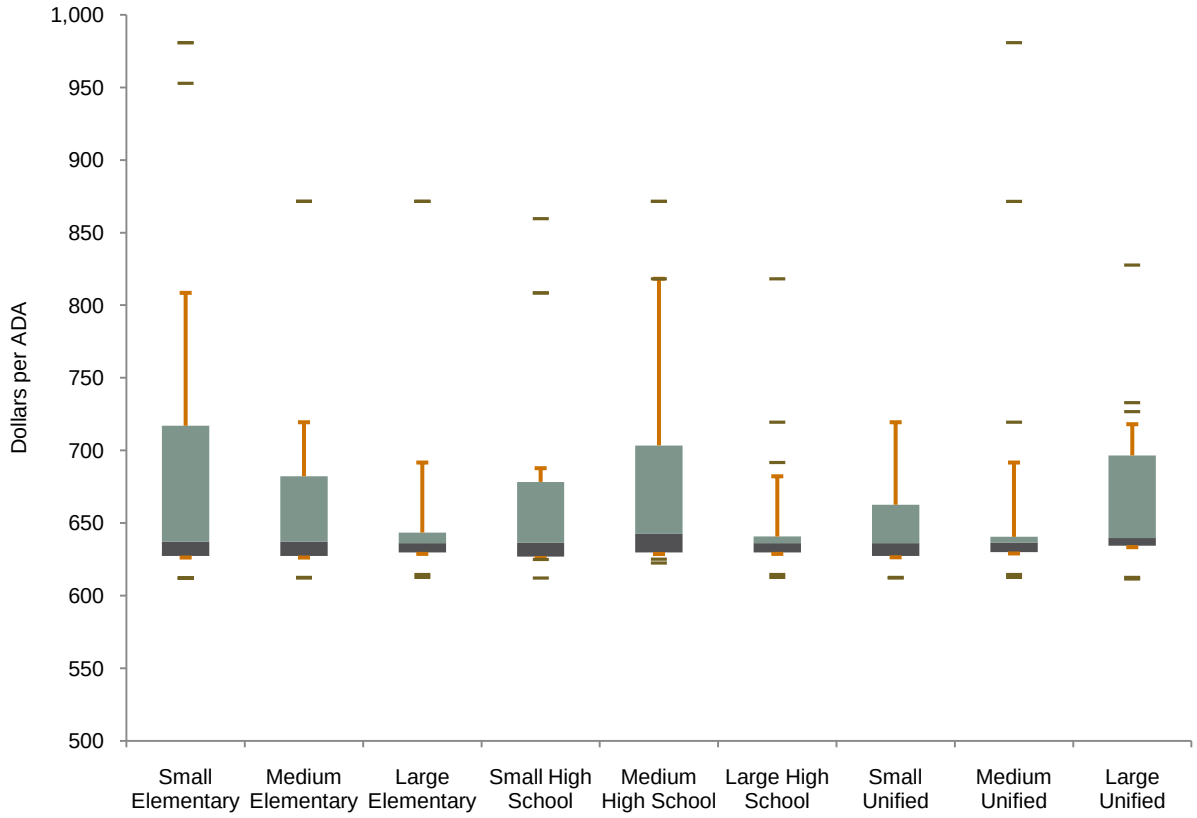
Those possible changes notwithstanding, the current allocation of special education revenue clearly violates the principle of horizontal equity. As Figure 2 shows, base rates for special education vary across districts.

[5] For details, see Weston 2010, p. 11.

For example, for large unified districts, the rate in the 75th percentile is 10 percent higher than the rate in the 25th percentile.

A second issue is whether the level of special education funding is adequate overall to meet the cost of that education. In 2006–07, California school districts spent more than twice as much on special education services as they received in special education revenue (Lipscomb 2009). In the jargon of school finance, special education services "encroached" on general education services. If special education revenue were increased substantially, however, some districts would surely have more revenue for special education services than they otherwise might spend on those services, creating incentives for districts to identify learning disabilities and to spend too generously on special education services. To us, encroachment is a much less serious issue than is the allocation of existing revenue according to need.

FIGURE 2
Special education base rates, 2009–2010



SOURCE: 2009 Principal Apportionment, California Department of Education.

NOTE: The rate for each district is the rate of the SELPA to which it belongs. Necessary small schools and charter schools are excluded. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools..

Economic Impact Aid

Economic Impact Aid (EIA) funds supplemental services for English learners and economically disadvantaged students. Each district's entitlement is determined by multiplying its EIA rate by a weighted count of eligible students. The count starts with the number of English learners in the district plus the

district's count for the federal Title I program, a Census-based estimate of the number of students living in poverty. Every student in this count in excess of 50 percent of all students receives a weight of 1.5. Every other student receives a weight of unity. The EIA count is the sum of these weights.

The EIA program is the primary mechanism through which California addresses differences in student need correlated with family income and native language. The EIA formula places a heavy weight on English learners because 85 percent of English learners are also economically disadvantaged (Legislative Analyst's Office 2007). Accordingly, most English learners generate twice as much EIA revenue for a district as an economically disadvantaged student who is fluent in English.[6] After a review of several studies of the resource needs of English learners, Gandara and Rumberger (2006) question the implicit assumption underlying this revenue premium. They argue that although English learners may need different services than economically disadvantaged students who are fluent in English, the cost of additional services may be similar for both groups of students.

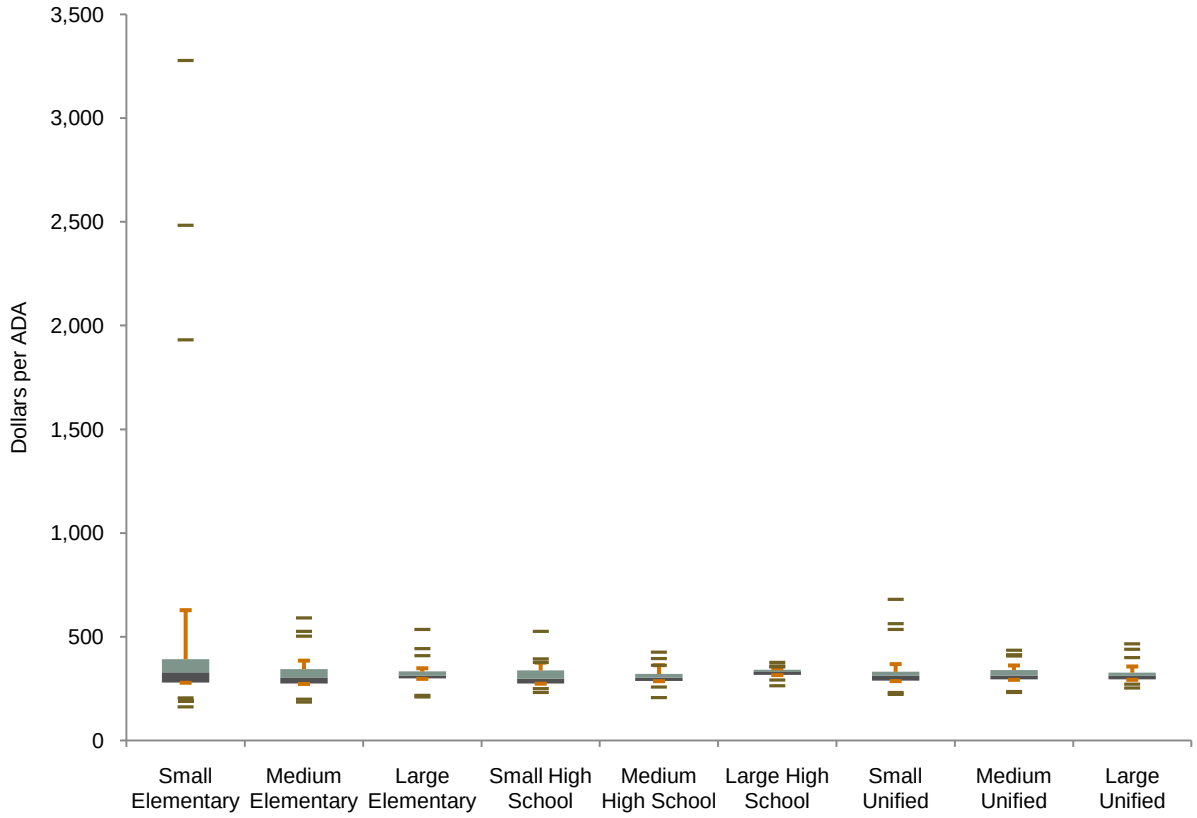
Including English learners in the base for Economic Impact Aid also creates incentives for districts that are not consistent with state goals. In a district with a particularly effective program for English learners, students move relatively quickly to fluency, and the district receives less revenue than it would if students were slower to make this transition.

Like revenue limits and special education funding, EIA funding rates vary across districts, violating the principle of horizontal equity. Figure 3 shows these variations. The median funding rate for every group is close to $300 per pupil. However, for every group except large high school districts, the funding rate at the 75th percentile is at least 10 percent higher than the rate at the 25th percentile

The level of funding is also an issue. EIA provides funding for additional student needs correlated with poverty and lack of English fluency. As argued above, we do not believe that current research provides precise estimates of the relationship between school resources and student achievement. Consequently, that research cannot tell us how much additional revenue schools will need because they have high percentages of English learners or economically disadvantaged students. In this circumstance, we believe the best guidance comes from educational practitioners. On the basis of budget exercises with over 500 randomly selected California teachers, principals, and superintendents, Sonstelie (2007) concluded that to meet the state's academic standards, a school in which every student was economically disadvantaged would need about $1,200 per pupil more in 2003–04 than a school in which no student was disadvantaged. Adjusting for inflation, this figure would be about $1,500 per pupil in 2009 dollars. Part of this gap is closed by federal Title I funds, which target economically disadvantaged students. These funds are allocated to the state, which then allocates them to school districts. The process is complicated, but, on average, districts received $450 per disadvantaged student in 2009–10. Accordingly, based on the expertise of educational practitioners, EIA funding rates should be about $1,050 per disadvantaged student, instead of the current rate of about $300 per student.

[6] About 60 percent of disadvantaged students are fluent in English (Legislative Analyst's Office 2007).

FIGURE 3
Economic Impact Aid funding rates, 2009–2010



SOURCE: 2009 Economic Impact Aid Funding Results, California Department of Education.

NOTE: Necessary small schools and charter schools are excluded. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools.

Other Categorical Programs

The most recent description of California's categorical programs is presented in Weston, Sonstelie, and Rose (2009). This report describes each of the state's more than 60 programs and provides data on the allocation of revenues in each program for the 2005–06 academic year. The largest program that year was special education. Economic Impact Aid was the fifth largest. In order of expenditure, the other programs among the five largest were K–3 Class Size Reduction, the Targeted Instruction Improvement Block Grant, and Adult Education.

Each state categorical program has its own funding procedures and restrictions. Although each program has its rationale, the sheer number of programs raises two key issues. First, because the funding procedures for programs can be complicated and because these procedures vary from program to program, it is very difficult to determine why one district receives more or less categorical revenue than another. Taken as a whole, the allocation of categorical revenue is not transparent, violating one of our principles. Second, the cumulative effect of program restrictions may have tipped the balance too far in the direction of state control over the use of funds.

The latter issue received new attention in the Budget Act of 2009. In an effort to give local administrators more flexibility to absorb revenue cuts, the legislature granted spending flexibility for approximately 40

categorical programs.[7] For programs in this so-called flex item, the legislature suspended restrictions on the use of funding, making these programs unrestricted general support. Special education and Economic Impact Aid are not included in the flex item.

A recent survey shows how districts have responded to this flexibility (Legislative Analyst's Office 2010). Most districts reported shifting funds away from uses financed by programs in the flex item. In general, these funds have been shifted toward core classroom instruction.

This suspension of funding restrictions continues through 2012–13. At that point, the legislature could re-impose the restrictions it suspended. Alternatively, it could make the suspension permanent, in effect turning the programs in the flex item into a source of unrestricted revenue similar to revenue limit funds. By doing so, the legislature would be taking a large step toward decentralizing decisions about how funds are spent.

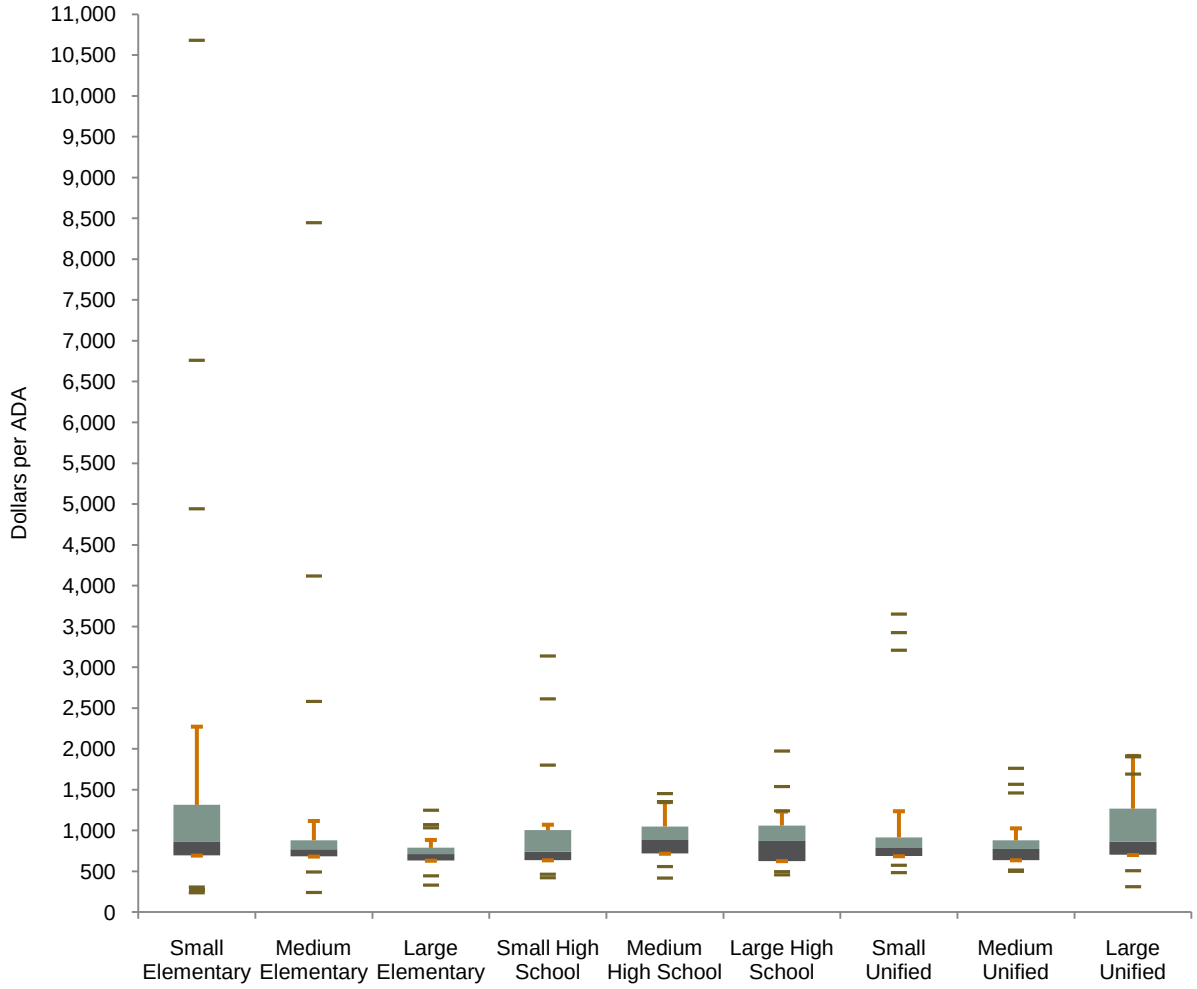
Before the legislature took this step, it would surely review the composition of programs in the flex item. Additional programs might reasonably be added, and some programs now in the flex item might just as reasonably be excluded. Adult Education is a good example. In some areas of the state, community colleges have assumed the primary role in providing adult education. In other areas, school districts have assumed this role. If the Adult Education program were turned into unrestricted revenue, adult education might suffer in the latter areas, but school districts in those areas would have a new source of unrestricted revenue not enjoyed by other districts. Other examples are the Regional Occupational Program and the Teacher Credentialing Block Grant, both of which support regional structures serving many school districts.

A more general discussion of categorical flexibility might also consider changes to some programs presently excluded from the flex item. For example, the Targeted Instruction Improvement Block Grant, which is currently included in the flex item, might instead be consolidated with Economic Impact Aid, as was recently done with the English Language Acquisition Program in the 2010 Budget Act.

If the legislature were to turn some version of the flex item into a permanent source of unrestricted revenue, it would also be forced to confront another issue. The revenue that districts receive from the flex item would no longer have a clear rationale, a reason why one district receives more or less revenue than another. As Figure 4 shows, funding rates for the flex item differ considerably across districts.[8] The median rates range from $711 per ADA for large elementary districts to $893 for medium high school districts. There are also large variations in funding rates within groups of districts. The difference between the rate in the 75th percentile and the rate in the 25th percentile is $566 per ADA for large unified districts. The difference is more than 20 percent of the median rate in every group. If the flex item were to become unrestricted support, it would clearly violate the principle of horizontal equity.

[7] For more details, see Weston, forthcoming. A list of programs is provided in the technical appendix, Table A2.
[8] Although K–3 Class Size Reduction (K–3 CSR) was not in the flex item, we have included 70 percent of revenue in that program in the flex item. The Budget Act of 2009 allowed districts to retain at least 80 percent of their class size reduction funds as long as class sizes do not exceed 25 students. Even if class sizes exceed 25 students, districts retain 70 percent of their previous funds. Thus, at the very least, 70 percent of the previous year funding for K–3 CSR ought to be considered part of a district's flex item, a practice we follow in the data presented in Figure 4.

FIGURE 4
Flex item funding rates, 2009–2010



SOURCE: Funding Results (various programs) and 2009 Principal Apportionment, California Department of Education, Deferred Maintenance Program funding, Office of Public School Construction.

NOTE: Necessary small schools and charter schools are excluded. We also exclude 79 districts with more than 75 percent of students in necessary small schools and two districts in which all schools are charter schools.

Simulating Pathways

Our assessment of California's school finance system has identified several potential improvements. Each would require additional funds if districts were held harmless as improvements were implemented. For example, horizontal equity requires funding rates to be equalized. Equalization could be achieved without additional revenue by reducing the rates above the average while raising rates below the average. However, leveling down may not be politically feasible. A more acceptable approach would be to increase low rates more rapidly than high rates over time as the state invests in its public schools. In this section, we simulate that process using a number of assumptions about future growth in revenue and enrollments.

We have chosen four improvements to simulate, illustrating a range of possibilities. The first is to equalize funding rates for revenue limits. The second scenario simulates the process of turning the flex item into a source of unrestricted aid and equalizing funding rates over time. The third scenario increases the EIA funding rate to $1,050 per student. Over time, the finance system in this scenario would resemble the recommendation of the Governor's Committee on Education Excellence (2007). The fourth scenario adjusts program rates for regional cost differences. The endpoint in this scenario is a school finance system similar to that recommended by Bersin, Kirst, and Liu (2008).

Parameters

The simulations begin with a baseline in 2009–10. School districts receive the revenue in the simulation that they actually received in that year from revenue limits, special education, Economic Impact Aid, and the flex item. The funds in these programs totaled $39 billion in 2009–10. Each subsequent year in the simulation, the total increases as economic and demographic conditions permit, and the additional revenue allows for increases in each district's funding rates for each of the four programs.

The additional revenue comes from normal economic growth and from demographic trends likely to unfold over the next 20 years. Growth in school revenue is tied to economic growth and demographic trends through the following equation:

$$\frac{Revenue}{Student} = \left\{\frac{Revenue}{State\ Personal\ Income}\right\}\left\{\frac{State\ Personal\ Income}{Taxpayers}\right\}\left\{\frac{Taxpayers}{Student}\right\}$$

The equation isolates two important factors in the state's ability to provide revenue for its public schools. The first is a demographic factor, the number of taxpayers per student. A given tax burden for the average taxpayer will produce more revenue per pupil for schools if there are more taxpayers per student. The second factor, average income per taxpayer, represents the ability of taxpayers to bear a given tax burden.

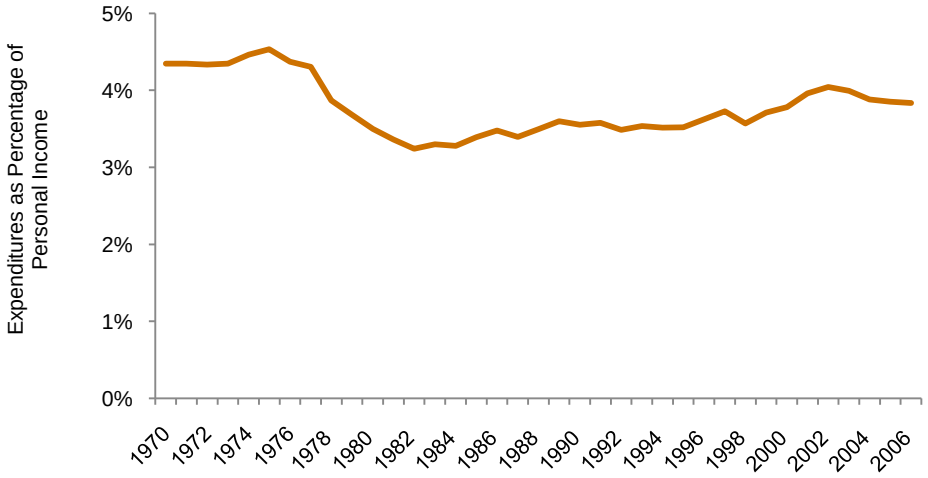
Below, we investigate trends since 1970 in each of the three terms in the equation above. Our objective is to identify reasonable assumptions for our simulations and to put those assumptions in perspective.

We conduct our simulations in real terms, adjusting for inflation. Because our focus is the purchasing power of school districts, we use the Implicit Price Deflator for State and Local Government to deflate nominal figures for both school expenditures and personal income.

The first term in the equation is public school expenditures in California as a percentage of state personal income. We do not have data on revenue in the four funding programs extending back in time. The best data we have is the current expenditures of public schools, which is approximately equal to total revenue schools received for operating expenses. The revenue in the four programs we focus on is currently about three-fourths of that total.

In the early 1970s, public school expenditures were over 4 percent of state personal income (Figure 5). After Proposition 13 in 1978, that percentage fell steadily, reaching a low of 3 percent in 1984. It has rebounded steadily since that time with a high near 4 percent in 2003. In 2006–07, current expenditures for California public schools were 3.8 percent of state personal income. From 1980–81 to 2006–07, that ratio has averaged 3.6 percent.

FIGURE 5
Public school expenditures as a percent of state personal income, 1970–2007



SOURCE: Public school expenditures in California are from the National Center for Education Statistics, State Education Facts, 1969–1987, and Digest of Education Statistics, 1998, 2001, and 2009. State personal income is from the Bureau of Economic Analysis, Department of Commerce.

NOTE: Public school expenditures are current expenditures for elementary and secondary education.

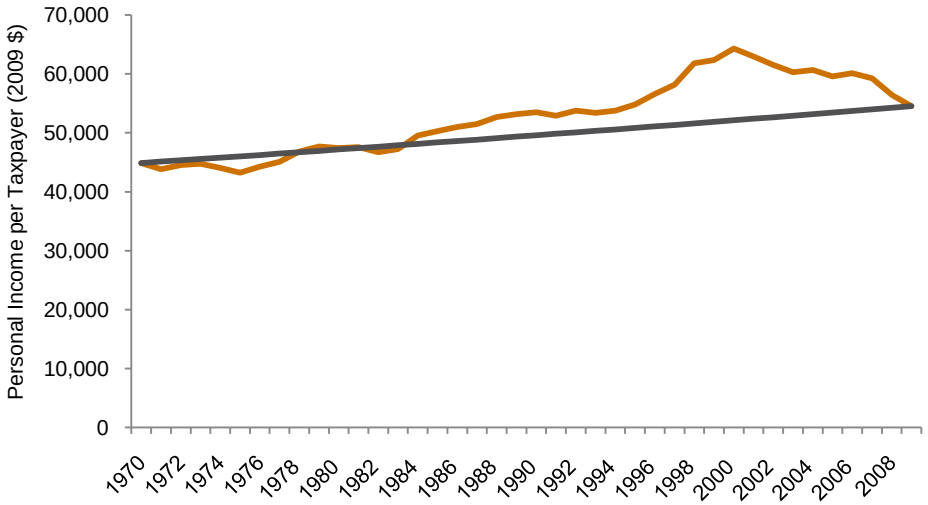
The expenditure data in Figure 5 comes from the National Center of Education Statistics. Although the Center provides a consistent and reliable source of data extending back for many years, the most recent data are for 2006–07. However, we can update these data from other sources. From the data in the Governor's Budget, revenue limit funds plus state categorical revenue fell about 11 percent from 2006–07 to 2009–10. Some of the reduction in funds was replaced by a temporary increase in federal revenue. Over the same period, personal income in California rose by about 4.6 percent. Ignoring the temporary increase in federal revenue, the ratio of current expenditures to personal income fell to approximately 3.2 in 2009–10.

The first assumption for our simulation is that this ratio will return gradually to its average level of 3.6 percent and that revenue in the four programs will rise by the same percentage. In particular, as total revenue rises from 3.2 percent of personal income to 3.6 percent of personal income, revenue in the four programs is assumed to rise from its current value of 2.5 percent of personal income to 2.8 percent of personal income. In the simulations, this increase is phased in uniformly over time with the ratio increasing by 0.014 percentage points each year until it reaches 2.8 percent in 2030.

We believe this assumption is relatively conservative for four reasons. First, in computing the average ratio of expenditures to personal income, we excluded the years before Proposition 13, in which the rate was significantly higher than in subsequent years. Second, as noted by the California Budget Project (2010), public school expenditures as a percentage of personal income have been lower in California than in the rest of the nation for many years. Our simulations assume that in the case of K–12 education, California continues to be a relatively low-spending state. Third, for every year in the simulation except the last, the ratio of revenue to personal income is below its average from 1980 to 2006. Fourth, we assume that revenue in the four programs is the same fraction of total revenue as it is currently. Revenue for programs we have not included, such as necessary small schools, is implicitly assumed to grow at the same rate as revenue for the programs we have included.

With this assumption, the growth in personal income is an important factor in determining the growth in revenue. To separate economic and demographic factors, we have decomposed personal income per student into two parts: personal income per taxpayer and taxpayers per student. We have used age to partition California residents into taxpayers and others, including students. Taxpayers are residents 18 years and older. In general, younger residents are either in school or younger than school age. As Figure 6 shows, personal income per taxpayer has grown steadily since 1970, punctuated by economic recessions in 1981, 1990, 2001, and 2008. In the figure, personal income is expressed in real terms, using the Implicit Deflator for State and Local Government to adjust for inflation. With that adjustment, real personal income per taxpayer has grown at an average rate of 0.5 percent since 1970. The dashed line in the figure represents this average growth rate.

FIGURE 6
Real personal income per taxpayer, 1970–2008



SOURCE: State Personal Income and the Implicit Price Deflator for State and Local Government is from the Bureau of Economic Analysis, Department of Commerce. Data on California residents 18 years of age and older are from the State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 1970–1989, 1990–1999, and 2000–2050.

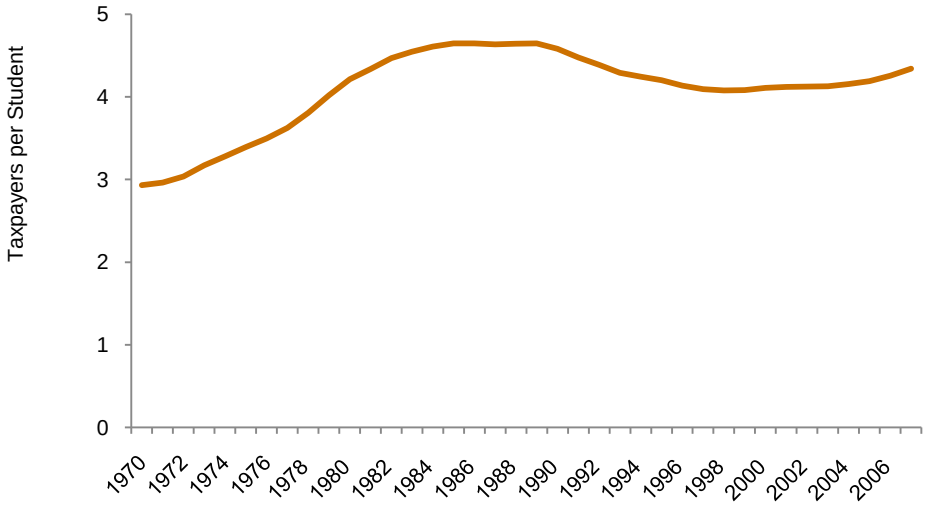
NOTE: Taxpayers are California residents 18 years of age and older. State Personal Income is deflated by the Implicit Price Deflator for State and Local Governments.

In our simulations, we assume that real personal income per taxpayer continues to grow at 0.5 percent per year. To be clear, this assumption is not a forecast of economic growth in California. Our purpose is not to

forecast, but to work through the long-term consequences of certain policies using realistic assumptions. For that purpose, we believe our assumed growth rate is appropriate. By adjusting for inflation using the Implicit Deflator for State and Local Government instead of the Consumer Price Index, we are also accounting for the fact that the salaries of state and local government workers has tended to grow faster than the general price level. In that sense, our assumed growth rate represents the growth in personal income in excess of that necessary to maintain a constant level of public education services.

Demographic trends unfold more smoothly than economic trends over time. As shown in Figure 7, the number of taxpayers per student rose steadily in California from 1970 through 1986. In 1970, there were slightly less than three taxpayers per student. By 1986, that ratio had risen to 4.65, a significant decline in the tax burden public schools placed on taxpayers. From 1986 to 1999, the ratio fell to a low of 4.08. It has risen slightly since then.

FIGURE 7
Taxpayers per student, 1970–2007



SOURCE: Data on California residents 18 years of age and older are from the State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 1970–1989, 1990–1999, and 2000–2050. Data on public school enrollments in California are from the National Center for Education Statistics, State Education Facts, 1969–1987, and Digest of Education Statistics, 1998, 2001, and 2009.

NOTE: Taxpayers are California residents 18 years of age and older. Students are students enrolled in California public schools.

Because demographic trends are tied to the aging of the existing population, they are more predictable than economic trends. According to our projections based on California Department of Finance data, school enrollment should rise by about 20 percent over the next twenty years, while the population of California adults over age 18 rises almost 30 percent.[9] Thus, taxpayers per student should rise somewhat.

[9] Although much of this growth will be among older adults ages 65 to 74, seniors in California tend to have good economic outcomes. For example, poverty rates for 65- to 74-year-olds in California are lower than for any other age group (7.9% in 2008 compared to 13.6% for all other age groups, based on American Communtiy Survey data). Of course, use of public health programs is higher at older ages, but federal programs provide most of that support.

Our simulation uses enrollment projections from the Department of Finance to project attendance and EIA counts for each school district. For years beyond the base year, we project ADA by applying growth rates to the base year ADA. These growth rates are based on county-level enrollment derived from population projections by the Department of Finance. For the EIA student count, which is not ADA, we use the EIA count in 2008–09 as a percentage of ADA in the district.

Table 2 summarizes our economic and demographic assumptions. The implication of these assumptions is a 31 percent increase in real expenditures per student. They rise from $7,022 in 2009 to $9,206 in 2030.

TABLE 2
Projections of economic and demographic trends

Year	Taxpayers	Personal income per taxpayer (2009$)	Average daily attendance	Taxpayers per student	Revenue per students (2009$)
2009	28,695,960	54,516	5,543,291	5.18	7,022
2010	29,146,279	54,789	5,546,543	5.25	7,199
2015	31,312,124	57,583	5,630,917	5.56	8,007
2020	33,244,039	60,521	5,896,815	5.64	8,532
2025	35,157,589	63,608	6,329,462	5.55	8,835
2030	37,076,944	66,852	6,732,870	5.51	9,206

This growth is consistent with the basic tenets of Proposition 98, which provides a minimum guarantee for revenue in California public schools and community colleges. The guarantee involves several complicated conditions, but the central condition is that, in normal economic times, revenue per student should grow at least as fast as per capita personal income. In our simulations, the growth rate for revenue per student exceeds this Prop 98 growth rate initially as taxpayers per student rises. It then falls below the Prop 98 growth rate for the remaining years. In 2030, revenue per student in our simulation is approximately $500 less per student than if revenue per student had grown at the rate of personal income from 2009 to 2030.

Scenarios

Each scenario involves a different allocation of additional revenue. In the base year of 2009–10, the revenue each district received in each of the four programs we focus on can be expressed as a funding rate (dollars per student) multiplied by a particular count of students in the district. The simulations change those per-pupil funding rates each year. We describe four scenarios below which reflect a range of state priorities. To provide a baseline for these scenarios, we also demonstrate how funding rates change over the next 20 years if the state relies solely on its current mechanisms of adjusting revenue rates for inflation.

Status Quo

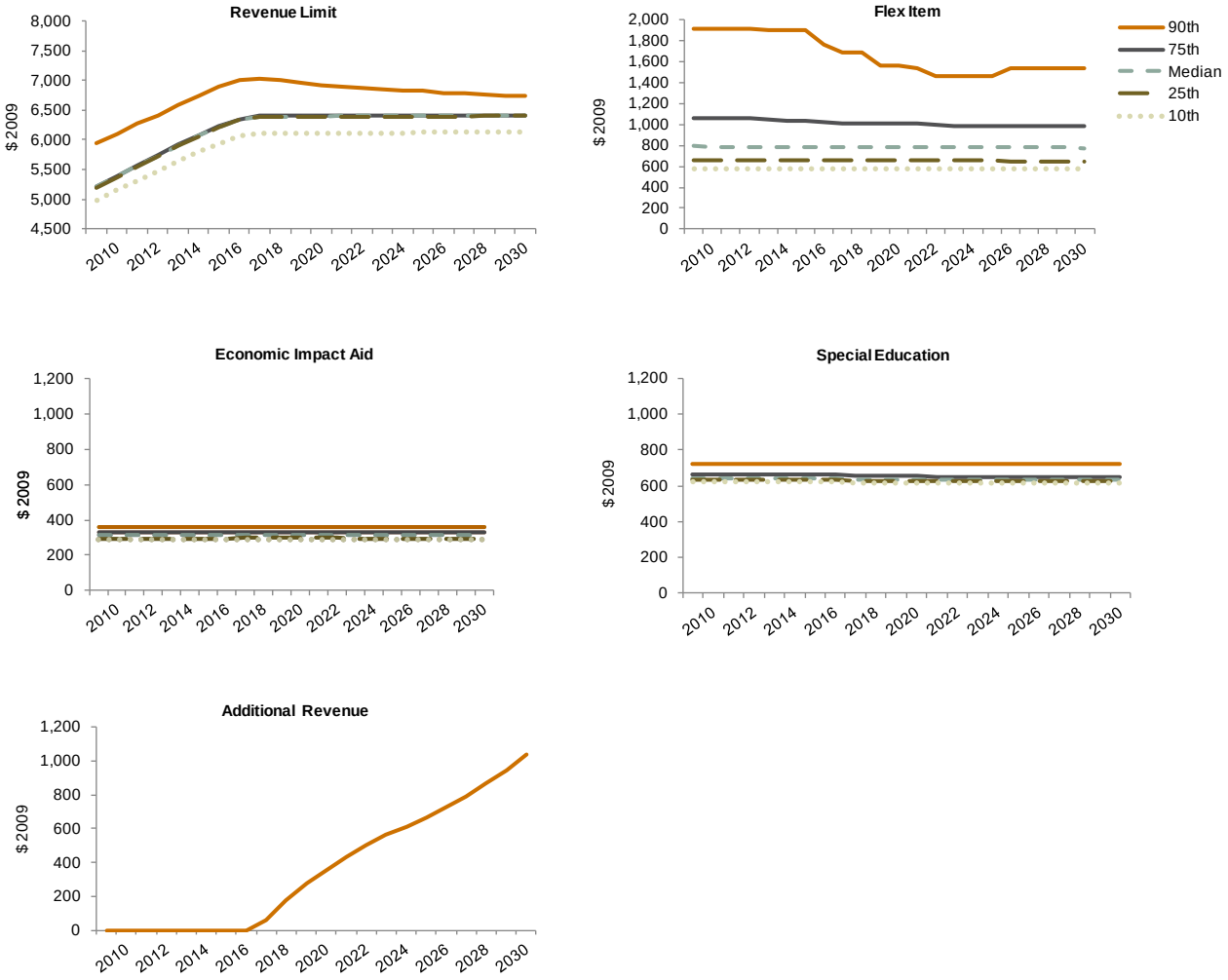
In this status quo baseline, each district's statutory revenue limit rate increases annually for inflation. As described earlier, this inflation increase is the same dollar amount for all districts of the same type, but the increases vary in proportional terms, depending on whether the district's revenue limit is above or below the average for its type. In simulating these increases, we have assumed an inflation rate of 4.83 percent, the 30-year average rate for the Implicit Price Deflator for State and Local Government. This baseline trajectory also adjusts

the flex item, special education, and EIA rates for inflation, but the adjustment works differently. In these three programs, the funding rates all increase by the inflation rate. In real terms, these rates do not change.

This baseline incorporates an additional feature of California's school finance system. Recent declines in the state budget have caused the state to appropriate revenue limit funds based on rates that were 18 percent lower than each district was entitled to by statute. We calculate the revenue limit inflation increases using the statutory rates and add the increases to those rates. However, the actual revenue limit rates assigned to districts are based on the available funds in a given year. Those available funds are driven by the economic and demographic factors highlighted in Table 2. Each year, the additional revenue is divided into two parts. The first is the amount necessary to adjust the prior year's rates for the flex item, EIA, and special education for inflation, and to fund the new year's level of ADA at those rates. This amount can differ in real terms from the total revenue provided to districts in the previous year in those programs because ADA changes from year to year. After adjusting the three programs for inflation, the remaining new funds are used to bring revenue limit rates up to their new statutory levels. If the total revenue available for this purpose is only 90 percent of the amount required to bring all districts to their statutory levels, each district's rate is then 90 percent of its statutory rate. Once state revenue in this model has grown sufficiently to fund all districts at their statutory revenue limits, we continue to make inflation adjustments in all programs. At this point, we also track the additional funds available for reform efforts other than inflation adjustments.

Figure 8 shows the results from simulating this baseline. For each year, the figures plot the 90th, 75th, 50th, 25th, and 10th percentiles of per-pupil revenue in the specified program. These percentiles are based on students not districts. To compute these values, all students are ranked based on the funding level associated with their district, and the percentiles are extracted from this list. For example, the 10th percentile refers to the funding level received by the district of the student who ranks above the bottom 10 percent of the students in the list. The difference between the 90th and 10th percentiles gives the range of funding levels experienced by the middle 80 percent of students. The figure also shows the funds available for education once the deficit factor has been restored to the revenue limits. These figures show revenue in real 2009 dollars.

FIGURE 8
Status quo baseline



In this status quo approach, revenue limit funds increase over time, but the amount of equalization across all districts is modest. The rates rise dramatically from 2009 through 2017, at which point they level off in real terms. The year 2017 marks the point at which the deficit factor has been eliminated and districts receive their inflation-adjusted statutory revenue limit rate. At the same time, funds begin to accumulate for other potential purposes. In 2017, those funds are small, averaging $63 per pupil. By 2030, however, those funds grow to $1,039 per pupil, providing scope for many reform efforts. The flex item, EIA, and special education programs maintain their original real rates throughout the scenario's horizon. The dip in the 90th percentile of the flex item occurs because enrollments in districts with the highest flexible funding in the base year are projected to shrink relatively faster than other districts. Thus, in the future, the 90th percentile student is in a district with lower flexible funds.

In Figure 8, the percentile lines for revenue limits essentially represent different district types. The 90th percentile district is a high school district, the median line represents a unified district, and the 25th percentile is an elementary district. Because the inflation increases are different for each district type, these percentiles do not converge.

The lack of overall convergence among revenue limit rates is not surprising, given that the goal of the inflation increase mechanism in revenue limits is to equalize rates within district types and not across all types. As Figure 1 showed, rates vary dramatically across district types but within the same type of district, there is less variation. In 2009, elementary districts averaged a rate of $5,007, with only $62 separating the 90th from the 10th percentile. High school districts averaged a rate of $6,016 with $87 separating the 90th from the 10th percentile. Unified districts averaged $5,239 with a $79 gap between the 90th and 10th percentile. The inflation equalization mechanism does work within district types; these gaps do shrink over time. More dramatic are the narrowing gaps between the maximum revenue limit rates and the 90th percentile. By 2030, they fall in half from their 2009 levels of $2,944, $693, and $1,542 for elementary, high, and unified districts, respectively. This narrowing occurs primarily because the inflation increase reduces the real funding rate for high revenue districts.

As discussed earlier, justifications for the current differences in revenue limit rates by district type are not entirely transparent, nor are the differences an explicit state policy. Thus, our subsequent scenarios provide a way of equalizing these rates across district types as well.

Revenue Limit Focus

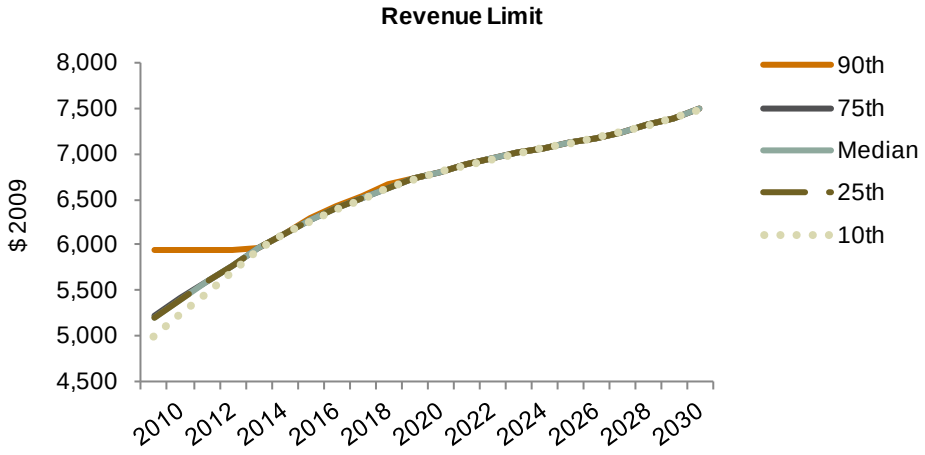
The first of these scenarios presents a more aggressive approach to equalizing revenue limits. The economic and demographic trends in Table 2 still determine the additional flow of revenue into the system, but our simulations divide that revenue in a different way. For each year, the revenue is divided into two amounts. The first is the amount necessary to fund the four programs in each district using the real per-pupil funding rates of the previous year. It is the amount necessary to hold districts harmless. Like our status quo example, this amount can differ from the total revenue provided to districts in the previous year because of changes in ADA. The difference between revenue for the four programs and the hold-harmless amount is new revenue available to increase funding rates.

This first scenario allocates all of those additional funds to the revenue limit. We divide these additional funds among districts in a way that achieves revenue equalization across all districts over time. We focus on equalizing per-pupil revenue at the 90th percentile of base year funding. Districts that begin a year with a funding rate below that equalization target are entitled to a portion of the additional revenue. We allocate the additional revenue in the following way. We determine the difference between the total revenue each district would receive at the funding rates of the previous year and what it would receive at the equalization target rate. We add up those deficits across all districts and compare that sum to the additional revenue available for revenue limits. If the additional revenue represents 30 percent of the total deficit, then each district below the target receives additional funds in that program equal to 30 percent of its deficit. That allocation defines the rate for the next year, and we repeat the process. This equalization mechanism directs the largest amounts of funding in absolute terms to districts furthest from the 90th percentile.

Districts only receive enough funds to bring them to the equalization target. Districts with current rates above the target receive no additional funds until all districts have reached the target. Once all districts have reached that original 90th percentile target, we consider revenue limits funds to have equalized, and additional funds are dispersed on an equal per-pupil basis. At this point, the absolute gap between the 90th percentile and higher percentiles will be constant. However, this process achieves some equalization even after all districts have achieved the original 90th percentile rate, because districts above the 90th percentile receive less in percentage terms than those at the 90th percentile. Although the equalization targets are constant throughout the planning horizon, the rates and deficits change yearly, so additional funds are

allocated differently each year. Figure 9 shows the pathway for revenue limits under this more aggressive equalization scheme. Since additional funds are allocated to the flex item, special education, and EIA in amounts that keep their real rates constant, the pathways in those programs look like their corresponding trajectories in Figure 8.

FIGURE 9
Revenue limit focus scenario



Directing the additional funds to the revenue limit program brings all districts up to the 90th percentile of nearly $6,000 by 2013. From that year on, all additional revenue continues to flow into the revenue limit. By 2030, the 90th percentile rate climbs to $7,486, an increase of about 25 percent from the equalized value. This scenario demonstrates that, with focused attention on this goal, it is possible to achieve horizontal equity for revenue limits in a short amount of time.

Although this scenario directs all available additional resources to the revenue limit program and ultimately restores the current 18 percent deficit factor for all districts, the complete restoration occurs at different times for different districts. Elementary and unified districts eliminate their deficit factor first, because the revenue limit rates are below those of high school districts. Another option would be to restore the revenue limit rates to all districts before equalizing across district types. The pathway for such an approach would look like a combination of the revenue limit trajectories in Figures 8 and 9.

This revenue limit scenario demonstrates how the state could equalize the largest revenue program quickly, but it ignores the unequal distributions in other programs. Although Figures 2 and 3 demonstrate some dispersion in the funding rates for EIA and special education in 2009, the gaps are small relative to the level of funding in the revenue limit program. Furthermore, the gaps could be closed over time by redirecting a very small share of additional revenue from the revenue limit rate to these programs that serve disadvantaged students. Only $96 separates the 90th and 10th percentile students in special education, and the range is only $66 for EIA. Directing 1 percent of new revenue to EIA and 3 percent to special education would bring all districts up to the current 90th percentile by 2030. This example assumes we use the same equalization mechanism for these programs as for the revenue limit.

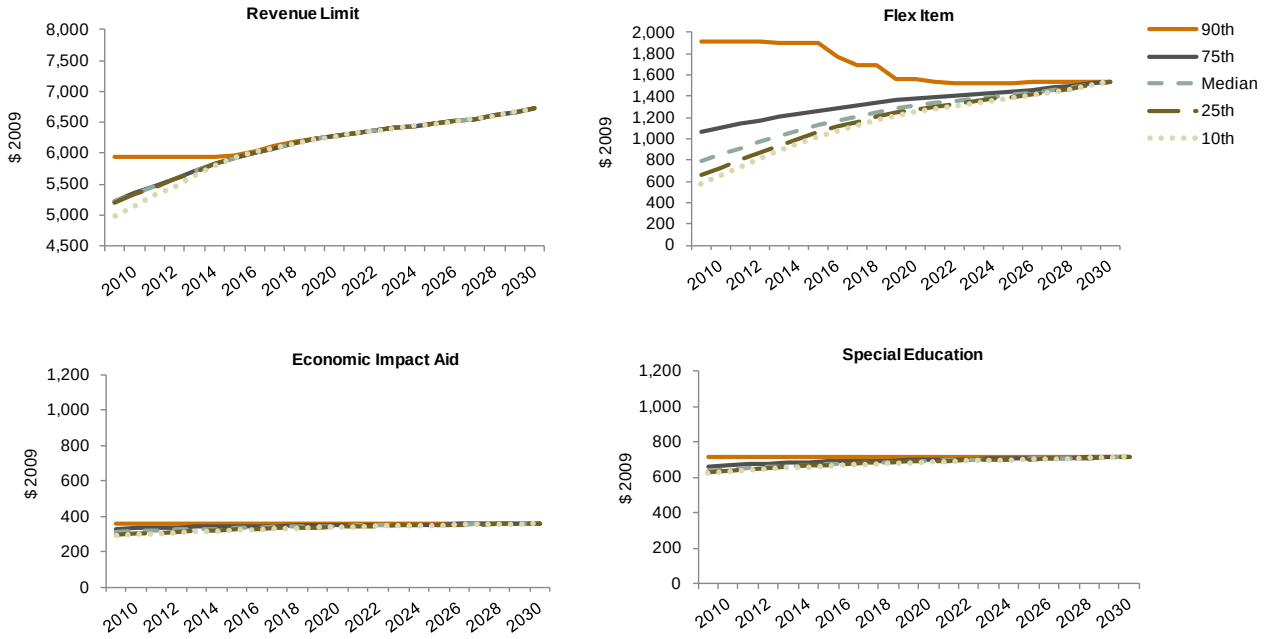
This modified scenario leaves 96 percent of additional funds available for the revenue limit program. This change causes a one-year delay for revenue limit equalization. The rates equalize in 2014, and that equalized rate grows to $7,396 by 2030. This level represents only a slight dip from the original revenue limit scenario. Unlike EIA and special education, the flex item rates exhibit substantial variation in 2009. Equalizing this program is the focus of our next scenario.

Flex Item Focus

As shown in Figure 8, the flex item exhibits a great deal of variation in the base year of 2009, with $1,335 separating the 90th and 10th percentiles. This gap is nearly twice the median flex item rate, and it represents about 21 percent of the average revenue limit and flex item rates combined. Nearly two-thirds of this gap occurs between the 90th and 75th percentiles. Equalizing this program requires substantial additional funds. Our second scenario equalizes the flex item program by 2030, while continuing to achieve equalization in the special education and EIA programs in that year as well. To achieve this goal, 30 percent of new revenue each year is allocated to the flex item. As in the modified revenue limit scenario, 1percent of additional funds are allocated to the EIA program and 3 percent to special education. The revenue limit receives the remaining 66 percent of additional funds.

Compared with equalization mechanism in the prior scenario, this scenario slightly modifies the equalization target for the flex item. Because of the natural attrition of students in districts that currently receive high flex item rates, the 90th percentile decreases naturally over time. Rather than use the equalization target of $1,915 (the 90th percentile in the base year), this scenario uses a target of $1,539 (the 90th percentile in year 2030 in the status quo scenario). Every year in the simulation, districts with rates less than this target are entitled to a portion of the additional funds directed to the flex item. Like the previous scenario, the gap between each district's rate and the target is closed by an identical proportion, where the proportion is the share of new flex item funds to the total gap. Figure 10 shows the results from this simulation.

FIGURE 10
Flex item focus scenario



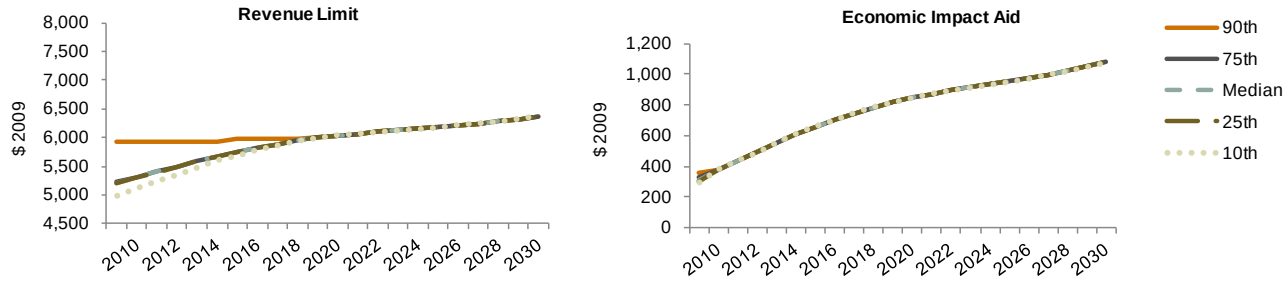
Diverting such a large share of funds away from the revenue limit and to the flex item delays revenue limit equalization until 2019. Although the median revenue limit increases 30 percent from 2009 to 2030, the equalized revenue limit is about $675 lower than in the last scenario; it reaches only $6,721 instead of $7,396.

Although this second scenario satisfies the principle of horizontal equity, it ignores the issue that the costs of educating disadvantaged students may be higher than for other students. Our next scenario addresses this issue.

Economic Impact Aid Focus

Our third scenario focuses on increasing funding to EIA, following recommendations by the Governor's Committee on Education Excellence (2007) and Bersin, Kirst, and Liu (2008). Both recommendations aim to close the achievement gap between disadvantaged students and other students. This scenario allocates 17 percent of new funds to the EIA program. The goal is an EIA funding rate of $1,050. To accommodate this emphasis on disadvantaged students, the share of new funds going to the revenue limit program drops from 66 percent, as in the prior scenario, to 50 percent. The share of new funds going to the flex item and special education remain at their levels from the previous scenario. Figure 11 shows the pathways for the revenue limit and EIA under this new allocation. Pathways for the special education and the flexible categorical programs do not change from the previous figure.

FIGURE 11
Economic Impact Aid focus scenario



With this shift in priorities, all students are in districts receiving an EIA rate of at least $1,081 by 2030. This growth in EIA rates come at the expense of revenue limit rates. Compared with the previous scenario, revenue limit rates equalize in the same year, but the equalized rate reaches only $6,368, a $353 shortfall from the prior scenario.

Comparing Scenarios

The scenarios we present are meant to demonstrate a range of possibilities for future funding. They all involve tradeoffs. We have presented them in a way that shows their cost relative to funding in the revenue limit program. If a relatively high fraction of additional funding is allocated to the flex item, funding rates in the program converge by 2030 and the median funding rate grows from $852 per ADA in 2010 to $1,541 per ADA by 2030 (Table 3). However, the projected 2030 revenue limit rate is about $675 per ADA lower, and equalization of revenue limit rates occurs five years later. The goal of increasing funding for disadvantaged students, as in our EIA focus scenario, does not delay the revenue limit equalization by even a full year, but

it does reduce the 2030 projection of that rate by about $353 per ADA. However, the EIA funding rate is $1,081 per ADA in 2030, as compared to $317 under the flex item or modified revenue limit focus. Other scenarios are certainly worth investigating, and hopefully our simulations have provided a framework for considering such extensions.

TABLE 3
Summary of scenarios

Programs	Revenue limit focus	Revenue limit + modifications	Flex item focus	Economic Impact Aid focus
Revenue limit				
Allocation share (%)	100	96	66	50
Year of equalization	2013	2014	2019	2019
Median rate 2010	5403	5395	5337	5306
Median rate 2020	6806	6743	6275	6030
Median rate 2030	7486	7396	6721	6368
Flex item				
Allocation share (%)	0	0	30	30
Year of equalization	Never	Never	2030	2030
Median rate 2010	790	790	852	852
Median rate 2020	780	780	1312	1313
Median rate 2030	776	776	1540	1541
Economic Impact Aid				
Allocation share (%)	0	1	1	17
Year of equalization	Never	2030	2030	2010
Median rate 2010	313	317	317	377
Median rate 2020	314	346	346	846
Median rate 2030	314	361	361	1081
Special education				
Allocation share (%)	0	3	3	3
Year of equalization	Never	2030	2030	2030
Median rate 2010	638	644	644	644
Median rate 2020	637	693	693	693
Median rate 2030	637	717	717	717

Regional Cost Differences

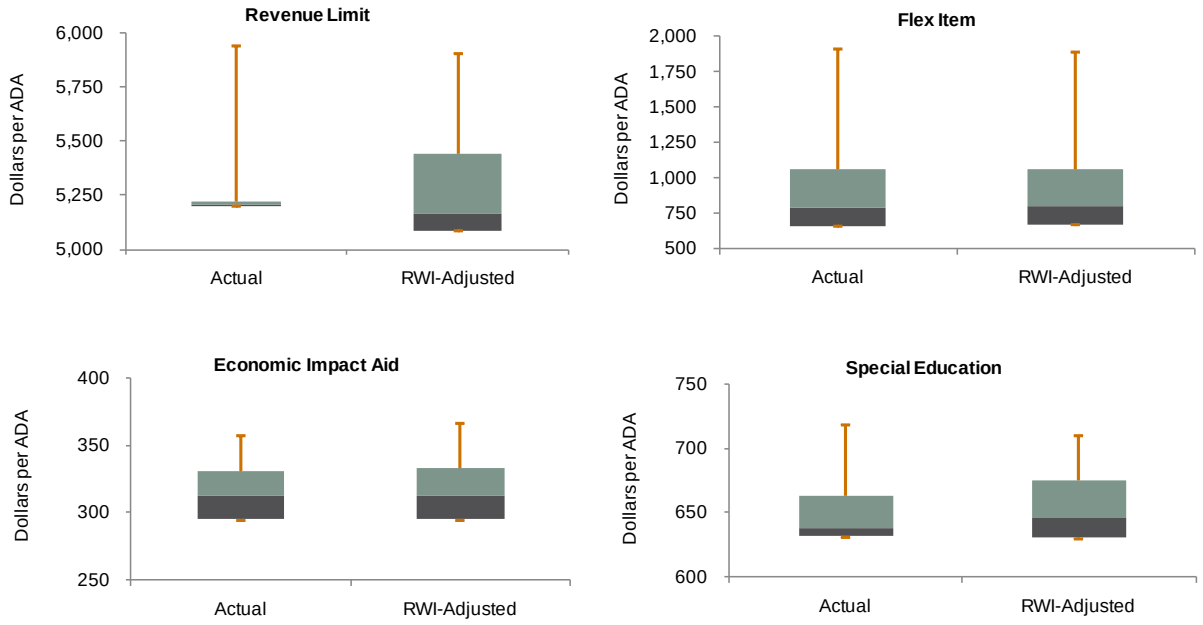
None of the previous scenarios takes into account differences in regional wages, yet teacher compensation (salaries plus benefits) varies substantially across the state. In 2003–04, teachers with the same level of education and experience averaged compensation just under $55,000 per year in the North Coast and Yolo Counties but over $70,000 annually in Santa Clara and Orange Counties (Rose et al. 2008).[10] These differences in teacher compensation are highly correlated with regional differences in the wages of college-educated workers who are not teachers. Non-teacher wages provide one way of measuring the purchasing power of revenue in a school district. For example, if labor costs are 20 percent higher than average in District A and

[10] The North Coast Counties include Del Norte, Humboldt, Lake, and Mendocino Counties.

this district receives the same level of per-pupil funding for hiring teachers as the average district, then District A could only purchase 83 percent (1.0/1.2) of what the average district could purchase.

To show how differences in purchasing power affect the distribution of resources, we adjust each district's original rate in each of the four programs by an index of non-teacher wages. This regional wage index (RWI) is described in Rose and Sengupta (2007).[11] This index groups counties into 30 regions, based on the U.S. Census Bureau's definition of metropolitan statistical areas, and computes the average wage of college-educated non-teachers in each region. Each region is assigned an index value based on the ratio of its regional average wage to the state's average wage, where the state average is weighted by the number of students in each region. The index ranges from a high of 1.2 in Santa Clara County to a low of 0.8 in the North Coast Counties. Because salaries comprise about 80 percent of district budgets, we divide that portion of a district's program rates by the RWI to obtain an RWI adjusted rate. Figure 12 shows the variation in funding before and after these adjustments for 2009.

FIGURE 12
Program rates adjusted by regional wage index, 2009–2010

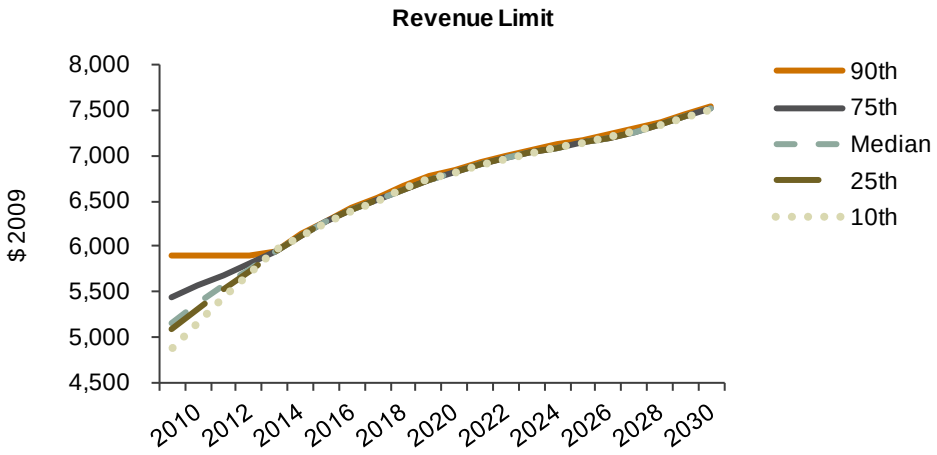


The most striking feature of the adjustment is the significant widening in revenue limit rates. Although actual revenue limits are quite similar, their purchasing power varies widely. Without the adjustment, the gap between the 75th and 25th percentiles is imperceptible, measuring only $22. With the adjustment, $353 separates those percentiles. With the regional wage adjustment, the distribution of special education funds widens slightly. The gap between the 75th and 25th percentiles increases by $13, suggesting that some districts with the higher special education rates exhibited a slight tendency to be located in areas with lower regional wages. The distribution of flex item and EIA program rates, however, changed very little with the regional wage adjustment, suggesting there is no systematic relationship between those rates and regional wages.

[11] We update the index to include 2005 data from the Occupational Employment Survey.

To demonstrate the effect of compensating districts for regional differences in labor costs, we conduct a final simulation that repeats our original revenue limit scenario but equalizes the RWI-adjusted rates rather than the actual rates. The equalization mechanism works like that in the revenue limit scenario with the following exception. The equalization target is based on the 90th percentile of the RWI-adjusted revenue limit rate in 2009, and districts are only entitled to additional revenue in a given year if their program's RWI-adjusted rate is below that target rate. Figure 13 shows the resulting pathway for the RWI-adjusted revenue limit rates.

FIGURE 13
Simulated pathway for revenue limit rates adjusted by regional wage index



In this scenario, the districts with RWI-adjusted rates below the target reach the target in 2013, the same year as the original revenue limit scenario. The pathways for the original and adjusted revenue limit rates look remarkably similar. However, the set of districts receiving revenue in these two scenarios differs. The correlation coefficient between gains in these two scenarios is 0.56. Table 4 shows the average gains for districts with and without the regional wage adjustment. Districts are categorized by type and whether they are in a high-, medium-, or low-wage region. About one-third of students are in low-wage districts and one-quarter are in high-wage districts. We chose these thresholds because they best accommodate the distribution of regional wages.

TABLE 4
Average gains in revenue limit rates between 2009 and 2013 ($)

District classification	Original revenue limit scenario	RWI-adjusted revenue limit scenario
Elementary districts		
Low wage	878	393
Medium wage	886	824
High wage	880	1,215
High school districts		
Low wage	21	40
Medium wage	21	40
High wage	21	367
Unified districts		
Low wage	583	246
Medium wage	666	604
High wage	689	883

Without adjusting for regional wages, elementary districts gained the most while high school districts gained very little. With the adjustments, however, the gains for elementary districts in low-wage regions fall by more than 50 percent and those in high wage regions rise by about 40 percent. Furthermore, high school districts in high wage regions receive some additional funds when regional wages are taken into account. This scenario demonstrates that, over time, the state could level the playing field by increasing the revenue of districts in high-wage regions.

Conclusions

By some accounts, California's school finance system is so fundamentally flawed that only a complete overhaul could fix it. We do not share this view. The current system is flawed, but the basic elements of a sound system are already in place. These elements need to be strengthened, which can be accomplished steadily over time as economic and demographic conditions permit. Our numerical simulations illustrate the possibilities.

Of course, the results of our simulations depend on assumptions we have made about several economic and demographic factors and trends. For the most part, we have been conservative in our assumptions, accepting a relatively slow growth rate in revenue per pupil. That is not to say that the future is certain to be rosier than our assumptions. One area of current concern is the looming fiscal pressure from a host of entitlement programs that promise to expand as the population ages. And in ten years, that concern will surely be replaced by another that is not apparent to anyone now.

Despite these uncertainties, our simulations illustrate a simple and clear message. Even if the growth in revenue for public schools is relatively slow, steady improvement can achieve a great deal in time. Nonetheless, steady improvement does require two difficult steps. The first is to formulate a clear vision of what the system should look like. The second is to create a mechanism to ensure that steady progress is made toward that goal.

Our assessment of California's system has identified a long menu of potential improvements. The simulations have focused on four: equalizing funding rates for the core program, turning some current categorical programs into unrestricted support, increasing funding for districts with high percentages of economically disadvantaged students, and adjusting funding rates for regional differences in labor costs. We present these simulations, not as recommendations for a plan the state should adopt, but as illustrations of the type of analysis that can help the state develop a long-range plan. We welcome the opportunity to simulate other options if the state undertakes such an effort. Any long-range policy should also consider a number of other issues and questions:

- Small schools in rural areas. The current approach to funding small schools in rural areas does not provide incentives for districts to find efficient ways of educating students in these areas. Would an approach based on an external measure such as population density be preferable?
- Funding base for special education. The current system for funding special education has removed fiscal incentives to identify learning disabilities, but it may not adequately recognize cost differences among districts. Should the percentage of economically disadvantaged students in a district be part of the funding base for special education?
- Funding base for Economic Impact Aid. English learners are now part of the funding base for Economic Impact Aid, which inadvertlently reduces funding for districts that are particularly effective in educating these students. Because most English learners are also economically disadvantaged, should the funding base for Economic Impact Aid be economically disadvantaged students instead of economically disadvantaged students and English learners?
- Categorical flexibility. The legislature temporarily suspended restrictions on forty categorical programs, and we used this list of programs to demonstrate the process of turning categorical funding into permanent unrestricted support. If the suspensions were made permanent, which programs should be excluded, which should remain, and what other programs should be included?

- Grade span. Revenue limit base rates tend to be higher for high school districts than for elementary districts. Should these differences be made explicit by enacting different base rates for students in different grade spans, as is currently the case in charter schools?
- Adjustments to revenue limit entitlements. Although most of a district's revenue limit entitlement is determined by its base rate and attendance, a number of other adjustments are made to reach the district's entitlement. Should those adjustments be phased out over time?
- Excess taxes. If a district's property tax revenue exceeds its revenue limit, it retains these excess taxes. Should excess taxes be refunded to taxpayers instead?

Decisions on these issues would help form a clear vision for the state to follow over time. Of course, consistency over time is a challenge, particularly for a term-limit legislature. However, California does have a precedent. Each year, every district's base rate for revenue limit funding changes according to a formula set in statute. This formula updates base rates for inflation, but in a way that gradually equalizes base rates over time. This annual updating produces an appropriation of state aid, which does not require legislative action. Statutory appropriation is certainly an efficient mechanism for implementing a steady change over time.

The statutory appropriation for revenue limits also has a provision for accommodating variations in state revenue. If economic conditions cause a downturn in state revenue, the legislature may decide that it cannot afford to fully fund the revenue limit appropriation in a particular year, creating a deficit factor for that year. In other years, it has used an abundance of revenue to raise funding rates for low-revenue districts. These ad hoc decisions could be made a routine part of an effort to create a rainy day fund for the state. In years in which the growth in state revenue exceeded the growth in the statutory appropriation, the difference could be set aside in a separate fund. In years in which the revenue growth rate fell short of the growth rate in the statutory appropriation, the fund could be tapped to fund the statutory appropriation. In that way, changes would be phased in steadily over time, allowing school districts to implement long-term strategies based on realistic assumptions of future revenue.

None of the reforms discussed in this report will magically transform California's public schools. A state's school finance system is only a foundation. If well designed, it provides districts the revenue to employ the resources they need. Given this opportunity, the question then becomes whether districts will use their revenue effectively. But if they are not given the opportunity, it is hard to see how they can otherwise be successful.

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