

“Getting Down to Facts: School Finance and Governance”
Summary of Adequacy and Efficiency Research

On March 14 and 15, 2007 the Institute for Research on Education Policy and Practice out of Stanford University released “Getting Down to Facts: School Finance and Governance.” The 23 studies were commissioned by the Governor’s Committee on Educational Excellence, Superintendent of Public Instruction Jack O’Connell, Senator Pro Tem Don Perata and Assembly Speaker Fabian Núñez and were funded by the William and Flora Hewlett Foundation, the Bill and Melinda Gates Foundation, the James Irvine Foundation and the Stuart Foundation.

The goal of this research is to set the stage for a statewide dialogue on the resource needs and structural changes that may be necessary in the K-12 public education system.

Specifically, the research attempted to answer the following questions:

- What do the school finance and governance systems look like in California?
- How can dollars be used more effectively to meet outcome goals for students?
- To what extent are additional resources necessary to meet our goals?

Although the project authors avoided making specific reform recommendations, the summary document of key findings suggests a new approach to reform that would:

- implement reforms that improve decision-making at all levels by improving the alignment between the accountability system and the decision-making responsibilities, including increasing flexibility at the local level;
- improve information collection both at the state level by following students over time and linking them with the resources they receive, and at the local level, where networks of teacher and administrators could learn from each other’s experiences;
- refine policies to attract and retain high-quality teachers and administrators while also removing excessive barriers to dismissing chronically ineffective teachers;
- simplify school finance formulas so that similar districts are treated similarly and differences across districts are treated reasonably and consistently;
- target resources to improve the outcomes of students living in poverty, most of whom are unable to reach state goals in the current system; and
- make the state budgeting process more predictable, removing the peaks and valleys in annual appropriations and establishing distributional decisions earlier in the spring so that schools and districts can be more strategic in determining how best to use their resources for the next academic year.

The following document provides an overview of the research. If you are interested in downloading the individual studies or the summaries, please visit <http://irepp.stanford.edu/projects/cafinance-studies.htm>

Conceptual background

Equity and Adequacy in the State's Provision of Education: Mapping the Conceptual Landscape, Reich, Robert (2007), Stanford University.

This paper lays out the conceptual differences between equality and adequacy and tries to demonstrate what these differences mean for education policy. The author does not attempt to argue for the superiority of one ideal over the other, but instead outlines a framework to understand these concepts.

School finance

Financing K-12 Education in California: A System Overview, Timar, Thomas (2007), University of California, Davis.

This paper provides an historical overview and outlines the current structure of California's public school finance system.

Evolution of California State School Finance with Implications from Other States, Kirst, Michael; Goertz, Margaret; and Odden, Allan (2007), Consortium for Policy Research In Education (CPRE).

Methodology:

This background paper is a critique of school finance in California and a synthesis of several studies of K-12 governance and school finance in California and other states.

Key findings:

- The overriding policy goal in California has been equalization (*Serrano v. Priest*); so unlike states such as Texas and Florida, the state has not developed substantial adjustments for different regional costs.
- Proposition 98 and Proposition 13 have created a de facto floor and ceiling on total state and local property tax allocations to California public schools.
- Perhaps as a result of the centralization of school funding at the state level, California has relied more than any other state on highly prescriptive categorical programs.
- Other states have adopted school finance reforms that attempt to align the funding system with state specific education goals.
 - New Jersey heavily targets low-income, underperforming districts for additional aid and includes funding for full-day kindergarten, preschool and school-based health and social service programs.
 - Spending increases in Arkansas, Wyoming and Kentucky have done little to change resource allocation patterns.

Understanding the Incentives in California's Education Finance System, Duncombe, William and Yinger, John (2007), Syracuse University.

(For costing out component of the study see below under “Adequacy Costing Out Studies”)

Methodology:

The study draws on education finance literature to identify the key incentives that operate on voters and education officials, and reviews how these incentives can influence voter and school-district behavior, and student outcomes.

Key findings:

- California's education finance system is more centralized than other states with the state government taking on a larger role in decision-making.
- General-purpose revenues are allocated to school districts without regard to educational costs and are instead based on a 35-year-old funding level that is annually adjusted.
- California has a larger proportion of categorical funds than other states and somewhat more of its categorical aid is for programs serving economically disadvantaged students.
- 16.8 percent of local revenue is from “other sources” in California, compared to 6.6 percent in the United States as a whole. Eight percent is from parcel tax and nearly half (48.8 percent) is from a miscellaneous category that appears to largely reflect local education foundation contributions.
- Districts that receive a higher share of their state support in categorical grants have lower student performance levels.
- Voters have a greater incentive to monitor the efficiency of their school district when they are providing local resources (i.e. parcel tax and local education foundations).

District Dollars: Painting a Picture of Revenues and Expenditures in California's School Districts, Loeb, Susanna; Grissom, Jason; and Strunk, Katharine (2007), Stanford University.

Methodology:

The report analyzes patterns in school district revenues and expenditures using California's Standardized Account Code Structure (SACS), along with personnel data from the California Basic Educational Data System (CBEDS). The authors also examine California's spending patterns over the last decade compared to Florida, Texas, New York and the rest of the United States.

Key findings:

- Total district spending from all funds varies dramatically across districts, but the types of expenditures are similar (i.e. state average from all funds was \$10,586 per pupil in 2004-05; 25 percent of districts spent more than \$11,918; 25 percent spent less than \$8,795).

- Employee compensation dominates district expenditures (average of 63 percent on teacher salaries and another 9 percent on administrator and supervisor salaries).
- Expenditures outside of regular K-12 instruction (e.g. special education, transportation, health services, professional development) are substantial and vary somewhat more across districts.
- Unrestricted revenues make up approximately 65 percent of all district resources and, while these include some federal and local sources, the bulk of the restricted funds come from the state.
- Urban and high poverty districts have somewhat higher expenditures and revenues.
- California schools have higher staff ratios compared to comparable states and the rest of the nation (California has about 20.6 students per teacher, 287 students per administrator and 330 students for pupil services staff members).
- Spending in California has increased by 40 percent (controlling for inflation) over the last decade, including both capital and operating expenditures. Capital expenditures comprise a significant portion of the spending growth.
- During the same time, salaries (mostly for teachers, aides and other instructional staff) increased by roughly one-third.
- When adjusted for cost differences, Texas spends 12 percent more, Florida spends 18 percent more, New York spends 75 percent more and the rest of the country spends 30 percent more than California.

Financing School Facilities in California, Brunner, Eric J. (2007), Quinnipiac University.

Methodology:

The report provides an historical review of school facility finance in California, documents the current school facility finance system and examines the level and distribution of school facilities funding since 1998.

Key findings:

- From 1960 to 1982 investments in school facilities in California consistently fell. Spending gradually rose after 1982, but it wasn't until 1998 that major investments were made in school facilities, and now California has surpassed the national average.
- State-level policy decisions have streamlined the process districts go through to access state facilities funds and made it easier for school districts to pass local bonds by reducing the voter threshold to 55 percent.
- Unified and high school districts have higher passage rates of local school bonds (57 and 58 percent respectively) than elementary school districts (30 percent).
- Facilities funding disparities are related to need and, more strongly, to districts' ability to pay.

- Critically Overcrowded Schools (COS) (schools that have double the state’s recommended density of students per acre) have higher facilities funding.
- School districts that participate in multitrack, year-round calendars are eligible for the Year Round Grant Program but reduce their eligibility for state facilities funding, thus trading facilities funds for operating revenue.
- Charter schools have better access to facilities under provisions in Proposition 39 and a number of state grant and loan funds, but a survey of charter school operators indicates they still struggle to finance their facilities needs.

Do Non-School Resources Substitute for School Resources? A Review of the Evidence, Downes, Thomas (2007), Tufts University.

Methodology:

The study uses county-level census data from 1972 to 2002 to determine if growth in nonschool spending is more rapid in states where education constraints are imposed.

Key findings:

- Proposition 13-style limits centralize revenue raising, increase local use of nontax revenues (i.e., user fees and private contributions) and reduce the amount of revenue raised through local broad-based taxes.
- In California, other spending areas are constrained so entities such as cities and counties have a limited ability to substitute for declines in education spending with support such as recreation programs and libraries.
- While private contributions are a substantial portion of district revenues in a small number of school districts, the total combination have little impact on the overall distribution of education expenditures in the state.

Governance and structural issues

Evaluating the “Crazy Quilt”: Educational Governance in California, Brewer, Dominic J.; and Smith, Joanna (2007), University of Southern California.

Methodology:

The study reviews the research literature on educational governance, as well as historical documents and reports pertaining to California’s educational governance system. In addition, the authors interviewed leading academics and key stakeholders.

Key findings:

- Governance is an important determinant of an educational system’s effectiveness in meeting its goals. The evidence suggests that governance is best thought of as an “enabler” that can support other critical elements.

- There is no preferred set of governance arrangements. Although there is support for a conclusion that more decentralized and less regulated governance is preferable, the specific forms are not definitively proven.
- Over time, the state's role in educational governance through legislation and propositions has become predominant. In addition, regulatory directives are used as a policy instrument more commonly than inducements.
- California's educational governance lacks stability (i.e., revenue fluctuations are common, categorical funding has grown, and policy changes in student assessment and curriculum are frequent).
- Lines of authority and accountability in California are unclear, due in part to fragmentation in the system, but there is no consensus on who ultimately should be responsible for education.
- Compliance is often stressed over creativity, and California has been criticized for implementing one-size-fits-all approaches (e.g., class size reduction, curriculum policies).
- Interviewees revealed that the role of special interests, particularly the teachers union, was a major concern to ensuring the system was open and transparent.
- There is a widespread perception among interviewees that California's system is overly complex and fragmented and that policy is often incoherent.
- The author's argue that reforming California's educational governance system should happen gradually and be accompanied by significant attention to building capacity at the local level (e.g., school board training, enhanced budget tools, statewide data system).

Charter Schools in California: A Review of their Autonomy and Resources Allocation Practices, Perez, Maria; Anand, Priyanka; Speroni, Cecilia; Parrish, Thomas; Esra, Phil; Socias, Miguel; and Gubbins, Paul (2007), American Institutes for Research.

Methodology:

The study focuses on the resource allocation practices (using the same methodology as the *Successful California Schools* study below) and autonomy of California's 396 classroom-based charter schools. The authors categorize charter schools based on their degree of independence as indicated by how they are funded, what types of services they receive from their chartering agency and whether teachers have collective bargaining contracts. Six case studies were also conducted to examine innovative practices.

Key findings:

- Based on available data, which only roughly captures true spending, the authors find little difference, on average, in resource allocation between charters and other public schools.
- Only about 11 percent of charter schools (44 of 396) are characterized as highly independent (they receive funds directly from the state, the charter

granting agency exercises only minimal oversight but provides no significant services and teachers are not part of a collective bargaining agreement).

- The average charter school is approximately half the size of a regular public school (335 versus 787 students).
- On average, charters serve a lower percentage of students eligible for subsidized meals (44 percent versus 51 percent) and English learners (19.4 percent and 25.6 percent), but are more likely to enroll African American students and less likely to enroll Hispanics.
- Teachers and administrators in charters have significantly less experience compared to their counterparts in regular public schools.
- The study finds no detectable difference in the number of teaching staff per student but does find that charters tend to have more school-based administrators and fewer school-based pupil support staff.
- Charter schools with a low degree of independence tend to closely resemble traditional public schools in staffing characteristics. Independent charters employ 65 percent fewer tenured teachers, and more generally, a higher proportion of new teachers than do traditional public schools.
- Based on state data, the authors find few significant differences between charter and non-charter schools on school-level measures of academic performance.
- Based on case studies, charter school practices show more differences than state data would seem to indicate, such as service learning, longer instructional year and allowing students to stay at the school until after 5 p.m. In addition, all highly independent schools the authors visited were able to easily hire and remove teachers.

School District Financial Management: Personnel Policies, and Practices, Perry, Mary; Oregon, Isabel; Williams, Trish; Miyashiro, Robert, Kubinec, Jannelle, Groff, Laurel, Wong, Philip, and Bennett, Robert (2007), EdSource (principal) & School Services of California (sub-contractor).

Methodology:

This report uses data available from state and local sources, augmented with a survey of chief business officers in California school districts. For the purposes of this research, the definition of school district fiscal health includes current state measures (e.g., positive, qualified and negative certification), along with deficit spending patterns and the level of funds held in reserve over the three years examined (2002-2005).

Findings:

- California's financial situation was particularly volatile in the years the data was collected. In addition, this time span marked a turning point in two decades of increasing student enrollment.

- Only 53 percent of districts statewide meet the fiscally healthy criteria. That compared to 18 percent designated as unhealthy and 28 percent as marginal.
- Unified districts are more likely to fall in the marginal or unhealthy categories than elementary or high school districts.
- Declining enrollment districts are more likely to be fiscally unhealthy, and growing districts are more likely to be healthy.
- Districts with higher revenues are more likely to be fiscally healthy, and the relationship is strongest among districts with higher levels of general purpose (revenue limit) funding.
- While CBOs largely report that their district’s financial software met basic accounting requirements, they were less likely to say it provided capital project tracking or financial reporting that was easy for the school board to understand.
- Fiscally healthy districts have stable leadership and sufficient administrative staff.
- CBOs in fiscally healthy districts are more likely to report that they have well-trained board members, have high-quality policies, invest in training for bargaining teams, and have the ability to cut programs not well aligned with their goals.
- The authors find a positive relationship between the fiscal health of districts and respondents reporting that they pay attention to school site leaders’ capacity for financial management, expect principals to align fiscal decisions to student performance, and provide schools with budget flexibility.
- Provisions of lifetime health benefits to retirees is clearly associated with fiscally unhealthy districts (72 school districts have such benefits, serving about 24 percent of California students).

Personnel issues

A Review of State Teacher Policies: What Are They, What Are Their Effects, and What Are Their Implications for School Finance? Loeb, Susanna; and Miller, Luke (2007), Stanford University.

Methodology:

The researchers conducted a review of research on teacher policies and used state statutes and regulations as the primary source of data.

Key findings:

- There is little evidence on the effect of preservice education requirements, and that which does exist is mixed. There is strong evidence that preservice affect the pool of teachers (i.e., intern routes with reduced preservice course work tend to attract a larger pool of candidates).
- California is one of only 10 states that award tenure after two years.

- The authors found no published research on the effects of tenure policies on recruitment, retention, teacher quality or student achievement, but many principals view tenure laws as a barrier to improving teaching in their schools (50 percent say they would only dismiss one or no teachers, and 25 percent would dismiss just two).
- California invests in professional development for beginning teachers, which appears to help keep teachers in the profession.
- There is substantial evidence that while some professional development and more formal education can improve teacher effectiveness, the acquisition of generic credits (i.e., masters degrees) as specified in California does not.
- Teachers who participate in some sustained professional development closely linked to the work they do in their classrooms do, on average, become more effective.
- Beyond state guidelines, teacher evaluation is left to districts and little is known about teacher evaluation procedures, the evaluation clauses in teacher contracts or how these affect teacher assessment and career trajectories. Principals in California, on average, report that it is more difficult to dismiss ineffective teachers than do principals in other states.
- California has created several programs that provide incentives for teaching in low-performing schools. Teachers respond to these wage incentives, but little is known about the effects of specific programs.
- The single-salary schedule, for the most part, treats all schools within a district in the same way and results in teachers choosing schools based solely on working conditions, which often disadvantages schools with the lowest-performing students.
- The salary structure also treats all specializations equally, making it difficult to attract teachers in highly desired subject areas or those with special training.
- The research to date on incentive pay for teacher performance (“merit” or “performance” pay) is not clear, but the evidence does show that designing and monitoring an effective system is difficult.
- Teachers unions in California are particularly powerful, not only bargaining for salaries, benefits, and working conditions, but also lobbying for bills and influencing the election of school boards.

Leadership Development in California, Darling-Hammond, Linda; and Orphanos, Stelios (2007), Stanford University.

Methodology:

The authors draw from a recent study of principal development programs in eight states (including California) to identify the components of effective training programs and the state’s role in creating such programs. The report is supplemented by a survey of California principals.

Key findings:

- Successful leadership programs emphasize content related to learning and instruction, the support of quality teaching and professional development, organizational development, analysis and use of data to inform school improvement, change management and leadership skills.
- The authors assert that principals also need to be well prepared to allocate resources, making productive use of time, expertise and dollars, but like principals nationally, fewer than half of California's principals reported feeling well prepared to do so.
- The quality of California's preparation programs is uneven and there is little state oversight. Program review and accreditation, performance assessments for licensure, and dissemination of best practices could improve preservice programs.
- The only major state-level initiative directed at principal professional development (AB 75) is a short-term program and has been criticized as a one-size-fits-all approach. Concerns have also been raised that it lacks direct mentoring or coaching of principals.
- California principals report spending less time engaging in evaluating and supporting teachers, working with teachers to change practices when students are not succeeding, helping to develop curriculum plans, fostering professional development, or using data to monitor and improve instruction than school leaders in other states.
- California principals are also less likely to have peer support (e.g., mentoring, coaching, principal networks) and report their professional development experiences were somewhat less useful to improving their practice than principals nationally.
- Principals who experience exemplary leadership development programs in the state, such as San Diego USD's Educational Leadership Development Academy, report feeling well prepared to lead instructional improvement, engage much more regularly in instructional leadership activities, and are effective in stimulating school improvement leading to student learning gains.
- Financial incentives and internships could help districts recruit principals in a tight labor market.

California Principals' Resources: Acquisition, Deployment, and Barriers, Fuller, Bruce; Loeb, Susanna; Arshan, Nicole; Chen, Allison; and Yi, Susanna (2007), Policy Analysis for California Education (PACE).

Methodology:

This report utilizes survey data to review principals' resource use, examining how the principal's role has changed over time and what factors shape principals' behavior and beliefs concerning school-level resources.

Key findings:

- California principals have comparable levels of experience to those in other states, but they have worked at their current schools for shorter periods of time, on average.
- Overall principals have lower salaries relative to the market value of comparable workers. In addition, principals working in schools with higher concentrations of students from low-income families (above the median of 25.5 percent) earn about \$7,000 less than principals working in school with fewer such students.
- California principals emphasize basic skills as the top educational goal, especially those working in schools that serve low socio economic students.
- Schools serving higher concentrations of students from low income families raise about \$21 per pupil from private sources (parents and local individuals), while schools serving fewer low-income students raise more than twice that amount per pupil (\$56). The total funding through donations is small in most districts.
- Almost nine in 10 California principals say they use volunteers “sometimes” or a “great deal” to help staff classrooms, provide tutorial services or manage playgrounds.
- When compared with principals in other states, California principals report spending less time on a variety of activities connected with instruction.
- Four in five of the principals surveyed report that in the past two years they have shifted instructional time to increase attention to reading and language arts. Two-thirds report increasing total length of instruction through after-school or Saturday school options. About two-fifths of elementary and three-fifths of high school principals report increasing the amount of time spent on test preparation.
- Many principals view student achievement data as a useful resource, but only about one-third report working with this information at least once a month, and they rarely use it to assess the strengths and weaknesses of teachers.
- California principals perceive greater barriers to firing ineffective teachers than do their peers in other states.
- Overall, principals value flexibility in dismissing ineffective teachers above other choices they were given, including acquiring new teaching posts or other resources.
- They also cite less paperwork and more flexibility in allocating dollars as important changes for improving student outcomes.

Curbing or Facilitating Inequality? Law, Collective Bargaining, and Teacher Assignment Among Schools in California, Koski, William; and Horng, Eileen (2007), Stanford University.

Methodology:

The researchers analyzed literature on teacher preferences and assignment provisions, California law and regulations that affect teacher hiring and assignment, and 488 collective bargaining agreements in California. The authors also conducted 19 semistructured interviews with human resources directors from a stratified sample of California school districts.

Key findings:

- California state law delegates hiring and assignment responsibility to local district officials.
- A review of prior studies suggest that seniority preference rules contribute to inequities in teacher-experience and credential among schools as teachers exercise their seniority rights to transfer out of high minority, high poverty schools.
- Some researchers have found that contractual requirements for districts to first post open teaching positions internally hurt certain high-minority urban districts' ability to compete for high quality teachers (timelines make it so most experienced teachers are hired by other districts).
- Contrary to prior research and conventional wisdom, districts with strong transfer provisions tend to have larger percentages of credentialed teachers even when the authors controlled for a wide range of other district characteristics.
- Consistent with prior research, schools with larger percentages of minority students, with more students, with enrollment growth and with smaller average class sizes all have fewer certified and experienced teachers, but this problem is not greater in districts with stronger transfer and leave provisions. In other words, such strong provisions have no independent effect on the quality of teachers in schools within districts.
- Interviews with 19 school district officials indicate that effective administrators are seldom hindered in teacher hiring and assignment practices. Their reasons include:
 - negotiated language that lets them make hiring and assignment decisions in the districts' and students' best interest regardless of seniority preference;
 - developing strong working relationships with union leaders that let them mutually suspend or work around apparently strong contract language; and
 - employing strategies to circumvent collective bargaining agreements, such as "hiding" open positions until after the internal post-and-bid process is completed or refusing to select an in-district candidate.
- Some administrators and unions have also developed policies such as hiring staff early, giving low-performing schools preference for those early hires, and requiring teachers with special training to remain in low-performing schools regardless of seniority.

Data and information systems

Education Data in California: Availability and Transparency, Hansen, Janet (2007), RAND Corporation.

Methodology:

This study reviews a broad-based review of data systems in other states, combined with information from the U.S. Department of Education, the National Education Data Partnership and others to describe emerging standards for effective state data systems. The author also reviews public documents and Web sites, plus interviews with individuals knowledgeable about California and other state data systems.

Key findings:

- California lags behind most states in its data approach and the quality of its education data system.
- The state still has 125 active data collections in the CDE alone (i.e., CBEDS, SACS, student achievement data), as well as teacher data collected by the CTC and California State Teachers Retirement System. These data exist in silos and cannot be linked easily.
- The state lacks the ability to track students individually over time and link them to performance scores and outcomes; to track teachers individually and link them to students taught, their preparation programs and the professional development they receive; to provide teachers with student histories and performance indicators; or to link school/district resource use with student performance.
- The CDE has improved its data management practices and supports the work of the California School Information Services (CSIS). In addition, it has also taken the initial steps to implement both a student longitudinal data system (CALPADS) and a teacher longitudinal data system (CALTIDES).
- Political obstacles and a lack of commitment leave progress on creating an effective data system in question.
- Research suggests that effective data systems are accessible, promote a sense of ownership, and are easy to use at all levels of the school and district, especially among teachers.
- Central offices play a key role in creating and maintaining a strong data infrastructure.
- Effective data systems provide fine-grained information from multiple systems focus on student achievement for each student and by subgroups in order for teachers and school leaders to identify relevant trends and begin to design instructional strategies.
- Developing staff capacity to use data, particularly at the school level, will support the good use of data.

Bringing the State and Locals Together: Developing Effective Data Systems in California School Districts, Oberman, Ida; Hollis, Jim; and Dailey, Don (2007), SpringBoard Schools.

Methodology:

The authors conducted a literature review, surveyed principals, and interviewed state policy-makers and leaders in selected California school districts.

Key findings:

- The state’s focus on data systems is primarily designed to support mandated reporting and has de-emphasized collecting data to support local decision making.
- Districts vary in their capacity to design and use an effective data system.
- District offices are focused on increasing student achievement and closing the achievement gap, but fiscal constraints and limited staff knowledge on how to work with data make it difficult to connect needed information with school improvement efforts.
- The state’s past track record in funding data initiatives has demonstrated only a half-hearted commitment, that stands in contrast to other states, such as Florida and Texas. Examples included failing to provide funds to meet targets for enrolling all districts in CSIS and plans to include only data required by NCLB in CALPADS.

Adequacy costing out studies

Successful California Schools in the Context of Educational Adequacy, Perez, Maria; Anand, Priyanka; Speroni, Cecilia; Parrish, Thomas; Esra, Phil; Socias, Miguel; and Gubbins, Paul (2007), American Institutes for Research.

Methodology:

The study identifies schools that are “beating the odds” – or “BTO” schools - and low-performing schools – or “LP” schools – with regards to student achievement, and then analyzes their resource allocations using a variety of data sources and interviews. BTO schools consistently perform at higher levels of achievement on their CSTs than predicted for all subgroups of students for four consecutive years. LP schools are those that every year, and for every student subgroup examined, performed at a lower level than would be expected given the students they serve.

Key findings:

- Across the state there is considerable instability in test score results: schools outperform one year and the next year perform as expected or underperform.
- Based on the authors’ definition, the BTO schools included 61 elementary schools, seven middle schools, and 35 high schools (only 103 schools out

of more than 9,000). The LP schools included 76 elementary, 32 middle, and five high schools.

- When compared to other public schools, BTO elementary schools have:
 - similar class sizes in grades 1-5 but have fewer students in their kindergarten classes;
 - more experienced administrators;
 - a higher proportion of staff in administrative positions; and
 - a significantly lower percentage of teachers with tenure.
- In elementary LP schools, the average total years of teachers' experience and the educational attainment of administrators are lower than in either BTO schools or other public schools. LP middle and high schools also have lower teacher education and experience when compared to other public schools.
- LP schools have significantly lower percentages of teachers holding full credentials and they have a higher proportion of staff in pupil-support assignments when compared to other public schools.
- On average, the BTO schools spend slightly less than low-performing schools (\$7,799 per student versus \$8,021, compared to the state average of \$7,523).
- When the sample is restricted to only high-poverty schools, BTO schools spend \$266 more per pupil than LP schools and \$935 more per pupil, on average, than other schools in the state.
- A further analysis finds that available measures of resources do not appear to be statistically related to unusually high academic performance of BTO schools. This could be because success factors are not measured in the current state database (i.e. quality of school leadership) or the analysis did not adequately adjust for differences in student population (subsidized meals is a weak measure of poverty).
- Interviews reveal some factors related to success but there is no clear recipe. Common themes include high-quality teachers and staff, implementation of a standards-based curriculum, and coherent instruction. Principals also mentioned teacher training and support, control over hiring, effectiveness in removing teachers, assessment data that informs instruction, student services/interventions, parental involvement and high expectations for students.

Assessing the Costs of K-12 Education in California Public Schools, Imazeki, Jennifer (2007), San Diego State University.

Methodology:

The primary methodology used in this study is the econometric cost-function approach. This approach attempts to estimate the cost per pupil in districts with relatively low levels of student needs (or base costs) and then adds additional costs associated with specific student characteristics, such as poverty, EL and special education (or marginal costs). The author also conducted a parallel

production-function to attempt to quantify the relationship between student outcomes and costs for districts with a variety of characteristics.

Data used:

- The spending data used for this study is based on general fund per-pupil expenditures for 2004-05.
- Cost factors included a teacher-cost index based on variations in compensation arising from factors outside districts' control.
- Poverty is a two-year average (2003-04 and 2004-05) for percent of children who qualify for free/reduced-priced meals.
- The percentage of students classified as having any disability and the percentage who have a high-cost disability (i.e. autism, deaf).
- Two-year average of EL students with a primary language of Spanish and the percentage of EL students who speak some other language.
- The percentage of the each district's student body enrolled in high school to accommodate differences in cost based on grade level.
- Enrollment data for each district to reflect potentially high costs associated with both small and large districts.
- Performance measures included school districts' 2004-05 API score and percent scoring proficient or above on the California Standards Tests (CSTs) in English language arts and math.

Key findings:

- There are few consistent patterns in the distribution of funds based on student characteristics. Spending is slightly higher in districts with high proportions of high need students, but the 20 percent of districts with the highest proportions of these students do not have the highest average spending.
- Performance measures, on the other hand, are highly consistent with student characteristics.
- The analysis shows that costs related to district performance rise with the percent of students in poverty, the percent that have disabilities, the percent enrolled in high school and regional teacher wage costs. Costs also vary based on district size, with average costs lowest in districts with 28,992 students and higher as the size either increases or decreases.
- Using a cost-function approach, the study estimates that the base cost – or minimum cost – of \$5,832 per pupil (in 2004-05, including food services and transportation) for a low-need district to reach an API of 800.
- It then calculates, based on existing funding patterns in California, that it would cost 30 percent more for children in poverty, 8 percent more for Spanish-speaking ELs, 24 percent more for non-Spanish speaking ELs, 113 percent more for special education (all disabilities), and 668 percent more for special education (high cost disabilities). These weights are consistent with other studies in California using different methodologies, but are somewhat lower than those found in studies from other states.

- Based on California's demographics, the cost of education for districts varies from the minimum of \$5,832 to a high of \$23,818 with an average of \$8,268 (90 percent of districts fall between \$6,678 and \$11,011).
- Taken in aggregate, the estimated total cost for all districts to reach 800 API is \$45.1 billion, or \$1.7 billion more in 2004-05 dollars.
- Even with the conservative cost-function estimate, the author finds that the current system of school finance appreciably under funds districts with the highest need (i.e. districts with the highest levels of poverty, have 16 percent lower per-pupil funding than the estimates would indicate is necessary).
- The also study provides an additional estimate based on student weights derived from the cost function and the calculation rises to \$49 billion, or \$5.7 billion more.
- To assess the accuracy of the cost-function model, the author uses a production-function, which estimates the effect of spending on outcomes (instead of the cost-function approach which starts with the outcomes and examining their relationship to spending). The author finds only a weak relationship between spending and outcomes. She estimates that to improve outcomes *only through spending increases* would require a large influx of dollars - \$1.5 trillion.

Understanding the Incentives in California's Education Finance System, Duncombe, William; and Yinger, John (2007), Syracuse University.
(For the efficiency component of the study see above under School Finance)

Methodology:

The report examines educational spending and student performance at the school district level using two methodologies: an education cost equation and an education demand equation. The education cost equation attempts to calculate the amount of money a district must spend per pupil to obtain a given level of student performance. The demand equation attempts to explain the level of student performance in a school district as a function of voters' incomes, the price of education in that district, and other voter characteristics.

Key findings:

- There is a clear relationship between spending and student performance. Holding all other variables constant, a 10 percent increase in student achievement as measured by the district-level API is associated with a 7.1 percent increase in spending.
- The existing API gap between the highest- and lowest-poverty districts is about 30 percent. Based on the report's analysis, spending in the highest poverty districts would have to increase by about 21 percent to eliminate the API gap. (This estimate assumes that the relationship between spending and achievement is causal.)

- Costs vary based on student characteristics (e.g. socio economic status and EL), regional labor markets and type of school district (i.e.. elementary, high school, unified).
- Neither revenue limits nor categorical funding in California fully covers the cost for high need districts (i.e., high concentration of socio economic status and EL students and high-wage labor markets) to reach the same API targets as other districts.

Efficiency and Adequacy in California School Finance: A Professional Judgment Approach, Chambers, Jay; Levin, Jesse, and DeLancey, Danielle. (2007), American Institutes for Research.

Methodology:

The authors convened two professional judgment panels to design instructional programs for the average elementary, middle and high schools so that all students would meet state performance targets established under NCLB for the 2011-12 year. After designing instructional programs for California schools with “typical” student demographics, the panels were asked to modify these programs for varying levels of students living in poverty, ELs and special education. Based on the panels deliberations, researchers developed school-level, district-level and then statewide estimates of what it would cost to provide an adequate education to all students in the state.

Key findings:

- Both panels of education professionals report that more resources are necessary for average schools to meet state standards.
- The panels designed instructional programs that differ substantially from today’s typical California school.
- For elementary schools, both panels reduced class size, extended the instructional day and year for all students, and added specialists to work with small groups of students and to foster professional development opportunities for teachers. They differed in how funds would be allocated for support personnel. One group specified a full-time social worker, school nurse, guidance counselor and technical assistant, while the other made these positions part-time or assumed the responsibilities under existing positions.
- Both panels also identified preschool and early childhood education programs as key resource needs.
- At the middle school level, the panels emphasized instructional personnel but vary in their staffing recommendations. One panel specified the need for more resources overall to add instructional personnel and reduce class size.
- Both panels also prescribe after-school programs targeted for at-risk populations (for approximately 55 percent of students).
- At high school, both panels extend the school year and prescribe summer school for a high percentage of the student population, specifically

targeting at-risk students. Academic coaches and resource teachers also play a significant role. One panel also wanted to create smaller class sizes, offer more electives to keep students engaged and facilitate smaller learning communities.

- The panels specify smaller classes and more support staff to serve higher percentages of low-income student. They increase the number of students targeted through after-school, preschool and early education programs and add more administrators, resource teachers and academic coaches.
- Both panels recommend specialized resources for ELs, including more bilingual and English language development teachers and aids; EL-specific curriculum, technology, software and supplies; and teacher professional development.
- For special education, panelists designated at least one special day class with at least one full-time aides and increased the number of personnel and on-site resource specialists when the percentage of special education students was increased.
- The authors assign cost to the panels' programs and then calculate total projected per-pupil expenditures by applying a district-level cost factor. Resource costs are also adjusted to reflect geographic variations in recruiting and employing staff, as well as various district categories (e.g. urban, suburban, towns, and rural).
- The statewide average "adequate" per-pupil expenditures for 2004-05 school year range from \$11,094 (Gold Panel) to \$12,365 (Blue Panel), which represents a 53 percent to 71 percent increase over what was actually spent (\$7,246).
- There is variation in district categories, with urban districts requiring the highest per-pupil expenditures (from \$11,508 to \$12,718), while the lowest expenditures would be in towns (\$8,932 to \$9,896).
- In 2004-05 California spent \$45.29 billion on public schools. The main results of this study suggest that an additional \$24.14 billion to \$32.01 billion would need to be spent in California to provide an adequate education (between 53 percent and 71 percent above current expenditures).
- The author's find that about 941 of the state's 984 districts would require additional funds, and when preschool is included, this figure rises to 969 districts.

Aligning School Finance with Academic Standards: A Weighted-Student Formula Based on a Survey of Practitioners, Sonstelie, Jon (2007), Public Policy Institute of California.

Methodology:

Using online budget simulations, the study asks 567 randomly selected California public school teachers, principals, and superintendents how they would allocate resources within a given budget and what student performance outcomes they would expect. Participants are given a hypothetical school that mirrors their actual school in terms of student characteristics.

The budget simulations allow participants to allocate resources as they deem most appropriate with some restraints: 1) they have a set budget amount and 2) there are fixed costs for various school resources (i.e., participants are asked to assume that they can hire a certified teacher at the given price). The descriptions, budgets and costs vary among the participants, revealing how a large group of professionals view the relationship between school budgets and student achievement.

The study then combines the school-level budgets (based on the average predictions based on specific school types) with the estimated district expenditures (using actual expenditure data from 2003-04) to arrive at a total projected cost for California.

Key findings:

- Elementary educators would reduce class size, most notably in grades 4 and 5; provide extra administrative support (spending about 27 percent more); triple support staff and increase collaborative time among teachers. With a larger budget they would also lengthen the school day and year, and student programs, including preschool, summer school, and after-school tutoring, would receive substantially more resources.
- Middle school educators would increase the number of staff, reducing class sizes especially in core subjects; and increase administrative support by 20 percent. With a larger budget they would increase professional development, with the number of academic coaches doubling and collaborative time for teachers nearly tripling. After-school tutoring programs also nearly triple in size, and the school year is lengthened.
- High school educators reduced class size in both core and non-core classrooms, and called for almost 21 percent more administrative staff and about twice as many counselors and security officers. With more money to spend, participants emphasized support staff, professional development and student programs.
- Based on participants' predictions, student poverty has a strong negative effect on student achievement. For example, if none of the students are poor participants predict the school will have an API of 843; if all the students are poor, the average prediction is 698.
- Participants predicted that a larger budget can be used to increase student achievement but the effect is modest. For example, an increase in the school's budget by \$1,000 per student increases the predicted API by 13 points. At the highest budget in the simulation - \$7,600 per pupil – the average API predicted score rises to 745.
- As budgets get further from current spending levels, participants' predictions of student outcomes vary substantially. Because of this considerable variation, a different set of participants would not produce exactly the same average predictions.

- The author uses the participants' predictions to estimate the cost to each district of meeting the state's achievement standards. The resulting estimated per-pupil cost to reach an API of 800 varied widely (i.e. the bottom 5 percent had school level, costs less than \$2,579 per student and the top 5 percent had at least \$11,963 per student). The very high and very low estimates are outside the range given to participants (reducing their likely accuracy), so the author truncated the ranges to match the highest and lowest in the simulation.
- The results predict that about half the schools would reach an API of 800 or more. For middle and high schools, the median predicted API is 797 and for elementary schools it is 796. However, 20 percent of elementary schools would have APIs between 736 and 761, 20 percent of middle schools would range between 750 and 776, and 20 percent of high schools would range between 758 and 783.
- The analysis suggests that a per-pupil funding average, weighted by regional cost differences and student poverty, could fairly account for cost variations. (The full study provides estimates of revenue needed for each of the 950 school districts that had complete data.)
- The statewide cost was estimated to be \$60 billion in 2003-04 dollars, in contrast to the actual expenditures of \$43 billion. This represents a cost increase of about 40 percent, with the bulk of these additional resources needed to boost achievement in schools primarily serving low socio economic status students.

Considering Special Education Adequacy in California, Harr, Jenifer; Parrish, Tom; Chambers, Jay; Levin, Jesse; and Segarra, Maria (2007), American Institutes for Research.

Methodology:

The study includes four estimates of special education spending using actual California expenditure data, cost estimates from a previous state special education study, national special education expenditures and predictions provided by the AIR professional judgment study.

Key findings:

- In California, school-age children (ages 6-21) who receive special education services make up 9.5 percent of public school enrollment and constitute about 15.5 percent of K-12 education spending.
- Because traditional adequacy costing-out approaches attempt to identify the uniform resource needs for groups of students to meet achievement standards, special education students are often not appropriately reflected in the estimates. The percentage of students in special education does not always provide a clear indication of district need, nor do the categories to which students are assigned provide a clear indication of the severity of their disability.

- The authors' estimates for special education spending per special education student in California (in 2004-05 dollars) are:
 - \$11,600 per student based on district's actual expenditures as reported in California's SACS data;
 - \$9,298 per student based on the 2003 AIR Incidence study data;
 - \$7,777 per student based on the application of national Special Education Expenditure Project (SEEP) ratios to estimated spending on a student with no special needs and using current expenditures in California; and
 - \$9,971 per student based on the application of SEEP ratios to estimated spending on a student with no special needs and using the AIR professional judgment panel study of funding adequacy.
- The estimate of current actual spending is markedly higher than the other three estimates. Possible explanations include:
 - The widespread use of SACS is relatively new, so the SACS data may reflect some inconsistencies in district reporting and assignment of program costs.
 - On the other hand, detailed accounting used in SACS may be more comprehensive than the other measures used here.
 - The actual special education spending in California may be higher than estimated based on SEEP national ratios because the special education rate in California, at 9.5 percent, is considerably lower, which could mean that on average students identified for services are more severe and therefore more costly.

Resource Needs for California's English Learners, Gándara, Patricia; and Rumberger, Russell W. (2007), University of California, UCLA & Santa Barbara, respectively.

Methodology:

The authors review past research, current state data, national data and multiple adequacy studies that attempt to estimate the resource needs of English learners. In addition, they conduct case studies to further explore the amount and type of additional resources needed to adequately educate English learners.

Key findings:

- In 2004-05, 42 percent of California's public school students fit the broad category of "linguistic minority" (a student who comes from a household where a language other than English is spoken) and 25 percent were classified as English learners.
- An examination of academic achievement reveals that English learners, including older students reclassified as fully English proficient, lag far behind children from English-only backgrounds.
- Determining the resources needs of linguistic minority students depends on the outcome standard that is targeted (e.g. reclassification to fully English proficient, reclassification and maintenance of academic proficiency, closing the achievement gap, and biliteracy).

- Existing studies reflect little consensus regarding resource needs for English learner students (increases range from 18 percent to more than double when poverty is also considered).
- To estimate cost, the author identified some necessary elements for student success but cautioned that programs would depend on the unique characteristics of the student population.
- Some potential program components include high-quality preschool; a comprehensive instructional program that addresses both English language development and core curriculum; sufficient and appropriate student and family support; ongoing professional support for teachers with a significant focus on the teaching of EL students; extra support personnel; appropriate instructional materials; and valid and comprehensive assessments.

Teacher Compensation and Local Labor Market Conditions in California: Implications for School Funding, Rose, Heather, and Sengupta, Ria. (2007), Public Policy Institute of California.

Methodology:

The authors examine regional cost differences by dividing the state into 30 labor market regions and analyze the effect of non-teacher wages on teacher compensation for teachers with differing levels of education and experience. The authors also take into account other differences in demographic and labor market variables in their analyses. Based on their analysis, the authors construct a school funding formula that equalizes the ability of districts to pay teachers.

Key findings:

- Teacher compensation and experience levels vary substantially across California school districts. For mid-career teachers, Santa Clara and Orange county offered the highest compensation, on average surpassing \$70,000, and Yolo County and the North Coast counties fell short of \$55,000 per year for teachers at the same position in the salary schedule.
- In 2003-04 the median district had an average teacher experience level of about 10.6 years. However, in one quarter of districts, teacher experience averaged less than 8.8 years; and in another quarter of districts, average experience exceeded 12.2 years.
- Local labor market conditions affect compensation, particularly for experienced teachers. For example, for mid-career teachers, the authors find that districts facing a non-teacher wage 10 percent above the state average tend to offer mid-career teachers 6 percent above the state average mid-career teacher compensation.
- Average experience levels vary across districts and depend on regional demographic factors (i.e. age of the work force, enrollment growth of the district and working conditions of schools).
- Districts have limited ability to adjust to local labor market conditions because their revenue is constrained by the state.

- California could equalize labor purchasing power across school districts by constructing a baseline, statewide teacher-salary schedule and then use a comparable wage index to adjust that baseline appropriately for each district. Ultimately, districts determine their own salary schedule and mix of resources, but the formula would enable them to afford a standards resource set.
- Enrollment trends might also be a factor in a new finance formula, given the financial opportunities presented by districts' experiencing growth and the reciprocal obstacles posed by declining enrollment.
- In addition, the formula could account for the age composition of districts' labor pools and provide additional revenue for districts with older populations.