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Evaluating K-12 Education Finance for California's Future

Erin Heys PhD, Sarah Swanbeck MPP, and James Hawkins MPP

This issue brief series is part of the California 100 initiative. The purpose of this brief is to foster conversations about the future of education in California. You may read the full report here.

Overview

California has ambitious goals for its K-12 system. Most notably, the state's education leaders set a goal to ensure that all students perform at grade-level on assessments that are aligned with the newly adopted Common Core standards, a rigorous set of learning standards intended to equip students with 21st century knowledge and skills that also prepare students for college and the workplace. Achieving such a goal across the state's massive K-12 system is no easy task and requires that schools and educators have the resources necessary to meet the challenge. In this brief, we address the following questions: How does California currently fund its K-12 system and how does it compare to other states? Are current funding levels sufficient to provide the resources necessary for all students, regardless of socioeconomic background or ability, to meet statewide goals?

To answer the first question, we draw on existing research from California's leading K-12 researchers and our own original data analysis using Census data. To address the second question, we review existing research and use the concepts of *adequacy* and *equity* to evaluate whether current funding levels are sufficient for all students to meet the goals established by state leaders.[1] In its simplest definition, *adequacy* addresses how much funding students need to achieve at least a minimum outcome standard, such as average performance on standardized tests. *Equity* is the concept that some students, such as English Language Learners, low-income students, disabled students, or other students with special learning needs—require more funding than the average student to achieve desired educational outcomes. Therefore, funding levels must account for additional programs, services, and other resources that disadvantaged students require to ensure that each student has the support they need to achieve desired learning goals.[2]

[1] Equally important in our evaluation of the education system is the issue of *stability;* see the 'stability of education funding' issue brief for more information.

[2] It is important to note that modern legal definitions of adequacy often recognize that the amount needed for all students to achieve certain goals or outcomes may vary across students, schools, and districts. This means that *equitable* funding is often associated with an adequacy definition to ensure that the finance system compensates for the cost of educating students from different socioeconomic backgrounds or with special learning needs. We discuss equity as a standalone concept from adequacy; however, we acknowledge that equity often goes hand-in-hand with adequacy, and point out the relationship where appropriate.

Summary of findings

K-12 financing

- California is unique among most other states in that its largest revenue stream for K-12 education comes from state rather than local revenue. California gets about 35 percent of its total revenue from local sources versus 56 percent from the state and about 9 percent from the federal government.
- In 2019, California was ranked 35th in per pupil spending (from all sources--state, local, and federal) compared to other states after adjusting for the cost of living.

Adequacy findings

- State education leaders have made progress to define student learning objectives by adopting the Common Core State Standards and the associated Smarter Balanced assessments, and the state Department of Education has established broader goals to prepare all students for college and career readiness.
- State lawmakers have not yet clearly defined an adequacy formula that would determine the funding inputs for all K-12 students to achieve the learning objectives and goals established for the system.
- The lack of a clear adequacy definition and formula can lead to underinvestment with clear consequences for schools and students; notably, California's current funding structure ignores growing cost pressures of district budgets and does not account for unfavorable organizational conditions of schools, leading to consequences for educational quality.
- By one estimate, the state would have needed to spend an additional $25.6 billion in the 2016-17 academic year alone to adequately fund the K-12 system.

Equity findings

- State lawmakers made major strides to create equitable funding for the state's schools by passing the Local Control Funding Formula (LCFF). The new formula has an important equity component that acknowledges that districts serving students from different socioeconomic backgrounds have different financial needs, and allocates supplemental and concentration funds to districts serving high-need populations.
- However, LCFF leaves out important subgroups and variables. For example, LCFF does not acknowledge differential costs of educating special education students, district geography (which may impact teacher labor markets or nuanced cost of living adjustments), or the cost of other special student programs that have equity implications.
- The current design and funding levels of LCFF do not meet adequacy estimates for all students to achieve statewide goals, such as meeting average test scores on national exams. In the latest data available (2018-19 estimates), researchers estimate that California must spend an additional $5,081 per pupil in the highest poverty districts in order for students to achieve average test scores on national exams.

The bottom line: Per pupil spending in California ranks among the lowest in the nation after adjusting for cost of living. While the LCFF formula was a significant step toward more equitably funding districts that serve high-needs students, California still has work to do to establish a clearly defined adequacy definition and formula that can fund high-quality learning environments for all students to achieve statewide goals.

How is K-12 funded in California?

California's K-12 budget is enormous, totaling over $93 billion in state funding from the latest 2021-22 budget (California Department of Finance, 2021). Despite this large sum, the state traditionally lags the nation in per pupil funding. The good news is that public investment in California's K-12 education has increased in recent years and is currently at an all-time high, putting California in a more favorable position among national averages. In the 2021-22 budget, per pupil funding was $21,152 per student when accounting for funding from all sources, and about $13,000 per student when counting Proposition 98 state funds alone.[3]

As shown in Figure 1 below, California's state revenues to finance K-12 have improved from 2002 to 2019, putting California 18th in a ranking of U.S. states.[4] California is unique among most other states in that its largest revenue stream for K-12 education comes from state rather than local revenue.[5] California gets about 35 percent of its total revenue from local sources versus 56 percent from the state and about 9 percent from the federal government. Imazeki (2018) finds that California's revenue streams stand in stark contrast to other states of similar size. For example, New York gets about 55 percent of its revenue from local sources and only 40 percent from the state, with a modest 5 percent contribution from the federal government. To see how California's revenue streams compare to all other states, see Figures A1-A4 in the Education Finance Appendix.[6]

In terms of expenditures, it is well known that California spends far less per pupil than other states do. As shown in Figure 2 below, in 2019, California was ranked 35th in per pupil spending (from all sources –state, local, and federal) compared to other states after adjusting for the cost of living.[7] California's underinvestment in K-12 compared to the national average has been trending for decades, and grew much worse during the aftermath of the Great Recession when the state made dramatic cuts to K-12 funding. Spending on education in California bounced back to national averages after the national and state economy stabilized and voters passed Proposition 30 in 2012 (and Proposition 55 in 2016), which secured higher income taxes on the state's top earners.[8] Like school district expenditures in other states, teacher and employee salaries (and benefits) account for California's largest budgetary expenditure, totaling about 70 percent of overall spending, followed by services (15 percent),

[3] Proposition 98 funds come from the state's General Fund, which includes revenue from local property tax.

[4] Note that data limitations prevented adjusting this figure for regional cost of living differences. Revenues include all state, federal, and local funds.

[5] This is largely due to the passage of Proposition 13 in 1978.

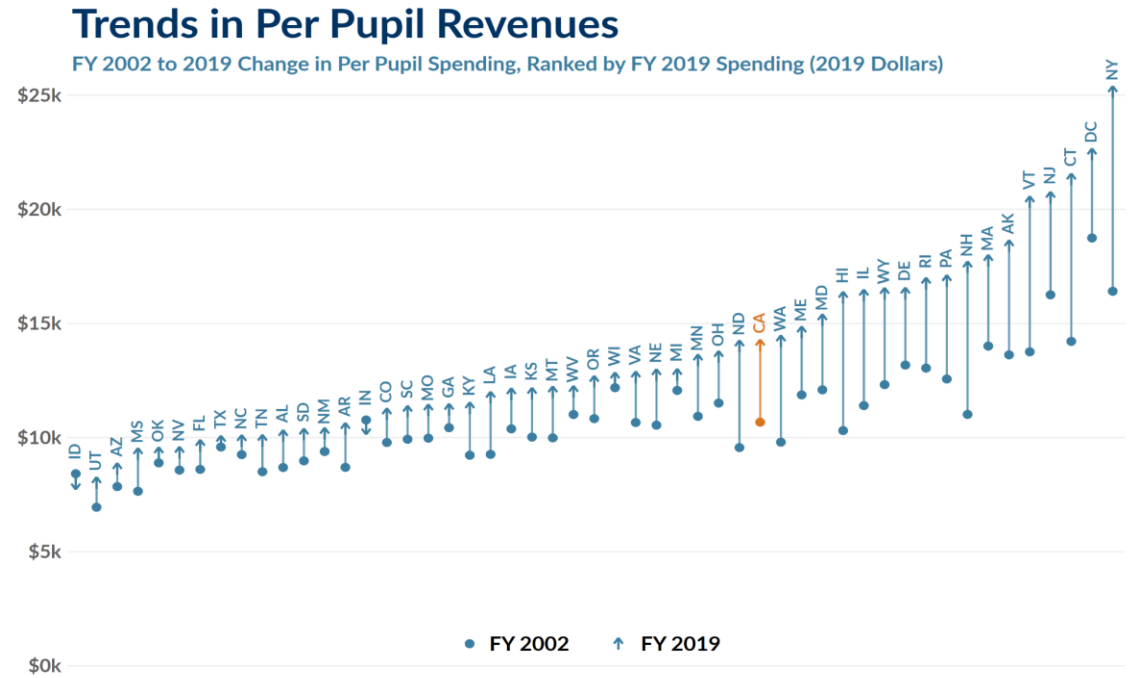
[6] For an excellent and detailed review of how different state revenue streams affect school funding, see the California Budget and Policy Center's guide to school funding and the state budget process.

[7] For a more detailed discussion of issues to consider when comparing K-12 school spending in California to other states, see this issue brief from the California Budget & Policy Center.

[8] For further discussion on recessionary impacts on California's education funding, see the 'education stability' issue brief.

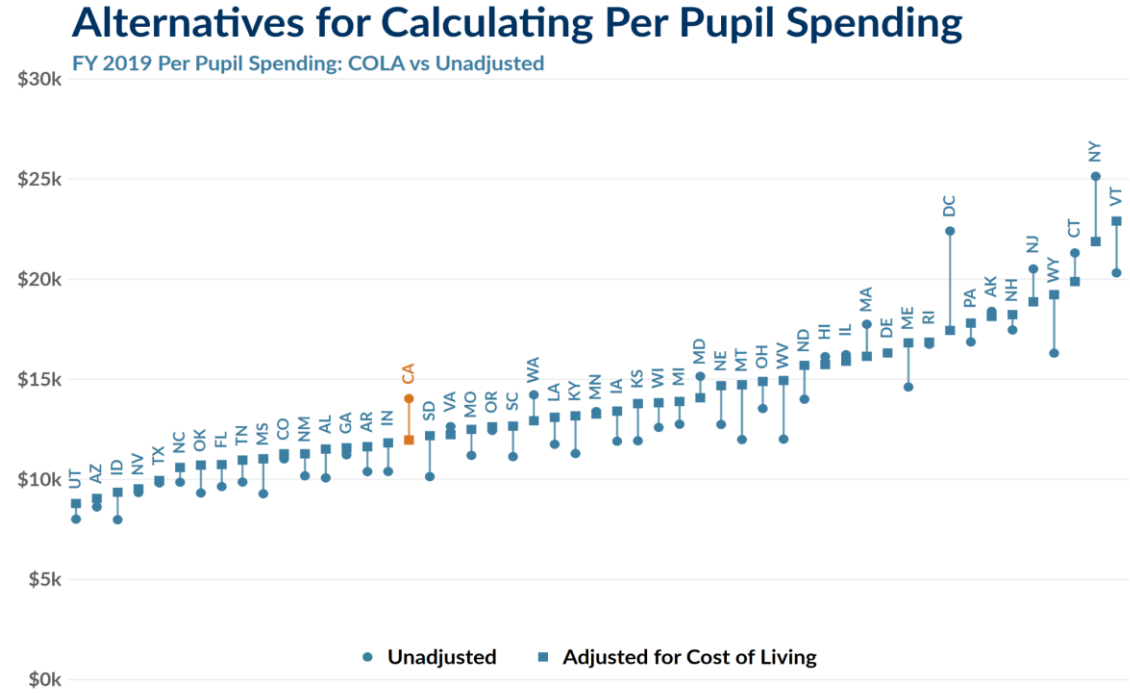
facilities (10 percent), and books and supplies (about 5 percent) (Legislative Analyst's Office, 2019).

Figure 1



Source: Census Bureau.
Notes: Revenues include funds from federal, state, and local sources.

Figure 2



Source: Census Bureau.
Notes: COLA adjustment implemented using the Comparable Wage Index for Teachers (CWIFT).

Is K-12 funding adequate?

We found that California does not have an adequacy definition or formula to determine the funding *inputs* for students to achieve the learning objectives and goals established for the K-12 system. Instead, to determine funding each year, appropriations for K-12 are largely based on Proposition 98, an initiative passed by voters in 1988 that was designed to guarantee a minimum level (the 'minimum guarantee') of funding for K-12 schools and community colleges by securing about 40 percent of the state's General Fund revenue.[9] The original intent of the proposition was to establish a secure funding source that would grow each year with the economy and account for the number of students served in the K-12 system;[10] legislators often use Proposition 98 as a rough estimate for adequacy, but rarely increase funding beyond the established minimum (Kapphahn & Kuhn, 2017).

On the other hand, education leaders have made progress to define the *outputs* in K-12, such as learning objectives and student achievement goals. The California Department of Education (CDE) lists three goals on its website: 1) to adopt and support rigorous academic content for K-12, 2) to assure that all students receive nationally normed and standards-based assessments, and 3) to ensure that all students are performing at grade level or higher, especially in the subjects of English and math. To meet these goals, California adopted the Common Core State Standards in 2010, a more rigorous set of learning standards across all grades that intend to equip K-12 students with 21st century knowledge and skills and provide preparation for college and the workplace. California also approved the Smarter Balanced assessments, which are aligned with the Common Core standards and measure progress toward college and career readiness. The third goal has proven much more difficult to achieve, and the state has a long way to go to bring all California students up to proficiency levels on state exams (see the K-12 Governance issue brief for more information about student academic performance and achievement gaps).

It may seem unusual that California does not have a clear adequacy definition for K-12 that links its funding formula to student outcomes, but the reality is that very few states do (Baker, Levin, Atchison, & Kearns, 2020). Moreover, definitions of adequacy vary widely, with some states incorporating 'equity' definitions into their adequacy formulas while others do not. For example, states such as Kansas, Indiana, and Pennsylvania do not account for spending differences between high- and low-poverty districts, while other states such as Illinois and Nevada have regressive formulas that allow more spending in low-poverty districts than in high-poverty districts (Baker, Di Carlo & Weber, 2020). Other states, such as Wyoming, Alaska, and

[9] The state meets the Proposition 98 guarantee using both the state General Fund and local property tax revenue. It is important to note that voters also passed Proposition 111 in 1990, which allows for a lower minimum guarantee when the state General Fund is weak (typically during recessions), but then requires any future funding to be accelerated when the General Fund improves. This created a 'loophole' for lawmakers to cut funding for K-12 and community colleges during recessions in order to balance the overall state budget, with consequences for K-12 funding. For further discussion, see the 'stability' issue brief.

[10] Provisions in Proposition 98 also indicate a goal to return California to one of the best school systems in the nation; however, that goal is yet to be realized.

Utah, use a 'progressive' definition of adequacy that acknowledges that students from disadvantaged backgrounds or students with special learning needs tend to require more resources than the average student to achieve the same level of educational outcomes (Baker, Di Carlo, & Weber, 2020).[11]

How does adequacy get defined?

There are rich debates in the education finance community about how to determine the cost of adequacy, or rather, the minimum amount of money a school district must spend to achieve a given outcome (Baker, Atchison, Kearns, & Levin, 2020; Baker, Atchison, Levin, & Kearns, 2020a, 2020b; Baker, Levin, Atchison, & Kearns, 2020; Costrell, Hanushek & Loeb, 2008; Imazeki, 2018). Typically, two costs are included in modern adequacy calculations: the *base cost*, which is the minimum dollar amount per pupil districts need to achieve a given outcome, and the *marginal cost*, which refers to the additional costs associated with educating high-needs students such as those living in poverty, special education students, or English Language Learners. In order to estimate both the base and marginal costs, researchers (and lawmakers) typically rely on one of four approaches:

Professional judgment approach – Educators within a state are asked to design an educational program to achieve a statewide goal, such as student proficiency on a state exam. The team identifies a set of inputs necessary to achieve the goal, and researchers then determine how much money is needed to fund the inputs. An example of a professional judgement approach to estimating adequacy in California can be found in the latest Getting Down to the Facts series (Levin et al., 2018).

Evidence-based approach – A panel of professionals review the latest research evidence on strategies that have been proven to be effective at reaching statewide goals and develop cost estimates.

Successful schools approach – This approach identifies a set of high-performing schools that meet the state's educational goals (typically student achievement), and then estimates the cost of providing a similar education by identifying the lowest level of per-pupil spending within the set of high-performing schools.

Econometric approach –This approach typically uses cross-state data on school expenditures, student performance and other student and school characteristics to estimate a 'cost function' that can be used to predict the cost of any level of student performance across districts. A recent report from the American Institutes for Research demonstrates this approach by developing a sophisticated cost model to inform state funding formulas.

The Massachusetts model is upheld as a particular national exemplar for defining adequate funding. In the 1990s, the state developed a funding formula based on 11 categories of inputs and adjusted for districts' wage costs and for the higher costs of educating disadvantaged students; the formula also considered local revenue generation, and then created a fund of state aid to fill gaps (Baker, 2017). The model was very successful at getting more state aid to high-poverty schools and improving overall organizational conditions, which

[11] California also has a 'progressive' funding system; for more information see the 'equitable funding' section below.

in turn has been shown to increase student achievement, especially for low-income students i.e. Nguyen-Hoang & Yinger, 2014).

Effects of not having an adequacy definition or formula

Without an adequacy definition linked to a K-12 funding formula, there are several consequences for K-12 budgets including growing cost pressures that are unaddressed by state appropriation decisions and troublesome organizational conditions within schools. We briefly review each in turn.

Cost pressures - Even at a time of record school financing, California school districts are face rising cost pressures, producing what some researchers call a 'silent recession' in education (Krausen & Willis, 2018). Like many other state and local entities across the country, California school districts have experienced rising pension expenditures (Koedel & Gassman, 2018). This trend accelerated after 2014, after Governor Jerry Brown signed AB 1469, a law that required the state, school districts, and school employees to more aggressively pay down outstanding pension obligations in the California State Teachers' Retirement System (CalSTRS) (Koedel, 2019; Koedel & Gassman, 2018). Among other growing cost pressures for schools statewide are health care costs (Bruno, 2019b), increasing enrollment in special education (Warren & Hill, 2018), demand for new school facilities and repairs (Brunner & Vincent, 2018), overall declining student enrollment (Warren & Lafortune, 2020), charter school competition (Bruno, 2019a), and the growing demand to increase salaries to attract and retain teachers in the profession (Carver-Thomas,Klnl, & Burns, 2020).

A note on teacher salaries

California pays higher teacher salaries than the national average due to the unusually high costs of living in the state. California's average teaching salary in 2019-20 was $84,531, which put the state second in a national ranking. While it may seem like California is ahead of the curve, an analysis of teacher compensation found that there are significant "teaching penalties" across the U.S. for people who choose to enter the profession (Baker, Di Carlo, & Weber, 2019). In California, teachers make an average of 22-25 percent less than those employed in comparable non-teacher professional positions.

Teacher salaries, plus a variety of other school organizational conditions, have major consequences for recruiting and retaining high quality teachers in the profession (for an excellent review of how this plays out in California, see Goldhaber, Strunk, Brown, Chambers, Naito, & Wolff, 2018). The good news is that state lawmakers have made significant efforts to improve funding of the teacher human capital pipeline in recent years, from recruitment and training to salaries and professional development (for a review of policy changes, see the K-12 Governance issue brief). The difficult news is that the state is experiencing an ongoing teacher shortage that has worsened during the COVID-19 pandemic with an onslaught of teacher retirements and resignations. There are also fundamental long-term changes happening in teacher labor markets that require higher salaries and better working conditions to attract high quality employees, especially in hard-to-staff subjects such as STEM, special education, and bilingual education.

Organizational conditions - California schools face troublesome organizational conditions, such as larger class sizes. A recent report from Policy Analysis for California Education (PACE) found that the student-to-teacher ratio in 2020 was 22:1 compared to a national average of 16:1. The report also found that California schools have fewer student services, such as access to guidance counselors or librarians, than national averages (Hahnel, Hough, & Willis; 2020), but on a positive note, these organizational conditions have been found to improve over recent years (Chen & Hahnel, 2017). The result of this understaffing is that it can greatly affect overall educational quality, and have more severe consequences for students with greater needs. Students from low-income backgrounds, those who face language barriers, or students with other special needs may not have access to teachers and other school employees with specialized skills who can address their learning needs (for a case study of how this plays out in a California high school, see Children Now, 2019). Ultimately, the lack of an adequacy definition and formula can lead to unfavorable organizational conditions, especially for disadvantaged students.

Is K-12 funding equitable?

Up until 2013-14, the state has used a 'revenue limit' formula to fund K-12. The formula provided a base rate of per pupil funding to all districts, along with over 100 state and federal categorical programs designed to target additional funding to districts for designated purposes, such as funding to better serve disadvantaged students (Timar, 2006). Notably, the revenue limit system made it difficult for local district actors to spend budgets since district dollars were often tied to restrictive categorical funds. There was also no guarantee that dollars for disadvantaged students would even make it to the intended recipients since complicated program requirements made it difficult to spend the money (Brunner & Sonstelie, 2006). By the early 2000s it became obvious that the school finance system was overly complicated, restrictive to local district actors, and failed to address student needs, leading to a call for reform (Bersin, Kirst, & Liu, 2008).

In 2013, California lawmakers passed legislation to overhaul the school finance system by creating the Local Control Funding Formula (LCFF). The new formula is a much simpler, streamlined funding mechanism with an important equity component that acknowledges that districts serving students from different socioeconomic backgrounds have different financial needs.[12] LCFF eliminated the revenue limit formula along with dozens of categorical programs, and replaced it with base funding dependent on ADA and four student grade-levels, plus extra supplemental and concentration grants for districts serving high-need populations, including low-income students, English Language Learners (ELL), homeless and foster care youth.[13] When the law first passed, districts received an additional 20 percent of the base rate for each high-

[12] For empirical research showing this association, see Jackson (2018), and Taylor (n.d.).

[13] This formula is used to fund students at both traditional public schools and charter schools. A few other adjustments are made to the funding formula based on declining enrollment, transportation costs, and school size (Imazeki, 2018).

needs student served, and districts serving more than 55 percent of high-needs students received additional funding at 50 percent of the base rate (Baumgardner, Frank, Willis, & Berger-Jacobson, 2018). In the latest 2021-22 budget, lawmakers approved an increase of the concentration grant from 50 percent of the base grant to 65 percent.[14]

When LCFF was first enacted, it was expected to cost $18 billion more than the previous funding system, but this cost difference was offset by the passage of Proposition 30 (and later Proposition 55), which increased the income tax rate on the state's top earners and was earmarked for schools. The program gradually phased in over time, and was fully implemented in the 2018-19 academic year—two years ahead of original expectations (Koppich, Humphrey, Marsh, Polikoff, & Willis, 2018). At full implementation, the base grants were funded at pre-recession levels--equal to what they were in 2007-08--adjusted for inflation, with extra supplemental and concentration funding for districts serving disadvantaged students.[15] All told, the majority of Proposition 98 funding—the main law guiding the state's allocation of revenue to early childhood and K-14 education—goes to the LCFF formula.

Effectiveness of LCFF

LCFF has been studied in a research consortium organized by the PACE research center at Stanford University across a range of topics. In a study of whether the fully funded LCFF impacted student outcomes for high-needs students (as the law was designed to do), researchers found that LCFF school spending led to increases in high school graduation rates and 11th-grade test scores, especially among students from low-income families (Johnson & Tanner, 2018). Other researchers have found similar results: studies from Fan and Liang (2020) and Lafortune (2021) found positive effects on students meeting UC/CSU entrance requirements, and found that the marginal effects on student achievement tends to be higher in high-poverty districts compared to low-poverty districts.

These promising findings are indications that more equitable funding can indeed lift student achievement and help students meet educational goals. However, the design and implementation of LCFF is not without its critics. There have been growing concerns that the LCFF funding has been spent on cost pressures in district budgets such as pensions, retiree health care, special education enrollment increases, or on general school-wide or district-wide needs instead of spending the funds directly to improve services and learning outcomes for disadvantaged students (Alejandre & Massro, 2016; Chen & Hahnel, 2017; Hill & Ugo, 2015; Koedel, 2019; Lafortune, 2021; Roza, Coughlin, & Anderson, 2017). This concern even percolated to a state audit of LCFF, which found that the state's approach to monitoring LCFF has not ensured that funding is benefiting students as intended. In 2021, the governor and legislature closed this loophole by not allowing LCAP end of year balances to be swept into the district general fund.

Importantly, LCFF intended to return control over school spending to local actors; the formula did away with several "categorical" funding programs, which gave district leaders more

[14] The new 15 percent increase comes with a spending restriction: districts must use the money to fund new staff expenditures that provide direct services to students and reduce adult-to-student ratios.
[15] LCFF funding levels are also adjusted for a cost of living (COLA) determined by the legislature each year.

autonomy to manage budgets and make spending decisions (Baumgardner et al., 2018).[16] In return for local flexibility, state lawmakers included an accountability component to create transparency in how dollars would be spent across districts. Districts are now required to develop a Local Control and Accountability Plan, which is a tool for local school boards to use to determine how to best invest resources across the district's schools with buy-in from communities. At the state level, lawmakers designed a dashboard to monitor measures of school performance, such as test scores, student engagement, school climate, and parent involvement.

While LCFF was very successful at getting additional money to districts serving low-income students, LCFF was never intended to be an adequacy formula, it was only intended to serve an equity function to get more dollars to districts serving students from different socioeconomic backgrounds or with special learning needs (Bersin, Kirst, & Liu, 2008). Further complicating matters, unlike other similarly sized states, California overlooks other equity dimensions that could be considered in an adequacy formula. For example, the LCFF does not acknowledge differential costs of educating special education students, district geography (which may impact teacher labor markets and other cost of living adjustments), special programs such as career and technical education (Imazeki, 2018), or additional funding for socio-emotional learning that may be required for teaching students living in poverty or other adverse conditions (Rowan, 2011). Including these types of inputs may help California move toward a more nuanced and sensitive adequacy funding formula with an equity component that can more accurately provide funding necessary for students to achieve intended outcomes and goals.

- **New ideas to further reform the LCFF**: In a landmark 2008 paper, researchers established the need for school finance reform and identified what would become the contours of the Local Control Funding Formula (Bersin, Kirst, & Liu, 2008). Importantly, the researchers called for an approach to school finance that adjusted base revenue allocations for regional cost differences to account for differences in costs of living and labor market conditions; however, lawmakers overlooked this recommendation in the design of the LCFF. The idea has a deeper history in California's school finance literature, with one researcher going as far as to develop an education 'index' to account for regional variation (Chambers, 1980; Chambers, 1999).
- In a more recent paper from Policy Analysis for California Education (PACE), researchers suggest several ways to continue improving the state's K-12 finance system. Among the report's recommendations, they suggest that the LCFF formula should undergo further refinement to strengthen weights and funding streams for high-need students, strengthen the transparency and accountability of the funding formula, and should modernize funding for students with disabilities (Hahnel & Humphrey, 2021).

[16] LCFF also returned accountability to local control, with procedures for local communities to determine how the new dollars would be spent within the district; however, accountability metrics are still monitored by the state.

Inter-district funding inequalities: Local revenue generation

While LCFF was a major step toward establishing an equitable school funding formula, other inequities in California's school finance system persist, especially at the local level. Local districts have options to raise local revenue by passing parcel taxes, local sales taxes and fees, or they may raise revenue from wealthy donors, foundations, and parents (Brunner 2001; Brunner & Imazeki, 2003; Brunner & Sonstelie, 1996; Loeb, 2001; Sonstelie, 2014; Weston, Cook, Murphy, & Ugo, 2015; Zimmer, Krop, & Brewer, 2003). Parcel taxes are a particularly troublesome component of inter-district funding inequalities. Parcel taxes are a lump-sum levied on all properties within a jurisdiction that school districts can use to supplement the revenues they receive from the state and other sources. In the most recent analysis of parcel tax data by EdSource, the authors found that very few districts attempt to get a parcel tax approved during local elections. For districts that are successful at passing parcel taxes, they tend to be smaller, more affluent, and with a higher percentage of white and Asian students (Chavez & Freedberg, 2013). Some districts with a substantial low-income student population have also been able to pass parcel taxes, but they typically pass much smaller parcel taxes than the amounts secured by districts that are more affluent.

A simple case study of two Bay Area school districts illustrate how parcel taxes, in particular, can create inter-district inequalities. In 2019-20, San Leandro Unified—a low-income district in the south Bay Area—had per pupil revenue of $13,352, with a modest $842 per pupil raised from other local revenue, of which $82 is from a parcel tax. Piedmont Unified, a high-income district located in the same county, had $17,031 per pupil revenue, with a total of $6,441 in other revenue raised locally, thanks in part to a parcel tax that provides an additional $4,254 per student (data from ed-data.org).

Inequities in property tax distribution formulas also exist yet are rarely discussed in mainstream policy circles or written about in the research literature. What little has been written in recent years reveals that property tax allocations to school districts vary widely between counties, from 20-64 percent. Research also documents that the uneven distribution of property tax to school districts and other local jurisdictions has caused major friction during economic downturns, resulting in a long history of state-mandated shifts between schools and local governments (Taylor, 2012). And in some cases, districts have such strong returns from property values and favorable allocation laws that they become 'basic aid' districts that do not need to rely on state funding for K-12 at all (Weston, 2013). From year to year, about ten percent of districts in the state benefit from this arrangement and receive more average revenue per pupil than the typical district—Bruno (2018) found that average revenue for basic aid districts is $24,694 per student, about 43 percent more than non-basic aid districts. The legislative history of basic aid districts is rooted in several laws enacted in the 1970s, chief among them Proposition 13, which locked in historical patterns of residential segregation that persist over time (Zeimer, 2020) and AB 8, which cemented county-wide property tax distribution formulas to school districts based on archaic rates from the early 1970s.

- **New ideas to address inter-district funding inequalities:** Some researchers are questioning whether these inter-district inequities could be solved with regional

distribution formulas for local revenue, which could pool property taxes or other local revenue at a regional level for equitable distribution among school districts (for studies exploring this idea, see Beckett-Camarata, Camarata, & Purton, 2009; Brent, 1999). Others are considering different forms of 'taxpayer equity' that could better balance local revenue generation across districts (Baker, Kearns, Atchison, & Levin, 2020).

- Other countries such as Canada have experimented with provincial-level funding systems and could serve as a case study for California to learn from (Herman, 2013).

Funding estimates to achieve adequate and equitable funding levels for K-12

Several researchers and advocacy groups have cast doubt that the state's current funding levels are sufficiently funded to meet the state's desired learning outcomes, especially for low-income students (Baker, DiCarlo, & Weber, 2020; Hahnel, Hough, & Willis, 2020; Hahnel & Humphrey, 2021; Perry, Myung, & Hough, 2020). But how much more money would K-12 districts need to adequately and equitably fund students' needs and provide equal educational opportunity? Bruce Baker, a national school finance expert, and colleagues have developed a School Finance Indicator Database that evaluates California's K-12 funding compared to other states.

We narrow in here on their analysis of adequacy in California, which refers to how much the state would need to spend to achieve national average test scores, by income quintile (in other words, this estimate of adequacy includes an equity dimension). In 2017-18, they found that California would need to spend 20-45 percent above and beyond current spending levels in the state's high-poverty districts; to put it bluntly, the state needs to invest between $2,704-$10,645 more per pupil (depending on poverty level) just to be able to get students to meet *national test score averages*, as shown in Table 2 below.[17] In the latest data available (2018-19 estimates), the researchers estimate that California must spend an additional $5,081 per pupil in the highest poverty districts in order for students to achieve average test scores on national exams. Moreover, they find that 70 percent of students in California attend districts with spending below estimated adequacy levels.

Table 2. Cost estimates by poverty quintile in California, 2017-18

Poverty quintile	CA spending per pupil	Required spending to meet national test score averages	Gap between current spending and cost of average outcomes	Percentage above/below adequate
Lowest poverty	$11,672	$10,616	+$1,056	+9.9%
Low poverty	$11,472	$14,176	-$2,704	-19.1%

[17] For the most up-to-date school finance profile on California from the School Finance Indicator Database, see https://www.schoolfinancedata.org/wp-content/uploads/2021/11/profiles19_CA.pdf. For more on methods, or to see a comparison of California to other states, and an analysis of how per pupil funding gaps are correlated with test score gaps, see Baker, Di Carlo, Schneider, & Weber (2021).

Medium poverty	$11,827	$16,821	-$4,994	-29.7%
High poverty	$12,656	$20,309	-$7,653	-37.7%
Highest poverty	$12,631	$23,276	-$10,645	-45.7%

Source: School Finance Indicator Database (2020). "State school finance profile, 2017-18 school year: California." Retrieved from https://www.schoolfinancedata.org/wp-content/uploads/2020/12/profiles18_CA.pdf

Notes: Current CA spending per pupil includes state General Funds and local property taxes, but does not include federal funds or other revenue raised locally.