

No. B258589

In the Court of Appeal of the State of California
Second Appellate District, Division Two

BEATRIZ VERGARA, ET AL.,
Plaintiffs-Respondents,

v.

STATE OF CALIFORNIA, ET AL.,
Defendants-Appellants,

and

CALIFORNIA TEACHERS ASSOCIATION and
CALIFORNIA FEDERATION OF TEACHERS,
Intervenors-Appellants.

**APPENDIX OF SECONDARY SOURCES CITED IN BRIEF OF
AMICI CURIAE LAWYERS' COMMITTEE FOR CIVIL
RIGHTS OF THE SAN FRANCISCO BAY AREA, ET AL.**

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Appeal From Final Judgment Of The Superior Court Of California,
County of Los Angeles, Case No. BC484642
The Honorable Rolf M. Treu

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THE CONSTITUTIONAL CHALLENGE TO TEACHER TENURE

Derek W. Black*

ABSTRACT

Reformers argue that ineffective teaching is the linchpin of educational inequality and failure. Starting in 2010, they successfully sought important changes in teacher evaluation systems at the state and federal levels. But a fundamental source of teachers' strength to resist more aggressive reform remained in place: tenure. Thus, in 2012, reformers theorized a novel constitutional strategy to eliminate tenure. They argued that tenure leads to the retention of ineffective teachers, and that ineffective teaching deprives students of the constitutional right to education embedded in state constitutions. This theory immediately caught hold, with a California trial court striking down tenure in 2014 and litigation commencing in other states weeks thereafter.

The outcome of this litigation movement will determine both the future of the teaching profession and the scope of the constitutional right to education. To date, however, no high court or scholar has thoroughly analyzed the theory. This article offers that first analysis, concluding that the constitutional challenge to tenure raises a theoretically valid claim, but lacks a sufficient empirical basis. At the theoretical level, the tenure challenge easily falls within broadly worded precedent that establishes students' constitutional right to an equal and adequate education. If ineffective teaching deprives students of equal or adequate education, state constitutions should protect against it. But in the context of school funding cases—where the relevant precedent was first developed—courts have demanded that litigants precisely demonstrate multiple aspects of causation and harm. Evidence on those points is lacking in regard to tenure.

This split between theory and fact requires courts to proceed cautiously. Rejecting current tenure challenges on their face would unfairly prejudice future legal challenges to teacher quality, particularly those predicated on potential empirical advances in social science. A facial rejection would also require courts to narrow the existing scope of the constitutional right to education. This narrowing would negatively affect education rights in other important and developing contexts. The solution is to insist on more detailed evidence to support plaintiffs' causal theories and presumed remedies. By doing so, courts can validate students' constitutional right to education without venturing into unsettled policy debates.

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STUDENTS, TEACHERS AND THE CONSTITUTION

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INTRODUCTION

Two persistently high achievement gaps have motivated national education policy for the past three decades: the international one between the United States and its peers, and the domestic one between racial and socioeconomic groups.¹ In recent years, scholars and policymakers have reached a consensus that improving teacher quality is the key to resolving these achievement gaps.² But neither researchers nor policymakers have identified a reliable strategy to actually improve teacher quality. Empirical questions abound as to whether years of experience, academic credentials, student outcomes, or some other factor reflects quality teaching. A second level of even more difficult questions arise as to whether we can improve the teachers we currently have or must devise strategies to recruit stronger ones to replace them.

Nonetheless, a powerful group of education reformers are convinced that eliminating teacher tenure is the necessary first step to any meaningful reform because tenure locks in the status quo. Their argument is simple. If teachers could not hide behind tenure, schools could easily remove the worst teachers and the rest would be motivated to improve. Given what we know about the effects of quality teaching, this, they say, would dramatically improve student outcomes and shrink achievement gaps.

Education reformers initially sought this change through the political process,³ but were, in important respects, blocked by the political strength of teachers. As a result, reformers are now pressing a novel constitutional theory in the courts.⁴ They argue that tenure and the retention of ineffective teachers violates students' constitutional right to education embedded in each of the fifty state constitutions.⁵ For decades, state supreme courts have used state constitutional rights to equalize school funding.⁶ If unequal funding violates the constitutional right to education, so too might ineffective teaching caused by tenure.

With that basic theory, a constitutional "War on Teacher Tenure" has caught hold.⁷ The first case was filed in California in 2012. Two years later, the trial court became the first to strike down a tenure statute as unconstitutional.⁸ New York courts are now

¹ See generally Valerie Strauss, *Key PISA Test Results for U.S. Students*, WASH. POST, Dec. 3, 2013 (reporting that U.S. math and reading scores at or below international average); Michael Winerip, *Closing the Achievement Gap Without Widening a Racial One*, N.Y. TIMES, Feb. 14, 2011 (indicating the racial achievement gap is the most pressing issue in education).

² See generally Linda Darling-Hammond, *Teacher Quality and Student Achievement: A Review of State Policy Evidence*, 8 EDUC. POL'Y ANALYSIS ARCHIVES 1 (2000); James H. Stronge et al, *What Is the Relationship Between Teacher Quality and Student Achievement? An Exploratory Study*, 20 J. PERS. EVALUATION EDUC.165, 167 (2007).

³ See generally Derek W. Black, *Federalizing Education by Waiver?*, 68 VAND. L. REV. (forthcoming 2015) (discussing new policies on teacher evaluation and the Common Core Curriculum).

⁴ Haley Sweetland Edwards, *The War on Teacher Tenure*, TIME, Oct. 30, 2014 (reform-oriented individuals saw the litigation as the only way to break the national gridlock).

⁵ *Id.* See also William E. Thro, *To Render Them Safe: The Analysis of State Constitutional Provisions in Public School Finance Reform Litigation*, 75 VA. L. REV. 1639, 1661 (1989) (detailing the constitutional right to education in all fifty states).

⁶ Michael A. Rebell, *Poverty, "Meaningful" Educational Opportunity, and the Necessary Role of the Courts*, 85 N.C. L. REV. 1467 (2006).

⁷ Edwards, *supra* note 4.

⁸ *Vergara v. California*, No. BC484642, Final Judgment (Sup. Ct. Cal. Aug. 27, 2014) [Hereinafter Vergara, Final Judgment].

considering the same claim, with a wave of similar cases readying for litigation in other states.⁹ Simply put, tenure is on national trial. The stakes could not be higher, nor the terrain more uncertain. Current research offers little hard evidence as to whether eliminating tenure will finally free schools to take the necessary steps to improve teaching or just make matters worse by creating additional workplace pressures that render the profession even less attractive to all existing and potential teachers. In addition, filtering these questions through the constitutional right to education will require courts to define the scope of that right,¹⁰ which will affect any number of education policies beyond teaching.

To date, no high court or scholar has thoroughly vetted the constitutional argument against tenure. The claim is so unique that few guideposts—other than the broadly stated right to an equal or adequate education—exist.¹¹ This Article provides that first analysis.¹² It concludes that although the tenure theory is valid on its face, the theory lacks evidentiary support. This conclusion leaves open the possibility of future meritorious challenges to tenure, while preventing speculative and uncertain evidence from dictating education policy.¹³ It also distinguishes policy preferences from constitutionally enforceable mandates.

The specific issue of whether the tenure theory is valid is relatively straightforward. No one questions that ineffective teaching negatively affects student outcomes. If tenure is the cause of ineffective teaching, students' constitutional right to education should require the state to respond to the problem. When a state does not, it deprives students of the constitutional right to education. Existing school funding precedent would strongly support this theory. Thus, courts should not dismiss it on its face.

Beyond theory, however, the constitutional challenge to tenure falls well short of the evidentiary requirements prior courts have set for other violations of the constitutional right to education. The weakness of the evidentiary claim is apparent on four grounds. First, plaintiffs lack evidence to demonstrate that tenure is causally connected to ineffective teaching. Ineffective teaching might persist with or without tenure. For instance, labor market forces, segregation, school funding, and school leadership significantly contribute to ineffective teaching.¹⁴ No evidence suggests that tenure

⁹ Al Baker, *Lawsuit Challenges New York's Teacher Tenure Law*, N.Y. TIMES, July 3, 2014, at A14.

¹⁰ See Derek W. Black, *Middle-Income Peers as Educational Resources and the Constitutional Right to Equal Access*, 53 B.C. L. REV. 373, 390–403 (2012) (discussing the potential breadth of constitutional rights to education); James E. Ryan, *Schools, Race, and Money*, 109 YALE L.J. 249, 307–10 (1999) (same).

¹¹ Michael Rebell, a longtime scholar and litigator of constitutional education claims, calls the theory “unprecedented.” Baker, *supra* note 9.

¹² Like the earliest school equity and adequacy decisions, the first full and thoughtful analysis will play an outsized role across jurisdictions. See generally Peter Enrich, *Leaving Equality Behind: New Directions in School Finance Reform*, 48 VAND. L. REV. 101, 129 (1995) (identifying New Jersey and West Virginia's decisions as beacons).

¹³ Some early school finance opinions, skeptical of the causal connection between money and educational outcomes, peremptorily hobbled litigation in their states. See, e.g., *McDaniel v. Thomas*, 285 S.E.2d 156, 160–61 (Ga. 1981); *Committee for Educational Rights v. Edgar*, 672 N.E.2d 1178 (1996).

¹⁴ See, e.g., *Campaign for Fiscal Equity v. State*, 801 N.E.2d 326, 334 (2003) [hereinafter *CFE II*] (low-quality teaching was caused by market forces); Wendy Parker, *Desegregating Teachers*, 86 WASH. U. L. REV. 1, 3 (2008).

supersedes these factors. Moreover, even if eliminating tenure allowed administrators to more easily remove ineffective teachers, eliminating tenure would also produce indirect effects that might undermine the teaching profession overall.¹⁵ If so, the net result of eliminating tenure could be negative, and tenure does not play the causal role that plaintiffs assume.

Second, even if tenure causes ineffective teaching, plaintiffs have not demonstrated that the number of ineffective teachers that tenure protects rises to the level of a substantial and systematic educational deprivation.¹⁶ For instance, one out of a student's ten teachers may be ineffective, but that teacher does not necessarily undermine the student's overall educational opportunity to the extent necessary for a court to deem the student's education inadequate. Even if inadequate, plaintiffs would need to show systematic repetition of the problem.¹⁷ Otherwise, random local variation, rather than state policy, is the cause of the inadequacy.

Third, ignoring these and other serious causal questions, plaintiffs rely on generalized social science about the effects of quality teachers.¹⁸ This generalized research does not address the effects of tenure on student outcomes. Even if it did, generalized evidence of this sort is insufficient to establish the specific state level causation that courts have required in school funding cases.¹⁹

Finally, plaintiffs identify tenure as a singular flaw in state law, and its elimination as a singular solution. No prior litigation to enforce the right to education has ever narrowed its focus so far, and for good reason. The details of educational policy, including solutions to constitutional violations, rest within the discretion of legislatures.²⁰ Where more than one solution to a constitutional violation is possible or reasonable, constitutions vest legislatures with the discretion to choose among them.²¹ The potential solutions to ineffective teaching and teacher removal are multifaceted, placing them within the domain of the legislature and ill-suited to judicial prerogative. Moreover, plaintiffs assume that some other better alternative to tenure systems exists, but current research and litigation indicate serious practical and constitutional due process flaws in the alternatives.²² None of foregoing is to minimize the problem of

¹⁵ Sam Dillon, *Teachers' Union Shuns Obama Aides at Convention*, N.Y. TIMES, July 4, 2010, at A8 (today's teachers "face the most anti-educator, anti-union, anti-student environment" ever).

¹⁶ See *Serrano v. Priest*, 18 Cal. 3d 728, 747–48 (1976) (requiring substantial disparities); *Serrano v. Priest*, 226 Cal. Rptr. 584, 605 (Ct. App.) (simply touching upon fundamental right is insufficient to trigger heightened scrutiny); *Sheff v. O'Neill*, 678 A.2d 1267, 1285 (1996) (requiring substantial disparities).

¹⁷ See, e.g., *Pauley v. Bailey*, 324 S.E.2d 128 (W.Va. 1984) (evaluating the overall education system for a violation); *Rose v. Council for Better Education*, 790 S.W.2d 186 (Ky. 1989) (same).

¹⁸ They rely heavily on the general research and testimony of Dr. Raj Chetty. See RAJ CHETTY ET AL., NAT. BUR. OF ECONOMIC RESEARCH, *THE LONG-TERM IMPACTS OF TEACHERS: TEACHER VALUE-ADDED AND STUDENT OUTCOMES IN ADULTHOOD* (Dec. 2011).

¹⁹ See, e.g., *CFE II*, 100 N.Y.2d at 919, 923 (2003) (requiring input and output causation, and addressing supervening causes); *Serrano*, 226 Cal. Rptr. at 615 (rejecting state responsibility because disparities not caused by state policy).

²⁰ See, e.g., *Campaign for Fiscal Equity v. State*, 828 N.Y.S.2d 235 (N.Y. 2006) [hereinafter *CFE III*]. See also *Committee for Educational Rights v. Edgar*, 672 N.E.2d 1178 (1996).

²¹ See, e.g., *Hoke County v. State*, 599 S.E.2d 365 (N.C. 2004); *Rose*, 790 S.W.2d at X.

²² See Bruce Baker et al., *The Legal Consequences of Mandating High Stakes Decisions Based on Low Quality Information: Teacher Evaluation in the Race-to-the-Top Era*, 21 EDUC. POL'Y ANALYSIS ARCHIVES 1 (2013).

ineffective teaching. Ineffective teaching demands a solution, but presuming that constitutional litigation to eliminate tenure is a solution, much less the best among many competing possibilities, is dangerous.

This Article evaluates the constitutional challenge to tenure in four parts. Part One explains the social science evidence regarding the importance of quality teachers to students' educational outcomes. It also explores traditional theories of why our schools suffer from low quality teaching and how to resolve the problem. Part Two details the most recent legislative efforts to use statistical models that pair students' standardized test scores to individual teachers as a major factor in the tenure and termination of teachers. Part Two also examines the scientific and legal validity of these models, pointing out the technical limitations in the data systems, and the attendant due process concerns that the limitations raise. Part Three evaluates the theory that tenure might violate students' constitutional right to education. Part Three first constructs the theoretical and practical frameworks to explain how courts evaluate constitutional challenges to educational deprivations. Next, Part Three situates tenure challenges within this framework, identifying the advantages and disadvantages of the claim. Based on this analysis, Part Four articulates the legal, factual, and policy-based conclusions that courts should reach in adjudicating these cases, reasoning that plaintiffs have stated a claim, but need far more evidence than is currently available to substantiate their claim. In short, Part Four concludes that courts should reject the current constitutional challenges on the facts.

I. THE IMPORTANCE OF QUALITY TEACHERS

A. *The Connection Between Teachers and Student Outcomes*

The centrality of quality teachers to educational outcomes is intuitive. Voluminous social science findings confirm that teacher quality is among the most significant variables in student outcomes.²³ Equally well established is that an individual student's socioeconomic status, along with that of his peers, exerts an enormous influence on educational outcomes.²⁴ Thus, while teachers may be the most important variable under a school's direct control, problems of segregation and inequality precede and often cause teacher problems.²⁵ Moreover, teachers cannot singlehandedly eliminate the disadvantages that low-income students in predominantly poor schools face.

Some social scientists, however, have more recently begun to challenge the notion of student determinism with more concrete findings regarding the longitudinal effects of

²³ See Joseph O. Oluwole, *Tenure and the "Highly Qualified Teacher" Requirement*, 8 WHITTIER J. CHILD. & FAM. ADVOC. 157, 158 (2009) (discussing the "various studies [that] have shown that teachers are important to student achievement.").

²⁴ RICHARD D. KAHLENBERG, ALL TOGETHER NOW 47–76 (2001); Molly McUsic, *The Future of Brown v. Board of Education: Economic Integration of the Public Schools*, 117 HARV. L. REV. 1355–56 (2004).

²⁵ Charles T. Clotfelter, et al., *High Poverty Schools and the Distribution of Teachers and Principals*, 85 N.C. L. REV. 1345–79 (2007); Charles T. Clotfelter, et al., *Who Teaches Whom? Race and the Distribution of Novice Teachers*, 24 ECON. EDUC. REV. 377 (2005).

teacher quality on student outcomes and achievement gaps.²⁶ One prominent study found that “having a top-quartile teacher rather than a bottom-quartile teacher four years in a row would be enough to close the black-white test score gap.”²⁷ Another found that elementary students assigned to high-performing teachers for three straight years will achieve fifty percentile points higher on standardized tests than students assigned to low-performing teachers.²⁸ Scholars have also begun to quantify these effects on the nation as a whole.²⁹ Eric Hanushek concludes that minimal improvements to the lowest performing group of teachers would move the United States toward the top of international rankings of educational attainment and add trillions of dollars to our gross domestic product each year.³⁰

B. The False Allure of Teacher Qualifications

The difficult question is not whether quality teaching matters, but how to identify, measure, and actually improve teaching quality. For decades, states have relied on competency testing as one check on teacher quality.³¹ Those tests were, in some instances, insufficiently rigorous and, in other instances, under-enforced.³² More experienced teachers, for instance, might be exempted.³³ The No Child Left Behind (NCLB) Act attempted to address the problem with a national mandate: all teachers of core subjects must be highly qualified.³⁴ Unfortunately, this attempt failed.

The Act still left states to define and measure teacher quality themselves, creating a race to the bottom in some.³⁵ That problem aside, certification requirements did nothing to actually increase the number of available qualified teachers. Rather, the mandate’s

²⁶ See Ethan Hutt & Aaron Tang, *The New Education Malpractice Litigation*, 99 VA. L. REV. 419, 420 (2013) (noting studies and reliance on them).

²⁷ ROBERT GORDON ET AL., THE HAMILTON PROJECT, THE BROOKINGS INST., IDENTIFYING EFFECTIVE TEACHERS USING PERFORMANCE ON THE JOB 8 (2006), available at www.brookings.edu/views/papers/200604hamilton_1.pdf. See generally Elizabeth Powell, *The Quest for Teacher Quality: Early Lessons from Race to the Top and State Legislative Efforts Regarding Teacher Evaluation*, 62 DEPAUL L. REV. 1061, 1070 (2013) (“This significant finding has heavily shaped education policy over the last several years.”).

²⁸ WILLIAM L. SANDERS & JUNE C. RIVERS, CUMULATIVE AND RESIDENTIAL EFFECTS OF TEACHERS ON FUTURE STUDENT ACADEMIC ACHIEVEMENT 3, 6–7 (1996).

²⁹ See Eric A. Hanushek, *Valuing Teachers*, EDUC. NEXT, Summer 2011, at 41, 43 [hereinafter Hanushek, *Valuing Teachers*]; ROBIN CHAIT, CENTER FOR AM. PROGRESS, REMOVING CHRONICALLY INEFFECTIVE TEACHERS: BARRIERS AND OPPORTUNITIES 2–3 (2010) (“dismissing the bottom quartile of novice teachers in the district after their first year based on value-added estimates would result in a net increase in student test scores gains of 1.2 percentage points annually across the district”).

³⁰ Hanushek, *Valuing Teachers*, *supra* note 29, at 41, 43.

³¹ Jerry R. Parkinson, *The Use of Competency Testing in the Evaluation of Public School Teachers*, 39 U. KAN. L. REV. 845, 845 (1991) (noting that “[a] majority of states now employ competency tests as a requisite to the initial certification of prospective teachers.”).

³² See, e.g., *id.* at 845–46; Complaint at 130, *Martinez v. State*, No. D-101-CV-201400793 (D.N.M. filed April 1, 2014) [hereinafter *Martinez Complaint*] (“prior [teacher rating] system was not applied in a manner to ensure a sufficient education and most schools rated most teachers as ‘meeting competency.’”).

³³ Parkinson, *supra* note 31, at 845–46. (discussing reluctance of states to require previously certified teachers to pass a competency examination); Jane G. Noble, *Teacher Termination and Competency Testing*, 63 TEX. L. REV. 933, 938 & n.25 (1985) (noting that only few larger districts, despite having the necessary resources, test currently certified teachers).

³⁴ 20 U.S.C. § 6319(a)(2) (2006).

³⁵ *Id.* § 7801(23) (defining ‘highly qualified’).

real achievement was to reveal how many uncertified and low-credentialed teachers there are in our nation's schools, and that they are concentrated in particular schools.³⁶ In fact, systemic violations of the teacher mandate mounted quicker than any other in NCLB.³⁷

Even had states complied with the Act, the Act's premise in regard to measuring teacher quality was fundamentally flawed. The Act assumed that teaching credentials are a reliable proxy for teacher quality. Some minimal qualifications may be necessary to be an effective teacher, but possessing a master's degree does not necessarily make one teacher more effective than another who only has a bachelor's degree. To the contrary, studies show that both teacher credentials and experience are poor proxies for teaching effectiveness or quality.³⁸ Given the Act's flawed premise and implementation, federal officials abandoned enforcement of the teacher mandate very early into the Act's life.³⁹

C. Potential Causes of and Solutions to Ineffective Teaching

1. Demographics, Competition, and a Limited Market

The cause of ineffective teaching and the means by which to remedy it present another set of difficult questions. A number of scholars focus on supply-side causes. For instance, predominantly poor and minority schools find it particularly difficult to recruit and retain teachers in general, much less highly effective ones.⁴⁰ These challenges cannot be easily remedied because the racial and socio-economic characteristics of schools significantly influence where teachers decide to teach.⁴¹ In other words, the root of inequitable access to quality teachers is school segregation,⁴²

³⁶ EDUC. COMM. OF THE STATES, ECS REPORT TO THE NATION: STATE IMPLEMENTATION OF THE NO CHILD LEFT BEHIND ACT 69 (2004) (not a single state on track to meet teacher requirement).

³⁷ *Id.*

³⁸ Powell, *supra* note 27, at 1068 (after NCLB, "it became apparent that . . . 'Highly qualified' teachers were not necessarily highly effective."); Marco A. Munoz & Florence C. Chang, *The Elusive Relationship between Teacher Characteristics and Student Academic Growth: A Longitudinal Multilevel Model for Change*, 20 J. PERS. EVALUATION EDUC. 147, 148 (2007) (results are mixed as to whether teacher qualifications are related to student achievement).

³⁹ U.S. Dept. of Educ., *HQT Revised State Plans*, <http://www.ed.gov/policy/elsec/guid/secletter/070723.html> (July 23, 2007) (Secretary indicating she would continue to excuse states for failing to meet teacher requirement).

⁴⁰ See SUSANNA LOEB AND MICHELLE REININGER, PUBLIC POLICY AND TEACHER LABOR MARKETS: WHAT WE KNOW AND WHY IT MATTERS (East Lansing, Mich.: The Education Policy Center at Michigan State Univ., 2004); SUSAN MOORE JOHNSON, ET AL., WHO STAYS IN TEACHING AND WHY: A REVIEW OF THE LITERATURE ON TEACHER RETENTION (2005); ERICA FRANKENBERG, THE CIVIL RIGHTS PROJECT AT HARVARD UNIV., SEGREGATION OF AMERICAN TEACHERS 25–26 (2006) (revealing that teacher dissatisfaction tends to rise as the percentage of minority students in a school rises, making it more likely that teachers will leave).

⁴¹ Jane L. David, *Teacher Recruitment Incentives*, 65 POVERTY AND LEARNING 84 (2008); Parker, *supra* note 14; Benjamin Scafidi, et. al, *Race, Poverty, and Teacher Mobility*, 26 ECON. OF EDUC. REV. 145–59 (April 2007); Susanna Loeb, Linda Darling-Hammond, and John Luczak, *How Teaching Conditions Predict Teacher Turnover in California Schools*, 80 PEABODY J. EDUC. 44 (2005) (noting that moderate salary increases, for instance, may be insufficient to break this cycle).

⁴² See Benjamin Michael Superfine, *The Promises and Pitfalls of Teacher Evaluation and Accountability Reform*, 17 RICH. J.L. & PUB. INT. 591, 592–93 (2014) ("This movement to increase teacher effectiveness has strong roots extending to efforts focused on equalizing students' educational opportunities that began with the struggle to desegregate schools and continued with school finance reform litigation.").

not teacher policy itself. School finance litigation has also demonstrated that poor rural communities face analogous challenges in hiring teachers due to geography and money, both of which are beyond their control.⁴³ In short, structural problems of race, poverty, geography, and money exert enormous influences on students' access to quality instruction.

Another group of scholars locate the cause of unequal access to quality teachers at a higher macro level, arguing the fundamental problem is a labor market and higher education pipeline that does not drive sufficiently qualified individuals into the profession. Compared to other countries, the United States' teacher education, preparation, and compensation systems under-incentivizes the teaching profession.⁴⁴ Thus, our teaching quality problems can only be resolved by taking steps to expand the teaching pool and recruit more ambitious individuals into it, not by micromanaging and certifying the ones in our current pool.

2. Ineffective Personnel Management

In the last decade, another group of scholars and policymakers have turned toward a business and econometrics approach to teaching quality. They locate the causes of ineffective teaching in the way school manage and motivate teachers. The education system makes almost no effort to distinguish between teachers, treating them instead as interchangeable “widgets.”⁴⁵ This, they say, creates a disincentive to teaching excellence and, over time, leads to “instructional lethargy where the lowest performer sets the standard for the entire staff.”⁴⁶ Those who might want to promote more effective teaching would be blocked at every turn. Seniority systems, tenure, and due process bar or stiffly resist otherwise effective personnel actions.⁴⁷ The procedural process of removing even the most grossly ineffective teachers from the classroom is extremely difficult and costly.⁴⁸

Once a teacher receives tenure, the teacher can only be removed based on statutory grounds.⁴⁹ The grounds fall into two major categories: misconduct and performance.⁵⁰

⁴³ See Bradley W. Joondeph, *The Good, the Bad, and the Ugly: An Empirical Analysis of Litigation-Prompted School Finance Reform*, 35 SANTA CLARA L. REV. 763, 769–72 (1995).

⁴⁴ Other countries do a far better job of raising the prestige of schools of education and the profession in general. Our schools of education admit most students who apply. This then breeds a desire to counteract permissive admissions policies through odious certification processes. See generally Michael A. Rebell, *Safeguarding the Right to a Sound Basic Education in Times of Fiscal Constraint*, 75 ALB. L. REV. 1855, 1949 (2012).

⁴⁵ See DANIEL WEISBERG ET AL., THE NEW TEACHER PROJECT, THE WIDGET EFFECT: OUR NATIONAL FAILURE TO ACKNOWLEDGE AND ACT ON DIFFERENCES IN TEACHER EFFECTIVENESS 10 (2009).

⁴⁶ Ralph D. Mawdsley et al., “A ‘Law’ Too Far”? *The Wisconsin Budget Repair Act: Counterpoint*, 275 EDUC. LAW REP. 16, 19 (2012).

⁴⁷ See, e.g., Nicholas Dagostino, *Giving the School Bully a Timeout: Protecting Urban Students from Teachers' Unions*, 63 ALA. L. REV. 177, 196 (2011) (critiquing the role of seniority rather than teaching effectiveness in layoffs); PATRICK MCGUINN, CTR. FOR AM. PROGRESS, RINGING THE BELL FOR K-12 TEACHER TENURE REFORM (2010); Stephen Sawchuk, *Due Process Laws Vary for Teachers by State*, EDUC. WEEK (Sept. 23, 2014).

⁴⁸ Hutt & Tang, *supra* note 26, at 423 (removal cost \$250,000 per teacher in New York); Katharine B. Stevens, *Tenured Teacher Dismissal in New York: Education Law § 3020-a “Disciplinary Procedures and Penalties”* (October 2014) (arguing that procedures are dominated by teacher rehabilitation rather than dismissal); CHAIT, *supra* note 29, at 10–12, 14–15 (discussing the time and cost of teacher dismissal).

⁴⁹ See, e.g., LA. EV. STAT. ANN. § 17:442 (2001); MINN. STAT. ANN. § 122A.41(2)(a) (West 2008).

To remove an ineffective teacher, states typically require a demonstrated record of incompetent teaching over a period of time.⁵¹ The extended time period affords teacher notice of the deficiency and an opportunity to remediate the deficiency.⁵² Once those requirements have been met, a tenured teacher still must receive formal notice of the school's intent to terminate and an opportunity to contest the determination of incompetence through administrative hearings and appeals.⁵³

For decades, state statutes refrained from precisely defining incompetence or ineffectiveness, which further complicated the removal process.⁵⁴ As one state supreme court explained, “the term ‘incompetent’ is generic in its meaning and of itself conveys no information of the particular act of commission or omission, or want of qualification which will authorize” a teacher’s removal.⁵⁵ Therein lies the problem for school districts. If they do not have a reliable standard for what constitutes incompetence or ineffective teaching, they cannot identify a teacher as such and, thus, cannot pursue dismissal on the grounds of ineffectiveness or incompetence.⁵⁶ Cognizant of this reality, most administrators make no attempt to critically evaluate teachers. Instead, they give all teachers good to very good evaluations,⁵⁷ knowing that less than good evaluations would create dissension and conflict to no end.⁵⁸ The practical result is a profession left with no incentives, no qualitative checks, and no ability to improve teaching performance.

Some argue that anti-tenure advocates seriously misrepresent and overstate the barriers to removal. When poor performance is properly documented, courts generally defer to administrators’ assessments of teachers.⁵⁹ Teachers escape termination not because of the law, but because principals believe “firing an ineffective teacher may

⁵⁰ See Stephen Sawchuk, *D.C. Teachers Improved after Overhaul of Evaluations, Pay*, ED. WEEK, Oct. 22, 2013 (analyzing several state discharge statutes such as New York, South Carolina, and Pennsylvania); Oluwole, *supra* note 23, at 175–83.

⁵¹ See, e.g., CONN. GEN. STAT. ANN. § 10-151(d) (2014); ALASKA STAT. § 14.20.170(a)(1) (2014) (a rare example of a tenure statute defining “incompetency”); COLO. REV. STAT. ANN. § 22-63-301 (2014). Those who rely on horror stories of the length and difficulty of removing alcoholic or sexually abusive teachers offer misplaced critiques of tenure. See, e.g., J. Tyler Walthall, *Us Got the Bestest Teachers in the Everywhere: North Carolina Public School Teacher Employment Problems, Interests, and Potential Solutions*, 36 CAMPBELL L. REV. 303, 311-13 (2014) (premising an attack on ineffective tenured teachers on cases that do not involve ineffective teaching).

⁵² See Sawchuk, *supra* note 50.

⁵³ *Id.*

⁵⁴ See generally Oluwole, *supra* note 23, at 175–78.

⁵⁵ *Clarke Co. v. Oliver*, 270 Ala. 107, 108 (Ala. 1959). Other state courts have reasoned that the term creates a floor of sufficiency in teaching, below which a teacher cannot fall, but those courts still do not identify that floor. See, e.g., *Sekor v. Bd. of Educ.*, 240 Conn. 119, 129 (Conn. 1997); *Benke v. Neenan*, 658 P.2d 860, 861 (Colo. 1983).

⁵⁶ WEISBERG, ET AL., *supra* note 45, at 2.

⁵⁷ Perry Zirkel, *Legal Boundaries for Performance Evaluation of Public School Professional Personnel*, 172 EDUC. L. REP. 1, 3 (West 2003) (“over 90[%] of the administrators gave teachers perfect ratings”); WEISBERG ET AL., *supra* note 45, at 3, 11 (only 0.3% and 0.4% of teacher in Toledo and Chicago, respectively, unsatisfactory ratings).

⁵⁸ Hutt and Tang, *supra* note 48, at 423–24 (“Some researchers also suggest that even if dismissing a teacher were not so difficult, administrators might still avoid it for reasons related to school culture, such as a desire to avoid unpleasant encounters or a fear of harming school morale.”).

⁵⁹ See Stella C. Batagiannis, *The School Is Not Married to Mediocrity*, 26 EDUC. L. REP. 939, 939 (1985) (discussing cases deferring to administrators’ tenure decisions).

yield little benefit because of the difficulties associated . . . with finding qualified replacement teachers.”⁶⁰ Until the market changes, the solution is to focus on developing and remediating the teachers we have.⁶¹ Reformers charge this is just more of the same and that the only way to break the cycle of ineffective teaching is to suffer the short-term losses to affect long-term changes in the market. A move to differentiated retention and pay, they say, would motivate existing teachers, improve retention of good teachers, and change the perception of the profession, thereby encouraging higher performing individuals to enter it.⁶²

II. THE NEW SOLUTION: DATA-DRIVEN TEACHER EVALUATION

The econometrics and business management approach to teacher evaluation has recently gained a foothold in state law due, in large part, to coalescing of various interests. As the largest state employee group, teachers became the prime target for politicians seeking to offset falling revenues during the recession. Anti-labor groups had long held the notion that teachers’ unions manipulate the political process to secure unreasonable benefits and protections for themselves. Those anti-teacher interests intersected with those seeking to substantively reform education.⁶³ Education reformers, at both the state and federal level, were already pushing for more teacher accountability. A set of federal competitive grant programs and new conditions on receiving waivers under NCLB pushed new teacher policies over the edge, prompting an entirely new set of state statutory frameworks.

The following subsections briefly describe these new statutory frameworks and data systems, and then analyze the important practical and legal questions they raise. First, do states’ performance data systems accurately measure teaching effectiveness? Second, does the implementation of these systems violate teachers’ statutory or constitutional rights?

A. *Changing Statutory Frameworks*

Starting in 2009, the U.S. Department of Education used competitive grant programs to prompt states to implement data systems to track student achievement from year to year by classroom.⁶⁴ States were to use that data to evaluate individual teacher’s effect on student outcomes.⁶⁵ Those states that did not voluntarily adopt the systems were later

⁶⁰ Hutt and Tang, *supra* note 48, at 424. *See also* Batagiannis, *supra* note 59.

⁶¹ *See* Linda Darling-Hammond & Barnett Berry, *Highly Qualified Teachers for All*, 64 EDUC. LEADERSHIP 14 (November 2006).

⁶² *See* WEISBERG, *supra* note 45.

⁶³ Some would charge even more sinister motivations. They see teacher evaluation, federal accountability, charter schools, and the narrative of failing schools as an attack on public education itself. DIANE RAVITCH, *THE DEATH AND LIFE OF THE GREAT AMERICAN SCHOOL SYSTEM: HOW TESTING AND CHOICE ARE UNDERMINING EDUCATION* (2010).

⁶⁴ *See* U.S. DEP’T OF EDUC, RACE TO THE TOP PROGRAM – EXECUTIVE SUMMARY 2 (2009) (requiring states to build “data systems that measure student growth and success”).

⁶⁵ *Id.*

forced to do so to receive a waiver from NCLB, of which they were in violation.⁶⁶ In particular, states and districts had to develop assessments that would “measure student growth” and implement “teacher and principal evaluation and support systems” that “meaningfully differentiate [teacher] performance” into at least three levels based on “student growth” data.⁶⁷ They had to use that data in making “personnel decisions.”⁶⁸ These intersecting forces resulted in entirely new teacher evaluation systems in most states.

Between 2009 and 2012, thirty-six states and the District of Columbia passed laws mandating the consideration of students’ standardized test scores in teacher evaluations.⁶⁹ Classroom observations, certifications, and other measures may also play a role, but student test scores are non-negotiable.⁷⁰ Some states require test scores to count for fifty percent or more of teachers’ evaluations, while other states offer localities more flexibility, only mandating that test scores play a “significant” role.⁷¹

Several states go further to mandate specific consequences for specific test score results. Tennessee, for instance, requires that school administrators rank teachers into one of four tiers of effectiveness.⁷² Only teachers ranking in the top two tiers of effectiveness in two of their first five years of teaching receive tenure.⁷³ A teacher can subsequently lose tenure by falling “below expectations” on evaluations for two consecutive years.⁷⁴ Several states afford districts discretion as to whether to terminate or strip a teacher of tenure for low test scores, while other jurisdictions mandate dismissal upon receiving a two or more years of low evaluations.⁷⁵

These new statutory frameworks generally rely on one of two statistical models to evaluate teachers: “value-added models” [VAMs] and “student growth percentile models” [SGPs]. VAMs attempt to estimate how a group of students would perform if all things but their teacher were equal.⁷⁶ Based on that estimate, VAMs measure whether individual teachers helped students achieve better or worse than expected.⁷⁷ This serves as the basis to compare teachers to each other, measuring whether each one adds value to learning outcomes above what other teachers would. SGPs are similar in

⁶⁶ U.S. DEP’T EDUC., ESEA FLEXIBILITY, 12 (2011).

⁶⁷ *Id.*, at 3.

⁶⁸ *Id.*

⁶⁹ Superfine, *supra* note 42, at 42.

⁷⁰ Baker et al., *supra* note 22.

⁷¹ Student performance data must be thirty-five to fifty percent of teachers’ evaluations in Arizona, and fifty or more percent in Colorado, Florida, and Idaho, and a “significant factor” in Maine, Maryland, Indiana, Oregon, and Illinois. *Id.*

⁷² See NAT’L COUNCIL ON TEACHER QUALITY, STATE OF THE STATES: TRENDS AND EARLY LESSONS ON TEACHER EVALUATION AND EFFECTIVENESS POLICIES 20 (2011).

⁷³ TENN. CODE ANN. § 49-5-503.

⁷⁴ TENN. CODE ANN. § 49-5-504. Colorado goes much further, requiring that student performance as fifty percent of a teachers’ evaluation and three consecutive years of improving students’ performance to receive non-probationary status. COLO. REV. STAT. ANN. § 22-63-203 30.

⁷⁵ Compare states mandating termination or probationary status, MICHIGAN COMPILED LAWS § 380.1249(2)(h) (2011); LA. REV. STAT. ANN. § 17:442(C)(1)(2012), with those states allowing districts discretion, 14 DEL. CODE §§ 1273, 1411 (2006). *See also* FLA. STAT. ANN. § 1012.33(3); IND. CODE § 20-28-7.5-1(e)(4) (2011).

⁷⁶ Baker et al., *supra* note 22.

⁷⁷ Hutt & Tang, *supra* note 48, at 449–53.

theory, but distinct in their calculations. Rather than rely on estimates, SGPs measure the actual growth that a teachers' students demonstrate on standardized tests from one school year to the next. That growth is then compared to the growth of students in other classrooms to rank the growth of a teacher's students in terms of percentiles.⁷⁸

B. The Practical Limits and Flaws of Data-Driven Evaluation

The notion that student achievement on standardized tests could be disaggregated and correlated with teachers makes perfect sense. Collecting and studying this data likely has the capacity to drastically enhance our understanding of teaching. Scholars, however, have demonstrated that the gap between theory and practical implementation is large. Disregarding this gap, states' current use of VAMs and SGPs to evaluate teachers is beset by numerous flaws that call into serious question the practical wisdom of using the data as a dominant factor in high-stakes decisions about teachers. The following subsections address each of the flaws in turn.

1. Misaligned Curriculum and Tests

The tests upon which the data models rely are often misaligned with the teachers whom they evaluate and the curriculum the teachers are expected to teach. In some states, VAMs and SGPs apply to all teachers every year, even though many teachers' subjects are not tested at all and other teachers' subjects are tested only every few years.⁷⁹ In other words, the data by which to produce a VAM or SGP score for many teachers does not exist. Thus, it is impossible to fairly or reliably rate those teachers.⁸⁰

Alignment problems, however, can exist even for those teachers whose subjects are tested yearly. Accurately measuring a teacher's effectiveness requires more than just a standardized test in that teacher's subject. First, the test must be directly aligned to the curriculum the state requires the teacher to deliver.⁸¹ Second, the test should be designed to measure teaching effectiveness rather than student competencies.⁸² Current tests do not meet these criteria. Several states have relied on exams that are not tied to the actual state curriculum,⁸³ and none of the tests were designed to assess teachers.⁸⁴ They were designed to assess students. Tests designed to assess students surely overlap

⁷⁸ Baker et al., *supra* note 22.

⁷⁹ See, e.g., Martinez Complaint, *supra* note 32, at 38 (April 1, 2014); Michael Winerip, *In Tennessee, Following the Rules for Evaluations off a Cliff*, N.Y. TIMES, Nov. 7, 2011, at A18; Brief of Law and Education Professors as Amici Curiae, *Cook v. Stewart*, No. 14-12506-BB (11th Cir. 2014).

⁸⁰ Brief of Law and Education Professors, *supra* note 79.

⁸¹ Superfine, *supra* note 42.

⁸² Baker et al., *supra* note 22; Superfine, *supra* note 42.

⁸³ See generally Dan Goldhaber, et al., *Does the Model Matter? Exploring the Relationship Between Different Student Achievement-Based Teacher Assessments* (2012). See also Audrey R. Lynn, *Teacher Evaluations Based on Student Testing: Missing an Opportunity for True Education Reform*, 18 TEX. J. CIV. LIBERTIES & C. R. 203, 230 (2012–13) (discussing the problem of the differential sequencing in curriculum across schools when the exam assumes uniformity).

⁸⁴ Superfine, *supra* note 42.

with those designed to assess teachers, but they are not the same. To be reliable, psychometricians construct different tests to measure different factors and outcomes.⁸⁵

The effect of using a test designed for alternate purposes can be enormous. A study of Texas teachers, for instance, showed that almost one of five Texas teachers who rank as the most effective based on the Texas Assessment of Knowledge and Skills, rank at or near the bottom based on the Stanford test.⁸⁶ Conversely, fifteen percent of those who rank at the bottom based on the Texas Assessment rank at or near the top on the Stanford test.⁸⁷ In short, student scores on standardized tests are not inherently reliable measures of teaching effectiveness. They are the opposite if they are not properly designed and aligned.

2. Demographic and Unaccounted-for Variables

Curriculum alignment and test design are susceptible to correction, but accounting for the variables necessary to draw fine distinctions between teachers is less so. Student test scores alone tell one almost nothing meaningful about a teacher's role in students' growth. Test scores must first be disaggregated by demographic and other variables.⁸⁸ On average, low-income students, students with disabilities, English Language Learners, and racial minorities score lower on exams and make less academic progress from year to year than other students.⁸⁹ Thus, regardless of teaching quality, teachers with disproportionate numbers of these students will, on average, see less raw growth than other teachers. To measure actual teaching effectiveness, statistical models must account for and disaggregate these and other factors.⁹⁰ Those states that do not fully account for student demographics in their models are measuring students' preexisting knowledge, aptitude, and familial advantages, not teaching effectiveness.⁹¹

Some states' models account for some student demographic factors, but still miss other variables. Studies indicate that unusual progress, or lack thereof, in an individual student's scores from one year to the next is more likely attributable to a student's personal circumstances outside school or some other random variable, such as the particular test taken or subject matter or statistical method employed, than the teacher.⁹² Most notable, homelessness, unemployment, divorce, tutors, after-school programs, and

⁸⁵ See generally *id.*

⁸⁶ SEAN P. CORCORAN, ET AL., CAN TEACHERS BE EVALUATED BY THEIR STUDENTS' TEST SCORES? SHOULD THEY BE? THE USE OF VALUE-ADDED MEASURES OF TEACHER EFFECTIVENESS IN POLICY AND PRACTICE 13 (2010).

⁸⁷ *Id.*

⁸⁸ See generally Laura McNeal, *Total Recall: The Rise and Fall of Teacher Tenure*, 30 HOFSTRA LAB. & EMP. L.J. 489, 506 (2013).

⁸⁹ See NAT'L CTR. FOR EDUC. STATISTICS, THE CONDITION OF EDUCATION 2009, at 31 fig.12.1 (2009), <http://nces.ed.gov/pubs2009/2009081.pdf>.

⁹⁰ Baker, et al., *supra* note 22; AM. INST. RESEARCH, N.Y. STATE EDUC. DEP'T, 2011-12 GROWTH MODEL FOR EDUCATOR EVALUATION TECHNICAL REPORT: FINAL (November 2012) [hereinafter AM. INST. RESEARCH].

⁹¹ Even in New York, where the model attempted to control for student demographics, teachers with more low-income students still, on average, had lower growth percentiles. AM. INST. RESEARCH, *supra* note 90, at 1.

⁹² J. Rothstein, *Student Sorting and Bias in Value-Added Estimation: Selection on Observables and Unobservables*, 4 EDUC. FIN. & POL'Y 537 (2009); Stephen T. Lubienski & C.C. Crane, *Beyond Free Lunch: Which Family Background Measures Matter?*, 18 EDUC.POL'Y ANALYSIS ARCHIVES (2010).

summer programs can drastically change an individual student's achievement.⁹³ VAMs and SGPs, however, do not account for variables of this sort.⁹⁴

3. Year-to-Year Recalculations and Variations

Variations in teachers' VAM and SGP scores across years reinforce the point in the prior section—that the models capture insufficient data to assess teaching effectiveness—and that they are highly unreliable. Teachers' effectiveness ratings are determined in the first year data becomes available, but the databases are longitudinal and expand in following years, as additional data becomes available. Subsequent data in year three, for instance, changes the calculation of a teacher's effectiveness for year one.⁹⁵ As a result, a VAM or SGP can identify a teacher as high performing in 2014, only to change that identification to average performing when additional data is incorporated in 2016. Studies have already shown that it is common for a teacher's rating for a previous year to change significantly after the fact, which begs the question of how a VAM or SGP could be a reliable basis upon which to tenure or terminate a teacher.⁹⁶ A teacher could have been terminated based on an ineffectiveness rating in 2014, only to have that rating change to average the next year.

4. Arbitrary Cut-Off Points for Teaching Effectiveness

The problem of year-to-year variations is further exacerbated by arbitrary cut-off points in the statistical models. The models will identify student growth, but policymakers and administrators must still label a particular amount of growth sufficient or insufficient and teachers as effective or ineffective.⁹⁷ Assume, for instance, that a schools' entire teaching staff was normatively effective. The models would still identify a group of bottom percentile teachers. But being in the bottom quartile is not any more inherently indicative of being ineffective than is being in one of the top three quartiles necessarily indicative of effectiveness.⁹⁸ The current statutory frameworks and the cut-off points that they use to label teachers as effective or ineffective are arbitrary, and lacking any social science or research basis.

As a result, the cut-off points are labeling a significant number of teachers as ineffective, even though they are performing satisfactorily by other normative measures. For instance, several of the teachers whom Houston's new SGP has identified as ineffective were previously identified by the district as highly performing under pre-SGP methods.⁹⁹ In fact, the district had recognized one of its teachers as award winning just

⁹³ See *supra* note 92.

⁹⁴ Controlling for these factors may be impossible for obvious reasons. Of course, other education studies rely on this same data, but they do not attempt to isolate the results of individual students and teachers in the ways VAMs and SGPs do.

⁹⁵ Superfine, *supra* note 42.

⁹⁶ Daniel F. McCaffrey et al., *The Intertemporal Variability of Teacher Effect Estimates*, 4 EDUC. FIN. & POL'Y 572, 585–98 (2009).

⁹⁷ Baker et al., *supra* note 22.

⁹⁸ *Id.*

⁹⁹ *Houston Federation of Teachers v. Houston Independent School District*, No. 4:2014cv01189 (Tex. S.D. April 30, 2014) [hereinafter *Houston Federation of Teachers*].

one year prior to the SGP ranking him as low performing. This is to say nothing of the average teachers who now are randomly ranked as subpar.

Several, but not all, states tacitly concede that being in the bottom quartile of a SGP or below average VAM does not necessarily equate with ineffective teaching. By requiring multiple years of poor VAM or SGP scores prior to any negative action against a teacher, states implicitly recognize the unreliability of models or the cut-off points. The same is true of states that will grant tenure based on intermittent high performance. One might defend these policies as benevolent attempts to allow teachers second-chances, but that would assume teachers regularly go from “good” to “bad” and back again over the course of a few years, which is a hard notion to countenance.

That states recognize the propensity for flawed results is further reinforced by the fact that most states also require actual observations of classroom teachers prior to termination or demotion.¹⁰⁰ To their credit, they are placing less weight on an individual teacher’s scores, but lessening the weight does not cure the fundamental arbitrariness of the cut-off itself.¹⁰¹ Moreover, initial research suggests that when an administrator is aware that a teacher has already received a low SGP or VAM score, the administrator’s in-class observations of the teacher may be negatively biased.¹⁰² In other words, unreliable SGP and VAM scores can infect the entire teacher evaluation system in a way that is not easily undone.

5. Conflating Correlation with Causation

Overall, the way in which states use VAM and SGP scores indicates a failure to distinguish between statistical correlation and causation. First is the question of the strength of the statistical correlation. Given the numerous flaws noted above, the strength of the correlations and statistical significance of those correlations are sure to be low in many instances. Second, even if being in a particular teacher’s class might correlate with learning growth, the correlation does not necessarily mean that the teacher, or his or her teaching effectiveness, is the cause of student growth or its absence.¹⁰³ Correlation is just that—a correlation. Causation is the inference that decisionmakers choose to make. The current evaluation models suggest a firm belief that correlation means causation, rather than simply offering a piece of circumstantial evidence to weigh. They suggest little, if any, recognition of the possibility that a correlation between a teacher or set of teachers and the standardized test scores of their students is caused by some other observed or unobserved phenomenon.

In sum, policymakers and states shifted teacher evaluation to new statistical models based on the assumption that the models would add a level of objectivity and reliability previously missing, and make it possible to identify and remove ineffective teachers. In

¹⁰⁰ Superfine, *supra* note 42, at 609.

¹⁰¹ Baker, et al., *supra* note 22, at 5–6.

¹⁰² LAUREN SARTAIN ET AL., RETHINKING TEACHER EVALUATION: FINDINGS FROM THE FIRST YEAR OF THE EXCELLENCE IN TEACHING PROJECT IN CHICAGO PUBLIC SCHOOLS 4, 15 (Jun. 2010).

¹⁰³ C. Jackson & E. Bruegmann, *Teaching Students and Teaching Each Other: The Importance of Peer Learning for Teachers*, 1(4) AM. ECON. J.: APPLIED ECON. 85 (2009); Cory Koedel, *An Empirical Analysis of Teacher Spillover Effects in Secondary School*, 28 ECON. EDUC. REV. 682 (2009).

the abstract, these assumptions are entirely reasonable. But statistical approaches, even if generally appropriate, require careful implementation and testing to ensure their valid use in a particular context. States neither tested the models prior to implementation, nor carefully implemented them. Scholars and actual experience have now demonstrated that these new teacher evaluation methods are seriously flawed.

C. *Due Process Limits of Data Driven Evaluation*

Over the past two years, teachers have filed several legal challenges to changes in teacher evaluation, terms of employment, and tenure.¹⁰⁴ These challenges potentially implicate three distinct legal rights: prohibitions against impairment of contract, collective bargaining, and due process protections. Teacher tenure and evaluation changes have been heavily litigated in the past. Most courts routinely reject challenges based on the Contracts Clause¹⁰⁵ and collective bargaining.¹⁰⁶ Thus, those claims warrant little discussion here. But due process requirements of fair notice, an opportunity to respond to purported ineffective teaching, and evaluations free from arbitrariness present more fundamental limitations to the use of VAMs and SGPs.

The following sections discuss each of these due process limitations, separating them into the categories of procedural and substantive requirements. Procedurally, due process ensures that a tenured teacher cannot be terminated without the state making a case against the teacher and allowing the teacher a chance to respond. Substantively, due process limits the reasons why a school might remove a teacher and the reliability of the evidence upon which a district might do so.

1. Procedural Requirements

Teachers' due process rights stem from a property right in their job. The Supreme Court has held that statutes that limit the bases upon which a teacher may be terminated or not retained create a property interest in their job that triggers due process protection.¹⁰⁷ Tenure is not a right to "a lifetime job, [but it] affords certain legal protections to a teacher in order to prevent summary and groundless dismissals."¹⁰⁸ In particular, a

¹⁰⁴ See, e.g., *Houston Federation of Teachers*, *supra* note 99, *North Carolina Association of Educators v. State* (2014) [hereinafter *NCAE Opinion*]; *Masters v. School Dist. No. 1* (Colorado 2014) [hereinafter *Masters Opinion*].

¹⁰⁵ Courts presume that legislatures do not intend to create contractual rights in statutes. *Nat'l R.R. Passenger Corp. v. Atchison*, 470 U.S. 451, 466 (1985). Even when legislatures intend to create contracts, courts afford legislatures significant leeway in altering those right when necessary to achieve important state goals, such as improving education. See, e.g., *Baltimore Teachers Union v. Baltimore*, 6 F.3d 1012, 1015 (4th Cir. 1993); *Madison Teachers, Inc. v. Walker*, 851 N.W.2d 337 (Wis. 2014). See also *Parkinson*, *supra* note 31, at 860; Chris E. Vance, *Teacher Competency Testing: "Decertification" and the Federal Constitution and Title VII*, 37 EMORY L.J. 1077, 1102–12 (1988).

¹⁰⁶ Collective bargaining presents political problems for the state, not legal ones. Teachers' constitutional and statutory rights to bargaining do not guarantee teachers preferential employment terms, only the right to bargain for those terms. *Smith v. Ark. State Highway Emps.*, 441 U.S. 463, 465 (1979). Teachers have been successful because of their political rather than legal strength. See generally *Dagostino*, *supra* note 47.

¹⁰⁷ *Bd. of Regents v. Roth*, 408 U.S. 564 (1972); *Perry v. Sindermann*, 408 U.S. 593 (1972)

¹⁰⁸ Monica Teixeira de Sousa, *The State of Our Unions: How President Obama's Education Reforms Threaten the Working Class*, 50 U. LOUISVILLE L. REV. 201 (2011); Powell, *supra* note 27, at X.

property interest in tenure or contract requires that teachers receive notice of any grounds for dismissal that a district might bring, the evidence supporting those grounds, and a chance to respond.¹⁰⁹ In addition, although states and localities generally retain the power to change certain terms of employment, such as certification requirements, to the extent those terms require teachers to meet new conditions to retain their jobs, due process also requires advance notice of those changes so that teachers have time to comply with new requirements before becoming subject to any negative action.

In a typical state, notice of termination and a chance to respond are afforded through formal procedures. The superintendent or principal would provide a teacher with written notice of the intent to terminate or demote, including the specific statutory grounds upon which he believes the action is justified.¹¹⁰ The teacher would then have the right to contest the action in a number of forums: a meeting with the superintendent or principal, a formal hearing before a hearing officer and/or the school board, and an appeal to a court.¹¹¹

No matter how good a school's case for terminating an ineffective tenured teacher, it must go through processes of this sort. Moreover, some states, or local interpretations of state law, allow teachers an attempt to remedy their teaching deficiencies.¹¹² Only after failed remediation would a teacher be terminated.¹¹³ None of the procedures create a bar to changes in teacher evaluation, but they mandate specific procedures for enforcing those changes if they are going to be a basis for removing teachers.

2. Substantive Due Process Limitations on Termination

Substantive due process ensures some minimal level of fairness and logic in the decision to terminate a teacher. It protects teachers from arbitrary, capricious, and insufficiently substantiated deprivations of property, even if all the correct procedures are followed.¹¹⁴ In the context of teacher evaluations, this would mean that evaluation methods, such as VAMs and SGPs, should produce reliable results.¹¹⁵ Courts defer to districts' professional determination that a teacher is incompetent or ineffective, and to the decision to select particular measures of competence and effectiveness, but the measures should have some reasonable and reliable connection to actual teaching effectiveness.¹¹⁶

Due process litigation of VAMs and SGPs is in its earliest stages, but scholars reason that student testing cases and the concept of test validity will structure the

¹⁰⁹ Parkinson, *supra* note 31, at 863–70.

¹¹⁰ N.C. GEN. STAT. § 115C-325 (2012).

¹¹¹ *Id.*

¹¹² See, e.g., S.C. CODE ANN. § 59-25-440 (requiring principal to “to assist the teacher to correct whatever appears to be the cause of potential dismissal [and] allow reasonable time for improvement.”). See also Powell, *supra* note 27.

¹¹³ S.C. CODE ANN. § 59-25-440.

¹¹⁴ Debra P. v. Turlington, 644 F.2d 397, 404 (5th Cir. 1981); Parkinson, *supra* note 31, at 871.

¹¹⁵ Baker et al., *supra* note 22, at 10–11. See also Armstead v. Starkville, 461 F.2d 276 (5th Cir. 1972); Georgia Ass'n of Educators v. Nix, 407 F. Supp. 1102 (N.D. Ga. 1976); York v. Alabama, 581 F. Supp. 779 (M.D. Ala. 1983).

¹¹⁶ Parkinson, *supra* note 31, at 853 (finding courts vary in the level of rigor they apply in validation analysis).

adjudication.¹¹⁷ They cite, as particularly important, the Fifth Circuit’s opinion in *Debra P. v. Turlington*,¹¹⁸ which involved a due process challenge to a Florida high school graduation exam in the late 1970s. *Debra P.*’s due process analysis focused heavily on the validity of the exam. The court wrote:

Testimony at trial . . . indicated that several types of studies were done before and after the administration of the test. The experts agreed that of the several types of validity studies, a content validity study would be most important for a competency examination. . . . In the field of competency testing, an important component of content validity is curricular validity, defined . . . as “things that are currently taught.” This record is simply insufficient in proof that the test administered measures what was actually taught in the schools of Florida. . . . We think, however, that fundamental fairness requires that the state be put to test on the issue of whether the students were tested on material they were or were not taught.¹¹⁹

From the court’s indication that unfair tests are irrational, a number of lower courts and scholars have further inferred that due process requires specific forms of validity beyond simply testing what is taught.¹²⁰ To be valid, a test should accurately measure the skills and content that it seeks to test.¹²¹ In other words, a low score on a standardized reading exam should actually reflect a current lack of reading skill and knowledge, rather than inadvertently testing other skills and knowledge that deflate or inflate a student’s score.

Some courts, however, have resisted detailed due process analysis of student exams, asking only the general question of whether administering the exam is rationally related to some legitimate educational goal of the state.¹²² Under this generalized approach, some courts have been willing to find that although an exam might lack full technical validity, the exam was rationally related to the state’s goal in improving teacher quality or effectiveness.¹²³ This approach and conclusion may be more reflective of judicial reluctance to upset public policy and enter a political thicket than they are of sound legal

¹¹⁷ Baker et al., *supra* note 22; Preston Green et al., *The Legal and Policy Implications of Value-Added Teacher Assessment Policies*, 2012 B.Y.U.L. & EDUC. J. 1 (2012); *see also* Vance, *supra* note 105, at 1092.

¹¹⁸ 644 F.2d 397 (5th Cir. 1981).

¹¹⁹ *Id.* at 404–06.

¹²⁰ *United States v. Texas*, 628 F. Supp. 304, 320-21 (E.D. Tex. 1985) (discussing test validation analysis); *United States v. LULAC*, 793 F.2d 636, 639 (5th Cir. 1986) (same); *See also* G.I. Forum v. Texas Educ. Agency, 87 F.Supp.2d 667 (W.D. Tex. 2000) (requiring testing regime to comport with professional standards); Larry P. v. Riles, 793 F.2d 969, 972 (9th Cir. 1984). Scholars also point to employment discrimination cases that require test validity. *See, e.g.*, *Griggs v. Duke Power*, 401 U.S. 424 (1971); *Albermarle Paper v. Moody*, 422 U.S. 405 (1975). While those cases do not control due process analysis, they bear directly on what a reliable and fair test is.

¹²¹ *Brookhart v. Illinois*, 697 F.2d 179, 184–87 (7th Cir. 1983); *LULAC*, 793 F.2d at 639 (double check substance); *See generally* U.S. DEP’T EDUC. OFFICE FOR CIVIL RIGHTS, *THE USE OF TESTS AS PART OF HIGH-STAKES DECISION-MAKING FOR STUDENTS: A RESOURCE GUIDE FOR EDUCATORS AND POLICY-MAKERS* 20, 66 (2000).

¹²² Parkinson, *supra* note 31, at (discussing cases).

¹²³ *National Educ. Ass’n v. South Carolina*, 434 U.S. 1026 (1978); *but see Nix*, 407 F. Supp. 1102 (holding that the failure to validate the test based on its purpose violated equal protection).

reasoning. If so, the politics and policy surrounding SGPs and VAMs are just as prevalent.

Save complete judicial abdication, however, either approach should place some limits on how VAMs and SGPs are used. Some of the current flaws in the VAMs and SGPs are so fundamental that even the most rudimentary due process analysis would raise concerns. For instance, applying SGP and VAM models to teachers whose subjects do not appear on state standardized exams would clearly violate the basic concept of curricular validity required in *Debra P.* Curricular validity aside, applying models to teachers under those circumstances would likely violate any general articulation of due process fairness or logic a court could articulate. The same conclusions should also follow if a teacher's subject matter appears on the relevant standardized test, but the test covers material that is different than the curriculum the state requires a teacher to deliver.

Those courts applying more detailed validity analysis to SGP and VAM systems would find several additional technical flaws in the models. First, the tests have not been validated as accurate measures of teaching effectiveness. To the contrary, that teachers' scores change so much from year to year, require revision after the fact, and lack sufficient demographic and variable controls strongly suggest that either the evaluation models or the exams upon which they rely are invalid.

Second, even if the models might accurately measure teaching effectiveness, states have not validated the cut-off scores embedded in the models. In other words, demonstrating that one teacher is more effective than another or is in some particular percentile does not demonstrate the teacher is effective or ineffective. To be valid, a state would need to demonstrate that the models' cut-off points accurately distinguish between effective and ineffective teachers.

Third, these validity problems bleed over into procedural due process problems. VAM and SDP systems do not identify actual aspects of a teacher's classroom performance, preparation, or pedagogy that are ineffective. They merely offer statistical data outputs. Statutes, case law, and labor contracts generally require notice of the teaching deficiency that is the basis for negative action and an opportunity to remediate. Notice that a statistical model has labeled one ineffective or that one's students' scores are low is not notice of particular deficiency. Thus, the models may leave a teacher uncertain as to how to respond or remediate the problem. Of course, the state might respond that the models do identify the deficiency—insufficiently effective teaching to produce the expected student outcomes—and a chance to respond—another year for the teacher to improve student outcomes. While a deferential court might accept this defense, past notice requirements have required more specificity than this. It has never been enough to say, for instance, that a teacher is “incompetent” without giving some indication of what makes the teacher incompetent and/or how the teacher failed to remediate himself.

In sum, of the three legal challenges that teachers might lodge against VAMs and SGPs, due process is the most likely to be successful. Due process does not present any

per se bar to the new systems, but if VAMs and SGPs are to be a basis upon which to terminate teachers or alter their legal status, due process requires a level of calibration between student tests, the statistical models, and what is taught in the classroom. While the exact level of calibration may vary by court, the current systems suffer from flaws so fundamentally unfair and illogical that would likely fail under any reasoned analysis.

The limitations that due process imposes on teacher evaluations and the permissiveness of contract clause and collective bargaining toward teacher evaluations intersect with the primary question this Article addresses—whether tenure and other teacher rights violate students’ constitutional right to education. The contracts clause and collective bargaining leave to the political process the question of how to best structure teachers’ rights, evaluation, and tenure. This unsatisfying reality has driven reformers to attempt to force changes through the courts by arguing that tenure and retention policies violate students’ right to an adequate and equitable education. Part III evaluates the doctrinal and evidentiary merits of this move. Their legal theory challenging tenure, however, cannot operate in vacuum. Any changes to tenure and evaluation that equity or adequacy rights might demand must still comply with due process principles, which suggests the options for teacher evaluation and termination are not nearly as broad as reform litigators might assume.

III. TEACHER TENURE IN THE CONTEXT OF THE CONSTITUTIONAL RIGHT TO EDUCATION

The right to education embedded in the fifty state constitutions has consistently grown more robust over the past four decades. Prior to the 1970s, no court recognized state constitutions as guaranteeing any substantive rights. Afterward, courts recognized enforceable substantive rights. Those rights morphed from the right to roughly equal funding across districts, to adequate funding based on student need, to an overall quality education that prepares students for the future. As this morphing suggests, the push of litigants has been to expand students’ rights and improve educational opportunities. The constitutional challenge to teacher tenure seeks to build on those rights, but use them in an entirely new way.

Prior litigation to enforce the constitutional right to education focused on the broadest aspects of education and structural means by which to equalize and improve it. As a practical matter, that meant two things: 1) ensuring equal or adequate access to the financial resources necessary to purchase the core components of education, and 2) state leadership in setting and enforcing the standards for the delivery and implementation of those resources. While successful litigation on these points thrust enormous duties on the state, the details of educational policy, implementation, and funding were almost always left to the state’s discretion.

In contrast, the constitutional challenge to tenure seeks to dictate narrow educational policy. In fact, the current cases ignore larger policy. They do not challenge funding or education standards. They seek one thing: the ability to remove teachers. On multiple levels, this is the inverse approach and demand of prior litigation. The doctrinal

question is whether these theoretical distinctions—or any others—matter. If not, a factual question still remains: do tenure laws cause substantial and systematic education inequalities and inadequacies?

The answers to these questions could, of course, depend on the exact precedent and facts of each particular state, but the constitutional rights at stake, the framework for adjudicating them, and the claims that plaintiffs intend to make are sufficiently synonymous that the same legal questions and factual hurdles will likely arise in any state. These similarities, moreover, are borne out by past scholarship that has organized school funding litigation into historical waves and categories.

Part III.A identifies those waves and their legal premises. Part III.B explores the goals prior litigation has sought to achieve. Part III.C extracts a common legal framework from those waves, including the evidence courts require to sustain a constitutional claim and the circumstances under which a court will and will not intervene in education policy. Part III.D examines the constitutional theory of teacher tenure challenges and how it fits within existing precedent. Part III.E identifies the flaws in the constitutional challenge to teacher tenure. Part III.F concludes with the rationale by which the various state supreme courts should resolve the challenges.

A. *Theorizing Constitutional Rights to Education*

The first wave of school finance litigation reached the United States Supreme Court, but proved to be the least important. In *San Antonio v. Rodriguez*,¹²⁴ plaintiffs argued that funding inequalities based on local property taxes violated students' rights on two bases: education is a fundamental right under the Federal Constitution and poor students are a suspect class, against whom the funding structure discriminates.¹²⁵ Their underlying theory was that all students are roughly equal, should be treated as equal, and are entitled to resource equity. The Supreme Court rejected this theory, holding that education is not a fundamental right, and that poverty is not a suspect class.¹²⁶ This holding led advocates to abandon school funding litigation in the federal courts and move to a second phase in state courts.¹²⁷

In state courts, advocates brought claims that were theoretically and factually the same as those in *Rodriguez*, but the claims proceeded under education and equal protection clauses in state constitutions.¹²⁸ They were immediately successful. The California Supreme Court held that education was a fundamental right under the California Constitution and that funding inequalities violated that right.¹²⁹ New Jersey's Supreme Court likewise held that funding inequities violated students' state constitutional right to a "thorough and efficient" education.¹³⁰ With California and New Jersey leading the analytical way, courts in Arkansas, Connecticut, Washington, and

¹²⁴ 411 U.S. 1 (1973).

¹²⁵ *Id.* at 17.

¹²⁶ *Id.* at 18.

¹²⁷ Two other cases involving money have made it to the Supreme Court, but did not bear on school finance. *Kadrmas v. Dickinson Pub. Sch.*, 487 U.S. 450, 452 (1988); *Papasan v. Allain*, 478 U.S. 265, 274 (1986).

¹²⁸ *Thro*, *supra* note 5.

¹²⁹ *Serrano v. Priest (Serrano II)*, 557 P.2d 929, 951 (Cal. 1976).

¹³⁰ *Robinson v. Cahill*, 303 A.2d 273, 295 (N.J. 1973).

Wyoming shortly thereafter recognized a fundamental right to education under their state constitutions.¹³¹

This second wave of litigation eventually raised issues beyond absolute equity in funding. Evolving concepts of equity recognized that some students, particularly poor students, have greater learning needs and require more educational resources to achieve at the same level as others.¹³² In addition, because most poor children live in property-poor school districts located in rural areas and inner cities, their districts need more resources than others.¹³³ The difficulty of incorporating these realities into absolute equity, along with stiff political opposition to radical redistribution of resources along strictly equitable lines, helped prompt a third wave of litigation.

The third wave of school finance litigation intersected with the “standards-based reform” movement of the 1980s. A series of reports, national summits, and popular media charged that students in the United States were not mastering basic core educational concepts and were falling behind their international counterparts.¹³⁴ In response, states developed core academic standards that all students should meet.¹³⁵ Plaintiffs began weaving those academic standards and students’ test scores on those standards into their legal claims. They argued that state constitutional phrases such as “efficient,” “thorough,” and “sound basic” education obligated states to provide children with a qualitative level of education that could be measured through the academic standards and tests that states had developed.¹³⁶ While a few courts ruled in plaintiffs’ favor prior to 1989, that year, in *Rose v. Council for Better Education*,¹³⁷ the Kentucky Supreme Court became the first to fully articulate a qualitative right to education.¹³⁸ The court held that a constitutionally adequate or “efficient” education included several specific skills and outcomes in each of the major subjects of school curriculum.¹³⁹ Following *Rose*, numerous other courts borrowed from *Rose*’s standards or followed *Rose*’s approach in defining their own.¹⁴⁰

The third wave of litigation overcame some of the limitations of equity litigation. By setting a standards-based qualitative floor, these cases prevented the state from leveling down everyone’s education to create basic equality. On the other hand,

¹³¹ Dupree v. Alma Sch. Dist., 651 S.W.2d 90, 93 (Ark. 1983); Horton v. Meskill, 376 A.2d 359, 373 (Conn. 1977); Seattle Sch. Dist. v. State, 585 P.2d 71, 71 (Wash. 1978); Washakie County Sch. Dist. v. Herschler, 606 P.2d 310, 333 (Wyo. 1980).

¹³² Julie K. Underwood, *School Finance Adequacy as Vertical Equity*, 28 U. MICH. J.L. REFORM 493, 516–17 (1995).

¹³³ Rebell, *supra* note 44.

¹³⁴ See NAT’L COMM’N ON EXCELLENCE IN EDUC., A NATION AT RISK 5 (1983) (warning of a “rising tide of mediocrity” in American education); Susan H. Bitensky, *Theoretical Foundations for a Right to Education Under the U.S. Constitution: A Beginning to the End of the National Education Crisis*, 86 NW. U. L. REV. 550, 555–61 (1992) (discussing the nature and scope of the national crisis in education).

¹³⁵ Joetta L. Sack, *The End of an Education Presidency*, EDUC. WK., Jan. 17, 2001, at 1 (discussing President Bush’s national summit, which brought together the nation’s governors and resulted in a set of national and state education goals).

¹³⁶ Paul A. Minorini & Stephen D. Sugarman, *School Finance Litigation in the Name of Educational Equity: Its Evolution, Impact, and Future*, in EQUITY AND ADEQUACY IN EDUCATION FINANCE: ISSUES AND PERSPECTIVES 34, 53–56 (Helen F. Ladd et al. eds., 1999)

¹³⁷ 790 S.W.2d 186 (Ky. 1989).

¹³⁸ *Id.* at X.

¹³⁹ *Id.* at 212

¹⁴⁰ See, e.g., Alabama Opinion of the Justice, 624 So. 2d 107, 165-66 (Ala. 1993); Idaho Sch. for Equal Educ. Opportunity v. Evans, 850 P.2d 724, 734 (Idaho 1993); McDuffy v. Secretary, 615 N.E.2d 516, 554 (Mass. 1993); Claremont Sch. Dist. v. Governor, 703 A.2d 1353, 1359 (N.H. 1997); Leandro v. State, 488 S.E.2d 249, 255 (N.C. 1997); Abbeville County Sch. Dist. v. State, 515 S.E.2d 535, 540 (S.C. 1999).

adequacy standards left inequalities between rich and poor districts untouched, so long as the state assured an adequate education everywhere. But, for the same reason, standards-based litigation posed fewer judicial and political objections,¹⁴¹ resulting in a much higher win rate for plaintiffs. In twenty-seven cases between 1989 and 2006, plaintiffs prevailed nearly seventy-five percent of the time, whereas plaintiffs were previously successful less than half the time.¹⁴²

B. The Goals of Constitutional Education Litigation

As a practical matter, constitutional education litigation has coalesced around three major challenges and remedies. The first, of course, is money.¹⁴³ The primary challenge and remedy has been additional funding for needy school districts, either by expanding the educational pot statewide or redistributing existing resources.¹⁴⁴ This focus has been so dominant that constitutional education litigation is more popularly termed school finance litigation.

Additional funding for needy districts, however, is not an end in and of itself.¹⁴⁵ Additional funding serves goals pertaining to the actual educational experiences and instruction students receive.¹⁴⁶ Those experiences depend on critical educational inputs: teachers, technology, facilities, and support services, to name a few. As a practical matter, improving these inputs often includes or boils down to more money, but not necessarily. A state or district may need to adopt policies to reallocate, more efficiently deliver, or prioritize these inputs within the existing budget, as opposed to, for instance, devoting time and resources to athletics or central administration.¹⁴⁷ In fact, plaintiffs in *Sheff v. O'Neill* successfully demonstrated that the organization of school districts and segregation within them was the cause of educational inequality in the state.¹⁴⁸ In short, although money may be implicated, the precise legal challenge in many cases is based on inadequate educational inputs and opportunity, not money.

The third overarching goal in constitutional education litigation is to place various important educational responsibilities on the state.¹⁴⁹ Traditionally, local districts have carried the primary financial and academic responsibility for education.¹⁵⁰ Through litigation, school districts and students have shifted this responsibility to the state.¹⁵¹ They have established that although the practical responsibility for delivering education is delegated to districts, the ultimate constitutional responsibility for education remains with the state.¹⁵² This requires not only that the state provide necessary financial and

¹⁴¹ See generally Julia A. Simon-Kerr, Robynn K. Sturm, *Justiciability and the Role of Courts in Adequacy Litigation: Preserving the Constitutional Right to Education*, 6 STAN. J. CIV. RTS. & CIV. LIBERTIES 83, 95–96 (2010).

¹⁴² Rebell, *supra* note 6.

¹⁴³ See generally Note, *Unfulfilled Promises: School Finance Remedies and State Courts*, 104 HARV. L. REV. 1072, 1074–75 (1991).

¹⁴⁴ *Id.*

¹⁴⁵ Ryan, *supra* note 10, at 308.

¹⁴⁶ *Id.*

¹⁴⁷ See, e.g., *Hoke Cnty.*, 599 S.E.2d at 388–89; *Abbott v. Burke*, 575 A.2d 359, 377–82 (N.J. 1990).

¹⁴⁸ 678 A.2d 1267 (Conn. 1996).

¹⁴⁹ Molly McUsic, *The Use of Education Clauses in School Finance Reform Litigation*, 28 HARV. J. ON LEGIS. 307, 328 (1991).

¹⁵⁰ Richard Briffault, *The Role of Local Control in School Finance Reform*, 24 CONN. L. REV. 773, 781 (1992).

¹⁵¹ Rebell, *supra* note 142, at 1527 (noting plaintiff victories against the state in over half of the states).

¹⁵² *Id.*

other resources, but that it establish standards and policies designed to ensure the proper implementation of those resources. In other words, courts have mandated that the state adopt academic standards to guide local districts in carrying out their delegated duties and oversight standards by which the state can hold local districts accountable.¹⁵³

C. Separation of Powers Limits

The foregoing challenges and remedies always operate within the context of separation of powers limitations. Courts in some states have refused to even entertain plaintiffs' claims because they believe doing so would encroach on the discretion in policymaking that is reserved entirely to the legislature.¹⁵⁴ Even when courts intervene, separation of powers limit the scope of their intervention.¹⁵⁵ Courts may find a constitutional violation based on inadequate funds or standards, but refrain from specifying the means by which to remedy the violation.¹⁵⁶ Where more than one reasonable solution to the problem is possible, courts find it is the state's province, not the court's, to exercise discretion in selecting a solution.¹⁵⁷ As the Washington Supreme Court wrote after finding a constitutional violation, "[t]his court defers to the legislature's chosen means of discharging its [education] duty" and will give the legislature "the greatest possible latitude to participate in the full implementation of the constitutional mandate."¹⁵⁸

Even the most aggressive in terms of suggesting a remedy stop short of dictating remedies at a level of detail that encroaches on legislative prerogative.¹⁵⁹ When lower courts have peremptorily mandated specific remedies, some higher courts have been quick to strike them down, particularly when there was more than one way to solve the problem.¹⁶⁰ When states have implemented their own remedy, courts have tended to apply a reasonableness standard to the remedy rather than substituting their judgment for the legislature.¹⁶¹ In short, while constitutional litigation to enforce the right to education has clear goals, separation of powers dictate that the way in which those goals are met are left to the state.

¹⁵³ See, e.g., *Rose*, 790 S.W.2d at X; *Campaign for Fiscal Equity v. State*, 828 N.Y.S.2d 235 (N.Y. 2006); see also *Hancock v. Comm'r of Educ.*, 822 N.E.2d 1134, 1157 (Mass. 2005) (noting that proposed remedies addressed only funding and not the "failing administrative and financial management").

¹⁵⁴ *Committee for Educational Rights v. Edgar*, 672 N.E.2d 1178 (1996); *McDaniel v. Thomas*, 285 S.E.2d 156, 160-61 (Ga. 1981).

¹⁵⁵ See generally Scott R. Bauries, *Is There an Elephant in the Room?: Judicial Review of Educational Adequacy and the Separation of Powers in State Constitutions*, 61 ALA. L. REV. 701 (2010).

¹⁵⁶ *Id.*; See also *McCleary v. State*, 269 P.3d 227, X (2011) (refusing "to specify standards for staffing ratios, salaries, and other program requirements."

¹⁵⁷ *CFE III*, 828 N.Y.S.2d at X; *Hoke County*, 599 S.E.2d 365.

¹⁵⁸ *McCleary*, 269 P.3d at X (quoting *Seattle Sch. Dist. v. State*, 585 P.2d 71, 93 (1978)).

¹⁵⁹ *Rose*, 790 S.W.2d at X; *Montoy v. State*, 138 P.3d 755, 763-64 (Kan. 2006).

¹⁶⁰ *Hoke County*, 599 S.E.2d 365 ("there is a marked difference between the State's [conceding] a need to assist "at-risk" students prior to enrollment in the public schools and a court order compelling the legislative and executive branches to address that need in a singular fashion"); *Abbeville v. State*, 2014 WL 5839956 (S.C. Nov. 12, 2014) (striking down trial court's specific remedy). *But see Campbell Cnty.*, 907 P.2d 1238, 1246 (Wyo. 1995).

¹⁶¹ See, e.g., *CFE III*, 828 N.Y.S.2d at 244 (upholding state's plan because it was not "unreasonable"). See also *Serrano v. Priest*, 226 Cal. Rptr. 584 (Ct. App. 1989) (indicating disparities need only be reduced to insignificant levels and that many inequities are subject to only rational basis review).

D. The Framework for Adjudicating Constitutional Claims

1. The Constitutional Duty

The first step in any adequacy or equity litigation is to articulate the state's constitutional duty. In an adequacy case, for instance, the Kentucky Supreme Court found that the General Assembly had an "obligation . . . to provide for a system of common schools"¹⁶² and proceeded to describe the necessary characteristics of that system. The system must be "efficient," provide equal opportunity, and be "substantially uniform" throughout the entire state.¹⁶³ The specific goal of an efficient education is to "develop[], as best the state of education expertise allows, the minds, bodies and social morality of its charges to prepare them for useful and happy occupations, recreation and citizenship, and does so economically."¹⁶⁴ Other courts speak of their state's obligation to meet students' needs so that they can achieve at the requisite level, or states' obligation to deliver an adequate education,¹⁶⁵ but the general approach is the same: a state duty to achieve some qualitative end. Equity cases follow a similar approach. There, the duty to is to deliver some substantially equitable result or opportunity, rather than qualitative.¹⁶⁶

After describing this general duty, courts often articulate structural obligations that might be necessary for the state to deliver an equal or adequate education. In *Rose*, for instance, the court indicated that the state's duty to deliver an efficient education required the state to implement, control, and maintain the education system.¹⁶⁷ Various courts have indicated that this entails the state setting academic standards and goals that are connected to the constitutionally required education and supervising the implementation of it.¹⁶⁸ The state might delegate implementation to school districts, but because education is the state's obligation, the state must monitor local conditions to ensure the obligation is met.¹⁶⁹ It cannot leave local districts to sink or swim.

A structure for success, however, requires more than just oversight of districts. It also requires the state to ensure local districts have the capacity to meet the constitutional and/or statutory requirements. Courts speak of the state's obligation to adequately or equitably fund education. Courts rarely state the exact level of funds a district must have per pupil, but they routinely demand a specific approach to school funding, which entails breaking down the actual cost of delivering an equitable or adequate education into its constituent components of student need, school district need

¹⁶² *Rose*, 790 S.W.2d at 205.

¹⁶³ *Id.* at 208.

¹⁶⁴ *Id.* at 210.

¹⁶⁵ *Abbeville*, 515 S.E.2d 535; *Campaign for Fiscal Equity v. State*, 655 N.E.2d 661 (1995).

¹⁶⁶ *Serrano v. Priest*, 18 Cal. 3d 728 (1976); *Sheff v. O'Neill*, 678 A.2d 1267 (1996).

¹⁶⁷ 790 S.W.2d at X

¹⁶⁸ *Id.* at X.

¹⁶⁹ *Pauley v. Kelly*, 255 S.E.2d 859 (W.Va. 1979); *Robinson v. Cahill*, 303 A.2d 273 (N.J. 1973); *Rose*, 790 S.W.2d at X.

based on student need, and local funding capacity.¹⁷⁰ Creating a funding system that meets student and district need is far from an exact science, but states have no excuse funding systems that produce happenstance results. As the Kansas Supreme Court wrote, a state must develop a funding system that “is reasonably calculated to have all . . . students meet or exceed the standards.”¹⁷¹ In short, a state should determine how much it costs to deliver the constitutionally required education, account for variations based on student and district demographics, and create a funding system that it reasonably expects will meet that need.

2. A Substantial and Systematic Deprivation of Rights

To establish a violation of educational rights or duties, courts have required several distinct types of evidentiary showings by plaintiffs. A bare allegation that some policy, funding mechanism, or resource shortage produces inequality or inadequacy is insufficient. Courts generally presume the constitutionality of a state’s educational program and, thus, the burden is on the plaintiff to prove otherwise.¹⁷² First, a plaintiff must show a substantial deprivation of the constitutional right to education.¹⁷³ As the Connecticut Supreme Court emphasized, “plaintiffs must make a prima facie showing that the disparities . . . are more than de minimis in that the disparities continue to jeopardize the plaintiffs’ fundamental right to education.”¹⁷⁴ If the disparities are only incidental to some legitimate state goal or insubstantial, a court will not invalidate them.¹⁷⁵ Likewise, when courts speak of demonstrating inadequate or inequitable educational opportunities, they mean more than just some identifiable deficiency; they mean deficiencies the affect students’ overall ability to obtain an adequate education.

Embedded in the concept of a substantial violation is also the existence of a systematic deprivation. Courts frame their analysis in terms of school systems and trends across them.¹⁷⁶ No court has ever recognized a claim against the state based on isolated inadequacies or inequalities. Plaintiff victories are always supported by evidence of violations stretching across multiple schools and districts. In effect,

¹⁷⁰ *CFE II*, 828 N.Y.S.2d 235; *McDuffy v. Secretary of Education*, 615 N.E.2d 516 (1993); *Montoy v. State*, 279 Kan. 817, 840 (2005) (“a determination of the reasonable and actual costs of providing a constitutionally adequate education is critical”).

¹⁷¹ *Gannon v. Kansas*, No. 109,335 (Sup. Ct. Kan. filed March 7, 2014); *see also McCleary v. State*, 269 P.3d 227 (2011) (requiring a system that provides “dependable and regular tax sources.”).

¹⁷² *Leandro v. State*, 488 S.E.2d 249 (1997); *Rose*, 790 S.W.2d at X.

¹⁷³ *Serrano v. Priest*, 226 Cal. Rptr. 584, 606 (Ct. App. 1989) (indicating “an insubstantial burden” is insufficient to trigger heightened scrutiny); *Rose*, 790 S.W.2d at X (examining inequities throughout 177 local school districts).

¹⁷⁴ *Sheff v. O’Neill*, 678 A.2d 1267 (1996).

¹⁷⁵ *Id.*; *Hoke County v. State*, 599 S.E.2d 365 (N.C. 2004) (articulating a burden shifting test whereby the state might justify disparities).

¹⁷⁶ *CFE III*, 828 N.Y.S.2d 235 (N.Y. 2006) (test results and graduation rates reflected systemic failure and that the state’s actions were a substantial cause of the constitutional violation); *Hoke County*, 599 S.E.2d at X (state act had caused systematic poor performance); *Pauley v. Bailey*, 324 S.E.2d 128 (W.Va. 1984) (“all county systems required improvement”).

random—as opposed to systematic deficiencies—are almost necessarily insubstantial (although there are surely exceptions).¹⁷⁷

3. Input Causation: State Responsibility for Local Deprivations

Plaintiffs must demonstrate that the substantial education deprivation in question falls within the purview of state control or responsibility. This requires plaintiffs to establish two different and distinct types of causation. Plaintiffs must establish that a state statute or policy is the cause of some precise financial, resource, or other tangible deficiency in local school districts (which this subsection discusses). Next, the plaintiffs must establish that the deficiency causes harm to students, not some other factor (which the next subsection discusses). The North Carolina Supreme Court emphasized in plain language: “it is one thing for plaintiffs to demonstrate that a large number of Hoke County students are failing to obtain a sound, basic public education. It is quite another for plaintiffs to show that such a failure is primarily the result of action and/or inaction of the State.”

In the earliest years of school finance litigation, some courts were willing to infer causal connections based on general social science or common sense.¹⁷⁸ Subsequent courts increasingly parsed out distinct causal inquiries and required specific statistical evidence in regard to them.¹⁷⁹ This step in a plaintiffs’ claim is far more challenging than establishing the existence of a substantial educational deprivation. The state might very well concede the existence of educational inequities or deprivations, but causation invites bitter contests on various points ranging from whether money matters to whether test scores accurately measure educational quality.¹⁸⁰

The state, if not the court, will inevitably raise the possibility that state action is not the cause of local educational deficiencies.¹⁸¹ If plaintiffs allege schools do not have enough money to maintain their facilities, for instance, the state will question whether its action or inaction is the cause of the money shortfall. This causal inquiry leads to the frequent and lengthy discussions of how school financing works, and whether the financing system places too much burden on localities.¹⁸² It may be that some situated districts can maintain adequate facilities, while others cannot. If this is the case, local action or random variables may be the cause of deprivations rather than the state.

The same causal analysis has ensued from claims of inadequate teaching in school districts. That teaching is inadequate does not mean the state is the cause of it. Poor leadership at the local level, poor professional development, overcrowded classrooms, or

¹⁷⁷ Districts, or the state through vicarious responsibility, can be sued on narrower grounds, but the nature of such a claim is distinct from those discussed in this Article. Black, *supra* note 10.

¹⁷⁸ *Serrano v. Priest*, 557 P.2d 929, 939 (Cal. 1976); *Hargrave v. Kirk*, 313 F. Supp. 944, 947 (M.D. Fla. 1970).

¹⁷⁹ See Derek W. Black, *Civil Rights, Charter Schools, and Lessons to Be Learned*, 64 FLA. L. REV. 1723 (2012).

¹⁸⁰ *Hoke County*, 599 S.E.2d at X (questioning lower court’s reliance on test scores); *Abbott v. Burke*, 575 A.2d 359 (N.J. 1990) (recognizing dispute over whether and how money matters).

¹⁸¹ *CFE II*, 100 N.Y.2d at 923 (state argued that “inefficient management of personnel is the supervening cause . . . , rather than the funding system”); *Serrano*, 226 Cal. Rptr. at 615 (rejecting state caused “no more than 10 to 30 percent” of disparities).

¹⁸² See, e.g., *Montoy v. State*, 279 Kan. 817, 830–40 (2005) (detailing nine different aspects of school funding in the state); *Serrano*, 226 Cal. Rptr. at X; *Horton v. Meskill*, 376 A.2d 359 (1977).

insufficient funds to hire or retain quality teachers could all be causal factors. Even within each of these factors, the cause might be state or local policy. The state, of course, might be responsible for rectifying problematic local policies, but this would, nonetheless, raise a distinct causal factor and challenge to the state. Regardless, the point is that plaintiffs must pinpoint state policy that has causal effects at the local level.¹⁸³ It is not enough to simply allege an education deficiency.

4. Output Causation: Whether the Deprivation Matters

In addition to establishing a causal connection between state policy and local deficiencies, plaintiffs must establish a causal connection between the deficiency—for instance, teacher qualifications—and educational outcomes. New York’s highest court may provide the most poignant delineation of this two-step causation. It analyzed various alleged inadequacies in inputs—teachers, class size, facilities, computers, libraries, and textbooks—and whether each one was causally connected to the deprivation of the constitutionally required education.¹⁸⁴ Plaintiffs’ burden was to “establish[] the necessary ‘causal link’ between the present funding system and the poor performance of City schools by showing [1] that increased funding can provide better teachers, facilities and instrumentalities of learning, and [2] that such improved inputs yield better student performance.”¹⁸⁵ Speaking of the second step in causation, the court wrote: “[O]n this record it cannot be said that plaintiffs have proved a measurable correlation between building disrepair and student performance.”¹⁸⁶ But in regard to teachers, the court neatly summarized both causal steps, finding that the evidence demonstrated “that better funded schools would hire and retain more certified teachers, and that students with such teachers would score better.”¹⁸⁷

Other courts are less explicit in breaking causation into two steps, but the overarching question of whether money matters necessarily involves two steps, and has dominated school funding litigation for four decades. In *Serrano v Priest*—one of the first school funding cases filed—the California Court analyzed whether “[t]here is a distinct relationship between cost and the quality of educational opportunities afforded,” or more precisely, whether “differences in dollars do produce differences in pupil achievement.”¹⁸⁸ Likewise, in the seminal adequacy case—*Rose v. Council*—the Kentucky Supreme Court required “a definite correlation between the money spent per child on education and the quality of the education received.”¹⁸⁹ Each of these cases, along with various others, involved plaintiffs demonstrating, first, that state policy was

¹⁸³ The West Virginia Supreme Court offers a glimpse of the complexities involved in pinpointing causation. It suggested no less than five causal factors and multiple different parties as explaining the educational deficiencies in the state. *Pauley v Bailey*, 324 S.E.2d 128 (W.Va. 1984).

¹⁸⁴ *CFE II*, 100 N.Y.2d 893, 919 (2003).

¹⁸⁵ *Id.* at 894. *See also id.* at 912 (“plaintiffs had to show that insufficient funding led to inadequate inputs which led to unsatisfactory results.”).

¹⁸⁶ *Id.* at 911.

¹⁸⁷ *Id.* at 919.

¹⁸⁸ *Serrano v. Priest*, 557 P.2d 929, 939 (Cal. 1976).

¹⁸⁹ 790 S.W.2d at 198 .

the cause of resource deprivation at the local level and, second, that the resource deprivation played a causal role in student outcomes and achievement.

The second causal step is more complex than the first, and has been the source of significant study and debate for several decades. To reliably address it, plaintiffs' evidence should account for any number of variables, including, at the very least, locality costs, locality capacity, and student demographics (poverty, language status, race, and disability).¹⁹⁰ The state, on the other hand, regularly argues that student characteristics are beyond its control, and that they are the primary causal factor in student outcomes, not state policy.¹⁹¹ The outcome in most cases, ultimately, rests upon this second causal question. Plaintiffs' inability to adequately answer it initially hampered school finance litigation, while later social science developments helped shift the overall trajectory of the litigation.¹⁹²

5. Violations Susceptible to Remedy

Some courts may also require plaintiffs to show that the constitutional violation is susceptible to a solution that is within the state's control and power. Plaintiffs might make this showing in conjunction with two-step causation. For instance, demonstrating that money affects educational outcomes would implicitly demonstrate the availability of a remedy: more money. For some courts, this is enough because money can be the catchall remedy to myriad problems.¹⁹³ As the California Supreme Court explained, money dictates whether districts have the capacity to respond to the particular challenges in their communities.¹⁹⁴ Thus, it is the state's duty to ensure access to the necessary resources.¹⁹⁵ Demonstrating non-monetary remedies, however, may require additional evidence, which might be developed as part of plaintiffs' initial case or after a finding of state liability. For instance, *Sheff v. O'Neill* involved a challenge to inter-district segregation.¹⁹⁶ While plaintiffs' initial case demonstrated a constitutional violation by the state, subsequent proceedings were necessary for plaintiffs to demonstrate that a particular remedy was in order.¹⁹⁷ Even if plaintiffs demonstrate the efficacy of a remedy—money or otherwise—it is important to reiterate that working out the details of

¹⁹⁰ See, e.g., *CFE III*, 828 N.Y.S.2d 235 (N.Y. 2006); *Abbott v. Burke*, 575 A.2d 359 (N.J. 1990).

¹⁹¹ *CFE II*, 801 N.E.2d 326, 341 (2003) (state arguing “children come to the New York City schools ineducable, unfit to learn”); *Sheff v. O'Neill*, 678 A.2d 1267 (1996) (“defendants stress . . . the significant role that adverse socioeconomic conditions play”); *Hoke County*, 599 S.E.2d at X (state arguing that “students . . . failing to obtain a sound basic education . . . is due to factors other than the educational offerings provided by the State”).

¹⁹² *Compare* *San Antonio v. Rodriguez*, 411 U.S. 1, 42–43 (1973) with *Rose v. Council*, 790 S.W.2d 186, 197 (Ky. 1989). The issue, however, continues as a point of scholarly and legal debate. See *Horne v. Flores*, 129 S. Ct. 2579, 2603 (2009), *Rebell*, *supra* note 142.

¹⁹³ See, e.g., *Brigham v. State*, 692 A.2d 384 (1997) (“[m]oney is clearly not the only variable affecting educational opportunity, but it is one that government can effectively equalize.”).

¹⁹⁴ *Serrano*, 557 P.2d at 947 (reasoning that different schools have different challenges and, thus, spend their money differently, but “the ability of a school district to meet those problems peculiar to it depends in large part upon the taxable wealth of that district.”).

¹⁹⁵ *Id.*

¹⁹⁶ 678 A.2d 1267.

¹⁹⁷ *Id.* at 1290–91.

that remedy will remain with the state.¹⁹⁸ Such an approach is consistent with general separation of powers limits on the judiciary and the specific language of numerous state constitutions.¹⁹⁹

E. Constitutionalizing a Challenge to Teacher Tenure

The scope of rights declared in equity and adequacy decisions is sufficiently broad to theoretically capture almost any education policy imaginable. School finance challenges have been the dominant means of employing the rights, but plaintiffs have used the constitutional right to education in other contexts, including challenges to school districting, intra-district student assignment, student expulsions, and school consolidation.²⁰⁰ Plaintiffs have also used the precedent to affirmatively demand alternative schools and prekindergarten education.²⁰¹ In fact, for the past two decades, scholars have called for a fourth wave of litigation that moves entirely beyond money to challenge the racial and socioeconomic isolation in schools. While that fourth wave has not materialized, the constitutional challenges to teacher tenure draws on a similar interpretation of and approach to the precedent.

The first constitutional challenge to tenure was filed in California in 2012.²⁰² After a trial and a favorable ruling in 2014, a second case, identical in all relevant respects, was filed in New York.²⁰³ The highest courts in California and New York will soon decide the fate of teacher tenure, and the effects of those decisions will ripple across numerous other states, including the other ten states where litigation is already promised. Just as *Serrano* and *Rose* played an enormous role in shaping the reasoning of other state courts that followed them, so too will these first two teacher tenure cases shape tenure fights in other states. In addition, the way in which courts decided to expand or retract the nature of the constitutional right to education will have significant ramifications on the viability of other claims beyond school finance noted above. In short, the stakes of the outcome in California and New York could not be any higher.

In California, plaintiffs' claims rests on four primary factual allegations: it is easy to get tenure; easy tenure perpetuates the retention of ineffective teachers; tenure and reduction in force rules make it impossible or too costly for districts to terminate ineffective teachers; and the presence of these teachers is the cause of constitutionally

¹⁹⁸ See, e.g., *Rose*, 790 S.W.2d at 214 (“It is now up to the General Assembly to re-create, and re-establish a system . . . which will be in compliance with the Constitution.”). Courts do, however, intervene after state recalcitrance or negligence. See, e.g., *Campbell Cnty. Sch. Dist. v. State*, 907 P.2d 1238, 1246 (Wyo. 1995); *Abbott v. Burke*, 710 A.2d 450, 458-61 (N.J. 1998).

¹⁹⁹ See, e.g., R.I. CONST. ART. XIII, Sec. 1 (“duty of the general assembly . . . to adopt all means which it may deem necessary and proper to secure to the people the advantages and opportunities of education.”).

²⁰⁰ *Sheff v. O’Neill*, 678 A.2d 1267 (1996), Second Amended Complaint by Plaintiff-Intervenors at 3–5, *Hoke Cnty. v. Charlotte-Mecklenburg*, No. 95 CVS 1158 (Wake Cnty. Sup. Ct. Sept. 30, 2005); *Phillip Leon M. v. Greenbrier*, 484 S.E.2d 909, 911 (W. Va. 1996); *Pendleton v. Marockie*, 507 S.E.2d 673 (W. Va. 1998).

²⁰¹ *King v. Beaufort Cnty.*, 704 S.E.2d 259, 260–61 (N.C. 2010); James E. Ryan, *A Constitutional Right to Preschool?*, 94 CAL. L. REV. 49 (2006).

²⁰² *Vergara v. California*, No. BC 484642, First Amended Complaint for Declaratory and Injunctive Relief (Sup. Ct. Ca. May 14, 2012) [hereinafter *Vergara*, Complaint].

²⁰³ *Davids v. New York*, Verified Amended Complaint at 4 (Supreme Ct. N.Y. June 30, 2014) [hereinafter *Davids*, Complaint].

inequitable educational opportunities.²⁰⁴ On this basis, the trial court declared all of California's challenged statutes unconstitutional.²⁰⁵

In New York, plaintiffs make the same core factual allegations, but add a few details. They claim that out of 75,000 teachers in New York City, “only 12 teachers were dismissed for incompetent teaching’ over the entire decade from 1997 to 2007.”²⁰⁶ They claim the low dismissal rate is a result of “‘super’ due process” that drives “the average cost of dismissing a teacher for ineffectiveness in New York [to] \$313,000, and takes an average of 830 days.”²⁰⁷ They emphasize that New York's highest court previously identified teachers as a crucial input in delivering an adequate education and reason that due process protections for teachers are the cause of inadequate education in many schools.²⁰⁸ No court there has ruled on the merits in New York.

1. A Facially Valid Theory

The first question these and other courts must answer is whether challenges to teacher tenure and retention fit within existing precedent. At the theoretical level, the foregoing tenure claims would fit easily within the rights articulated by various state courts. The theory and rights of those prior cases are not limited to school funding or academic standards.²⁰⁹ Moreover, a substantial number of cases substantiate the existence of inadequacy or inequity on teacher quality and quantity deficiencies.²¹⁰ Thus, at the highest level of abstraction, teacher tenure claims fall within equity and adequacy precedent.

They also roughly allege the necessary aspects of the five-pronged framework for establishing a constitutional violation described in Part III.D. First, they cite to the constitutional duty in their state. Second, they allege a constitutional deficiency: certain schools are straddled with substantial numbers of low quality teachers.²¹¹ Third, they allege state statutes cause the deficiencies: schools cannot efficiently remove ineffective teachers because of state policies on teacher tenure and removal.²¹² Fourth, they allege the second step of causation: ineffective teachers cause inadequate or inequitable educational outcomes. They base this causal assertion on research findings that the “key determinant” of educational outcomes “is teacher quality.”²¹³ Finally, they assert a remedy is possible based on social science. Removing these teachers and replacing them with just average teachers would produce enormously positive short- and long-term

²⁰⁴ Vergara, Complaint, *supra* note 202.

²⁰⁵ Vergara Final Judgment, *supra* note 8.

²⁰⁶ Davids, Complaint, *supra* note 203, at 4. A second suit, *Wright v. State* was also filed in New York, but quickly consolidated with *Davids*.

²⁰⁷ *Id.* at 11 (citing New York State School Boards Association, *Accountability for All* (March 2007)).

²⁰⁸ *Id.* at 2.

²⁰⁹ Black, *supra* note 10; Ryan, *supra* note 10.

²¹⁰ *CFE III*, 861 N.E.2d at 53; *Hoke County v. State*, 599 S.E.2d 365, 386-87 (N.C. 2004); *Tenn. Small Sch. Sys. v. McWherter*, 91 S.W.3d 232 (Tenn. 2002); *DeRolph v. State*, 677 N.E.2d 733, 745 (Ohio 1997); *Abbott v. Burke*, 710 A.2d 450, 458-59 (N.J. 1998); *Lake View v. Huckabee*, 91 S.W.3d 472, 498 (2002).

²¹¹ Vergara, Complaint, *supra* note 202, at X; Davids, Complaint, *supra* note 203, at X

²¹² Vergara, Complaint, *supra* note 202, at X; Davids, Complaint, *supra* note 203, at X

²¹³ Vergara, Complaint, *supra* note 202, at X; Davids, Complaint, *supra* note 203, at X

benefits in education and employment.²¹⁴ Thus, they say, tenure and retention policies violate students' constitutional right to an equal or adequate education.²¹⁵

Notwithstanding the foregoing rough parity, three major conceptual distinctions between prior precedent and the tenure challenges can be identified. First, prior cases sought to expand the teaching pool and/or the resources available to recruit, compensate, and retain teachers.²¹⁶ The tenure lawsuits seek to remove teachers and, thereby, shrink or hold constant teaching ranks. Noticeably absent from the tenure challenges is any serious discussion of the labor market, which prior suits located as a problem, not tenure.

Second, in prior cases, teachers were but one evidentiary piece of a much larger puzzle of inadequate or inequitable education.²¹⁷ In the tenure suits, teachers are removed from the much larger puzzle of educational opportunity. The primary justification for this isolation is that teachers matter most.²¹⁸ Regardless, the tenure claims present only part of the story of inequitable and inadequate education, whereas prior cases examined the entire education system.

Third, the theory of prior cases was not that the state's teacher policies were themselves flawed, but that the state's financial policies indirectly undermined the teaching profession.²¹⁹ Again, teachers were part of a larger puzzle. The tenure lawsuits, in contrast, focus on specific teacher tenure and removal policy as the flaw in state policy, not the overall structure in which tenure and removal operates.

These distinctions, while meaningful, are not necessarily fatal at a prima facie level to plaintiffs' claim. Precedent does not require a wholesale attack on a state's education system, and all educational deficiencies certainly are not equal. Most would agree that quality teachers are a centerpiece of a constitutional education.²²⁰ Thus, narrowing one's claim to teachers is logical. If a state statute is the lynchpin of depriving students of access to quality teachers, that lynchpin might very well warrant singular focus. Moreover, school finance equity suits have a singular focus of their own—how state finance statutes deprive students of an equal or adequate education. That finance question just involves a more complex set of statutes.

One might counter that prior cases do not presuppose a singular solution to the problem or the per se unconstitutionality of state statutes. Prior cases identify state statutes as causing inadequate funding, but the fundamental problem is inadequate or inequitable funding, not necessarily the reliance on local funds that some state statute might embody. A state could theoretically retain local funding so long as it sufficiently offset the inadequacies it caused or supplemented local funding in some locations. The

²¹⁴ Vergara, Final Judgment, *supra* note 8, at 8; Davids, Complaint, *supra* note 203, at X

²¹⁵ Vergara, Complaint, *supra* note 202, at X; Davids, Complaint, *supra* note 203, at X

²¹⁶ *CFE III*, 861 N.E.2d at 53; *Tenn. Small Sch. Sys.*, 91 S.W.3d at X; *DeRolph*, 677 N.E.2d at 745.

²¹⁷ See, e.g., *Lake View*, 91 S.W.3d at 500 (finding “discrepancies in curriculum, facilities, equipment, and teacher pay”); *CFE III*, 861 N.E.2d 50 (examining multiple aspects of education in assessing overall adequacy).

²¹⁸ Vergara, Complaint, *supra* note 202, at X; Davids, Complaint, *supra* note 203, at X.

²¹⁹ *CFE III*, 861 N.E.2d 50; Hoke County, Trial Court Opinion.

²²⁰ HANDBOOK OF RESEARCH ON TEACHER EDUCATION: ENDURING QUESTIONS IN CHANGING CONTEXTS at 527 (2008).

tenure cases, in contrast, present a *per se* challenge to tenure and retention policies that clearly envisions another approach the state must take.²²¹

However, that plaintiffs may overstate their claim or presuppose a specific remedy to which they may not be entitled does not outweigh or eliminate the otherwise strong similarities between tenure challenges and prior cases. To reject plaintiffs' claims outright, a court would have to draw artificial distinctions between the cases that would likely do harm not only to tenure claims in the future, but the other important uses to which education rights might be put. To the extent plaintiffs' claims are flawed, they are on a deeper level that requires a consideration of the facts. Thus, the ability to raise a challenge to teacher tenure under precedent should be easily answered in the affirmative.

2. Flaws and Assumptions in Substantiating the Theory

Alleging and proving a constitutional violation are, of course, entirely distinct. Plaintiffs' claims, and the trial court's adjudication, proceed with a set of assumptions that are neither currently established in facts nor easily susceptible to proof in the future.²²² The first and most problematic set of assumptions relate to the heart of any constitutional education claim: causation. While most agree that ineffective teaching is a serious problem, the cause of ineffective teaching and its solution is far from clear. Plaintiffs, nonetheless, jump to the conclusion that, of all the interrelated aspects and potential causes of ineffective teacher, tenure is the cause, if not the exclusive cause.

Second, causation aside, plaintiffs assume that the level of ineffective teachers that the current system produces rises to the level of a substantial and systematic educational deprivation. This may be possible, but it is unlikely. By narrowing their claim solely to teacher tenure and retention policies and excluding the broader teacher or educational system, plaintiffs place an enormous weight and significance on one aspect of education policy. Neither the general inadequacies in a school system nor even the general ineffectiveness of teachers in that system will count toward their claim of a deprivation. They must establish that the ineffective tenured teachers who otherwise would have been dismissed create a substantial and systematic violation. In other words, plaintiffs' tenure theory gives rise to a more difficult practical evidentiary burden than the one carried by prior adequacy and equity litigants.

Finally, plaintiffs' claims assume the existence of some reliable evaluation and retention system that could replace current policies and produce a better result. Better and more reliable policies are not yet available. Plaintiffs overlook the possibility that ineffective teaching is a result of ineffective evaluation and support systems, not the existence of tenure. Removing tenure would not resolve administrators' evaluation challenges or cure the flaws of SGPs and VAMs. Moreover, due process protections would most likely prohibit states from eliminating tenure simply to replace it with

²²¹ Vergara, Complaint, *supra* note 202, at X (asserting state statutes are facially unconstitutional).

²²² The trial court's basic finding "that [state] statutes, by preponderance of evidence, impose substantial burden on education" is an entirely unsatisfying response to several distinction and complicated questions. Vergara, Final Judgment, *supra* note 8.

unreliable evaluation methods. The following sections address each of the foregoing sets of assumptions in turn.

a. The Causal Connection Between Tenure and Ineffective Teaching Is Unknown

While voluminous, the social science research on teacher quality and its effect on student outcomes is general. It does not resolve the far more complicated question of how to identify those specific teachers who are ineffective, nor whether teachers lacking in effectiveness can or should be remediated or terminated.²²³ The research certainly does not speak to whether tenure has a positive or negative effect on individual teachers and the overall quality of the teaching profession, nor does the research answer these specific questions in regard to California or New York.

In other words, the research on which plaintiffs and the California trial court rely make a point on which almost all agree: quality teachers matter. But the research does not establish the more precise points for which plaintiffs seek to use it. This lack of specificity is crucial given that courts have required past litigants to present evidence regarding how policies and resources operate in a particular state and in particular schools. Teacher tenure challenges give no indication that such evidence is forthcoming or necessary.

Plaintiffs and the trial court in *Vergara* simply assert a causal connection between tenure policy and the prevalence of ineffective teaching in schools. They are not alone. Several reports and anecdotal stories make the same assertion.²²⁴ But at this point, it is no more than an assertion. To date, no research-based evidence substantiates the assertion, and as section X demonstrates, specific causation, demonstrated through statistical correlations with actual data from within the state, is necessary to sustain a claim against presumptively constitutional education statutes.

Establishing such a causal link is no easy task. The challenges in closing the causal gap between money and student outcomes—and the need to wait on social science progress—stymied school finance litigation from its infancy. In fact, some courts and scholars still contest the causal link.²²⁵ Social science evidence in regard to tenure today is no more definite than what was available in regard to school funding in the 1970s. Owing in part to that weakness, state courts have already proven resistant to a similar causal claim in education malpractice litigation. In a series of cases dating back to 1976, individual students have argued that egregiously ineffective teaching prevented them from graduating or progressing to a subsequent grade.²²⁶ Courts have consistently rejected those claims, reasoning that too many factors affect individual students'

²²³ Baker et al., *supra* note 22.

²²⁴ See, e.g., NEW YORK STATE SCHOOL BOARDS ASSOCIATION, ACCOUNTABILITY FOR ALL (March 2007); Barrett, *LAUSD's Dance of the Lemons: Why Firing the Desk-Sleepers, Burnouts, Hotheads and Other Failed Teachers Is All but Impossible*, LA WEEKLY (Feb. 11, 2010); CHAIT, *supra* note 29.

²²⁵ See, e.g., *Horne v. Flores*, 129 S. Ct. 2579, 2603 (2009).

²²⁶ *Peter W. v. S.F. Unified Sch. Dist.*, 131 Cal. Rptr. 854 (Ct. App. 1976); *Donohue v. Copiague Union Free Sch. Dist.*, 408 N.Y.S.2d 584 (Sup. Ct. 1977), *aff'd*, 391 N.E.2d 1352 (N.Y. 1979); *Bell v. West Haven*, 739 A.2d 321 (Conn. App. Ct. 1999); *Poe v. Hamilton*, 565 N.E.2d 887, 888 (Ohio Ct. App. 1990); *D.S.W. v. Fairbanks*, 628 P.2d 554 (Alaska 1981).

educational outcomes and the harm suffered as a result of ineffective teaching was too indefinite to infer a causal connection.²²⁷

One recent article by Ethan Hutt and Aaron Tang argues that SGPs and VAMs provide a means for overcoming the causal uncertainty that previously blocked education malpractice plans.²²⁸ If so, the same would be true for the constitutional challenge to tenure. Hutt and Tang rely heavily on the fact that SGPs and VAMs will create a baseline for acceptable teacher performance, will allow schools to objectively rank teachers, and will put schools on notice of individual ineffective teachers.²²⁹ Hutt and Tang, however, do not seriously engage the flaws in those evaluations systems. They suggest it is enough that the models are data based and the best currently available to us.²³⁰ They may be correct that data these models produce is the best we have, but that fact does not establish a causal connection between particular teachers and students, nor tenure and teaching effectiveness. At best, the data puts schools and teachers on notice of a potential problem in teaching effectiveness, without demonstrating that there is a problem. Thus, SGPs and VAMs do not establish that tenure and retention policies play a causal role in ineffective teaching.²³¹

b. Retaining Ineffective Teachers May Not Rise to a Constitutional Deprivation

The constitutional challenges to tenure also fail to sufficiently address the requirement of a substantial and systematic constitutional violation. The current challenges either assume the constitutional rights at stake can be personalized at a level that does not require such a violation or they assume that tenure policies retain a sufficiently pervasive number of sufficiently ineffective teachers that they rise to the level of a constitutional violation. No case law supports the former and the latter is factually problematic.

No one doubts that schools employ ineffective teachers. Many would allow that there are a large number of ineffective teachers.²³² But it does not follow that the number of ineffective teachers is high enough to amount to substantial and systematic violation. The complaints in California (and NY) allege variances in teaching quality from classroom to classroom and school to school,²³³ but variance alone does not create a constitutional violation.²³⁴ If a group of thirty students are taught by six different teachers over the course of a semester, one ineffective teacher does not automatically

²²⁷ See, e.g., *D.S.W.*, 628 P.2d at 556 (“The level of success which might have been achieved had the mistakes not been made will, we believe, be necessarily incapable of assessment, rendering legal cause an imponderable.”); *Smith v. Alameda Cnty.*, 90 Cal. App. 3d 929, 941 (Cal. 3d Ct. App. 1979) (indicating precedent had rejected such claims because of “the difficulties of assessing the wrongs and injuries involved”).

²²⁸ Hutt & Tang, *supra* note 48.

²²⁹ *Id.* at X.

²³⁰ *Id.* at X.

²³¹ Plaintiffs’ tenure challenge, reduced to its essence, is a claim of a right to remove those ineffective teachers that randomly appear in the education system, which more closely aligns with an education malpractice claim. Hutt and Tang may be correct that it is time to revisit malpractice claims. Plaintiffs in New York and California, however, seek to transform individual malpractice claims into wide-scale constitutional claims.

²³² Even a leading liberal think tank has raised the issue. CHAIT, *supra* note 29.

²³³ Vergara, Complaint, *supra* note 202; Davids, Complaint, *supra* note 203.

²³⁴ See, e.g., *Serrano v. Priest*, 226 Cal. Rptr. 584, 606 (Ct. App. 1989).

deprive the group of an adequate education. The adequacy of education will depend on the subject taught by the ineffective teacher and the quality of the group's other teachers.

Even if individual teachers could cause substantial educational deprivations, the deprivation may not be systematic. Plaintiffs estimate that Los Angeles Unified School District employs 1,000 grossly ineffective teachers,²³⁵ which might sound systematic on its face, but LAUSD employs approximately 30,000 teachers in 900 schools.²³⁶ Thus, plaintiffs claim amounts, on average, to one grossly ineffective teacher per school, or one out of thirty teachers. Again, ineffective teaching is necessarily problematic, but not necessarily a constitutional violation. Unless a substantial problem repeats itself across whole schools and districts, establishing a causal link to state policy becomes even more problematic.²³⁷ At the state-wide level, plaintiffs' estimate was even more speculative. They estimated one to three grossly ineffective teachers out of one hundred,²³⁸ which is far from a systematic and substantial problem.

c. Tenure Policies Intersect with Several Other Unaccounted for Factors and Policies

While assuming causal connections in regard to tenure, plaintiffs ignore the potential causal effects of other policies and factors. Plaintiffs need not challenge the overall structure of education, but a reliable causal analysis requires that they account for the causal role of other policies and structures. Tenure might very well correlate with educational outcomes, but without accounting for other important variables, one cannot reasonably conclude that tenure is not masking some other underlying or overarching causal factors. Disaggregating outcomes by multiple core variables is standard practice in education research and litigation. In the challenge to tenure, at least, four other significant factors that intersect with teaching quality and student outcomes must be accounted for: race, money, the teaching market, and principals' decisionmaking role. None fully are.

i. Race, Money, and the Teaching Market

The most obvious factors for which causal analysis must account are student demographics. As Laura McNeal explains, "Numerous empirical research studies document the numerous factors external to classroom teacher performance that can directly impact student performance on standardized tests such as inadequate school resources, large classroom sizes, parental education attainment, and high populations of

²³⁵ Vergara, Complaint, *supra* note 202.

²³⁶ LAUSD, District Accountability Report Card 2006-2007. Plaintiffs' expert, based on the assumption that 1 to 3 percent of teachers are ineffective, estimated that 2,750 to 8,250 grossly ineffective teachers were employed across the state.

²³⁷ It may be that a claim could be brought against the school district on some other theory, such as failure to properly manage teachers or to enforce existing tenure standards, or that the state is liable for local mismanagement, but that claim is not made by the instant plaintiffs and is predicated on a different theory. For a discussing of local districts' duty to deliver a constitutional education and the state's responsibility for supervising it, see Black, *supra* note 10.

²³⁸ Vergara, Final Judgment, *supra* note 8.

English language learners.”²³⁹ Some states, however, “have embraced the presumption that teacher competence is the primary contributor to student performance without examining its validity.”²⁴⁰

The *Vergara* plaintiffs’ only allusion to the relevance of demographic factors is their allegation that racial minorities are disproportionately exposed to ineffective teachers.²⁴¹ This allegation is certainly consistent with social science literature on differential exposure to ineffective teaching,²⁴² but this allegation does not disaggregate the potential causes of that exposure or its effects. To statistically assess the impact that a teacher’s instruction has on students and whether it rises to the level of ineffective, the demographics of that teacher’s students, as well as those to whom they are to be compared, must be known.

The second set of factors for which plaintiffs do not account are those relating to teacher hiring. For teacher tenure to cause ineffective teaching, plaintiffs need to establish, for instance, that there are other qualified teachers in the market to replace those whom districts would fire and that those qualified teachers would accept positions in the disadvantaged schools.²⁴³ Studies suggest neither is the case.²⁴⁴ One of the most intractable problems in our current education system is expanding the pool of qualified teachers.²⁴⁵ There simply are not enough good teachers to go around.²⁴⁶ Until an oversupply of qualified teachers occurs, disadvantaged schools will have to compete to hire them.

Money and race play significant roles in this competition. First, disadvantaged schools have fewer resources to hire teachers.²⁴⁷ Second, research shows that, independent of money, teachers with choices—those that are highly qualified—choose to teach in schools with fewer poor and minority students.²⁴⁸ These findings are entirely consistent with plaintiffs’ claims that “grossly ineffective teachers are disproportionately situated in schools that serve predominantly low-income and minority students.”²⁴⁹ But

²³⁹ McNeal, *supra* note 88, at 506.

²⁴⁰ *Id.*

²⁴¹ Vergara, Complaint, *supra* note 202.

²⁴² Parker, *supra* note 14.

²⁴³ Plaintiffs are relatively forthright in this assumption. They indicate the problem is not the pool, but an inability to correct bad initial hires once tenure and due process protections kick in. Vergara, Complaint, *supra* note (“grossly ineffective teachers are routinely hired into the California school system and granted [tenure]. Even after their grossly ineffective performance is discovered, such teachers are not dismissed for their poor performance.”)

²⁴⁴ Derek W. Black, *In Defense of Voluntary Desegregation: All Things Are Not Equal*, 44 WAKE FOREST L. REV. 107, 119 (2009).

²⁴⁵ U.S. CHAMBER OF COMMERCE, LEADERS & LAGGARDS: A STATE-BY-STATE REPORT CARD ON K–12 EDUCATIONAL EFFECTIVENESS at 9 (2014); CASSANDRA M. GUARINO, ET AL., A REVIEW OF THE RESEARCH LITERATURE ON TEACHER RECRUITMENT AND RETENTION (2004).

²⁴⁶ See Oluwole, *supra* note 23, at 184 (advocating for the transfer of teachers to high need schools). A U.S. Department of Education study finds transfers are an effective solution. INST.OF EDUC. SCI.S, TRANSFER INCENTIVES FOR HIGH PERFORMING TEACHERS: FINAL RESULTS FROM A MULTISITE RANDOMIZED EXPERIMENT (2013).

²⁴⁷ EDUCATION TRUST, FUNDING GAPS 2006, at 7 tbl.4 (2006).

²⁴⁸ See generally Eric A. Hanushek et al., *Why Public Schools Lose Teachers*, 39 J. HUM. RESOURCES 326, 337 (2004) (“teachers systematically favor higher achieving, nonminority, non low-income students”); Parker, *supra* note 14; Jane L. David, *Teacher Recruitment Incentives*, 65 POVERTY AND LEARNING 84 (2008).

²⁴⁹ Vergara, Complaint, *supra* note 202, at 11.

plaintiffs ignore the precedent causes of these inequalities: race and money. Instead, plaintiffs assume that the antecedent occurrence of tenure is a causal factor. In short, school funding and segregation play a significant role in access to quality teachers, with which tenure may have absolutely nothing to do.

Because plaintiffs' causal premises are so simplistic, they also ignore the possibility that terminating ineffective teachers might make matters worse for the students they seek to help. If all other factors stayed the same, terminating more teachers would most likely leave poor and minority schools with fewer teachers than the currently have,²⁵⁰ or force those schools to replace terminated teachers with equally low quality teachers. It is possible that eliminating unqualified teachers might have a positive effect on the overall teaching pool and, thus, present schools with more hiring options. Thus, terminations would produce a net gain. But the effects of teacher terminations are simply unknown. It is also possible that the teaching pool might shrink even further, as current teachers—including quality ones—seek to escape a profession with rising pressures and risks, while others are discouraged from joining it in the first instance.²⁵¹ The net result of this effect would be negative for all schools.²⁵²

In short, an underdeveloped teaching pool, school funding inequities, and racial segregation all indicate that the problem of ineffective teachers may not be tenure, but the unequal distribution of ineffective teachers, which concentrates them in disadvantaged schools. Recognizing these larger structural inequalities, prior litigants have consistently and directly challenged funding inequality and segregation, rather than the effects these first-order problems produce in teacher quality. Ignoring structural inequality not only oversimplifies causal analysis, it assumes that more effective teachers can be had for free in segregated environments.

ii. Administrative Decisionmaking

Principals' decisionmaking also plays an obvious role in the retention of ineffective teachers. Plaintiffs assume that these principals are ready, willing, and able to terminate ineffective teachers if tenure did not exist.²⁵³ This assumption ignores two key factors. First, for tenure to play a significant causal role, it must be the case that principals would disregard the structural funding, poverty, and race challenges within which they make decisions. Some might disregard these factors, but they will still be subject to them after they terminate a teacher. Thus, their ability to terminate a teacher may still have little effect on teacher quality.

²⁵⁰ Some advocate this is exactly what we need. Dagostino, *supra* note 47; MICHAEL HANSEN, *RIGHT-SIZING THE CLASSROOM: MAKING THE MOST OF GREAT TEACHERS* (2013).

²⁵¹ Superfine, *supra* note 42; Rebell, *Safeguarding*, *supra* note 44, at 1948 (“leaders are undermining the prestige of the profession and the morale of current educators”); Fernanda Santos, *Teacher Survey Shows Morale Is at a Low Point*, N.Y. TIMES, Mar. 8, 2012, at A13 (moral at twenty year low).

²⁵² Eva L. Baker, et al., *Problems With the Use of Student Test Scores to Evaluate Teachers*, Economic Policy Institute Briefing Paper 278 (August 27, 2010) (finding no strong evidence to support the notion that evaluation systems based on student scores would improve teaching).

²⁵³ Vergara, Complaint, *supra* note 202; Davids, Complaint, *supra* note 203.

Second, research indicates that principals may not be willing to terminate teachers. Principals hold low expectations for teachers or are simply reluctant to “rock the boat” by harshly evaluating teachers.²⁵⁴ In other words, principals may be uninterested in using the tools available to them to terminate teachers. A recent study of California schools found that most districts in the state had failed or refused to implement the new statutorily required teacher evaluation system based on student achievement.²⁵⁵ One district went so far as to prohibit use of the system.²⁵⁶ Thus, even if terminating teachers could produce net gains for schools, the causal problem may lie with principals, not teachers. At the very least, tenure is not the sole cause that plaintiffs assume.

In sum, this Article does not purport to know the precise causal role that race, funding, teaching markets, or principals play in teaching effectiveness. It is the plaintiffs who must answer these and other causal questions. They have not. Instead, they assume that causation exists or expect courts to draw causal inferences on supposition. Prior equity and adequacy courts have refused to do so.

IV. A REASONED JUDICIAL RESPONSE TO TEACHER TENURE CHALLENGES

The highest courts in California, New York, and other states will soon be called upon to decide the validity of the constitutional challenge to tenure. Courts should, with caveats, recognize a cause of action, as plaintiffs have stated a theoretically valid claim within existing precedent. But courts should reject plaintiffs’ challenge as applied because their claims cannot be substantiated. Law, facts, and important policy considerations all point to this conclusion.

A. *Plaintiffs Have Stated a Theoretically Valid Claim*

Plaintiffs’ claims easily fall within existing school finance precedent and theory. State policies in regard to teacher tenure can theoretically violate students’ right to a quality or an equal education. A court would struggle to bar such a cause of action without also doing damage to the overall evolution of education rights. Those education rights are currently broad, sufficiently so that numerous prior adjudications have found that access to quality teaching is part of a state’s constitutional obligation to students. To exclude plaintiffs’ current tenure claims, a court would need to narrow its precedent. This might cut short and eliminate currently flawed tenure claims, but it would also do damage to important claims other plaintiffs will likely press in the future in regard to discipline and segregation. The ability of state education rights to provide checks on school discipline and segregation depend on continued broad interpretations of the right

²⁵⁴ EDWIN M. BRIDGES, *THE INCOMPETENT TEACHER: MANAGERIAL RESPONSES* 25–26 (rev. ed. 1992); Suzanne R. Painter, *Principals’ Perceptions of Barriers to Teacher Dismissal*, 14 J. PERS. EVALUATION IN EDUC. 253 (2000); DANA GOLDSTEIN, *THE TEACHER WARS: A HISTORY OF AMERICA’S MOST EMBATTLED PROFESSION* (2014).

²⁵⁵ ED VOICE INSTITUTE, *STUDENT PROGRESS IGNORED: AN EXAMINATION OF CALIFORNIA SCHOOL DISTRICTS’ COMPLIANCE WITH THE STULL ACT 4* (2015).

²⁵⁶ *Id.* at 5.

to education.²⁵⁷ In short, the constitutional challenge to tenure is new, but not entirely distinct. Courts should not alter important precedent just to avoid addressing the substantive issues involved in tenure challenges.

Courts should, however, narrow the circumstances under which they will entertain tenure challenges. First, courts should reject facial challenges to tenure statutes. No court has previously invalidated education statutes under such circumstances. Courts have always required school finance, and analogous litigants, to establish their cases on the facts. Reliance on local property tax to fund schools, for instance, is not per se unconstitutional, nor are funding levels well below the national average or wide funding disparities.²⁵⁸ There is no more reason to infer a facial violation based on teacher tenure than any other education policy.

Second, based on permissive pleading rules, a court should allow plaintiffs' current challenge to tenure to proceed. Under the traditional approach, plaintiffs' claim could survive a motion to dismiss for failure to state a claim only if "it appears beyond doubt that the plaintiff can prove no set of facts in support of his claim which would entitle him to relief."²⁵⁹ While plaintiffs' claim is riddled with factual flaws and assumptions, the law would provide relief if the plaintiffs could establish the factual claims they make and it is not beyond doubt that they might marshal the necessary evidence to do so.

Courts recognizing a properly stated claim, however, should signal implicitly or explicitly that plaintiffs need to establish more precise facts than their current complaints allege. In particular, plaintiffs would need to establish substantial and systematic violations (unless a court intends to personalize the claim, which would raise other issues) and demonstrate two-step causation. In *Vergara*, a trial has already occurred, so the appellate courts can easily overturn the trial courts' holding—as the facts insufficiently establish the claim—or remand for further factual findings on the necessary causal questions the trial court did not address. Upon analyzing those questions, the trial court itself could reject plaintiffs' claim on the facts. But in those yet to be tried cases, a clear indication of the necessary evidence required of plaintiffs would help cut short otherwise futile litigation.

A court adopting the new federal approach to pleading, however, might dismiss the current claims, as currently conceived. The new federal approach assesses whether the claims alleged are plausible and whether they allege all of the necessary material elements of the claim.²⁶⁰ This approach would offer a court the ability to dismiss tenure challenges for failure to allege two-step causation, for instance, or for implausibility given the various causal uncertainties ignored or oversimplified by plaintiffs. With that said, even under a heightened pleading approach, plaintiffs do allege causation, from which one could reasonably infer an allegation of two-step causation. Likewise,

²⁵⁷ Black, *supra* note 10; Emily Bloomenthal, *Inadequate Discipline: Challenging Zero Tolerance Policies as Violating State Constitution Education Clauses*, 35 N.Y.U. REV. L. & SOC. CHANGE 303 (2011).

²⁵⁸ See *Serrano v. Priest*, 226 Cal. Rptr. 584, 606 (Ct. App. 1989) (requiring substantial disparities); Committee for Educational Rights v. Edgar, 672 N.E.2d 1178 (1996).

²⁵⁹ *Conley v. Gibson*, 355 U.S. 41, 45–46 (1957).

²⁶⁰ The Court recently abrogated the traditional pleading approach. *Bell v. Twombly*, 550 U.S. 544 (2007); *Ashcroft v. Iqbal*, 129 S. Ct. 1937 (2009). States, of course, have their own pleading rules.

although current social science strongly indicates that plaintiffs will not be able to substantiate their claim, the claim itself is not implausible. Plaintiffs, now or in the future, might further develop the necessary evidence themselves. Courts looking to conserve judicial resources could dismiss the claims not on the legal theory, but on the factual allegations themselves, leaving open the possibility of future litigation.

B. Plaintiffs Have Not Proven a Constitutional Violation

Barring new social science developments and a better appreciation of causation by plaintiffs, those courts that permit plaintiffs to proceed to trial should find that plaintiffs have failed to establish their claim. First, the general evidence alleged in the current complaints and presented at trial in *Vergara* fails to establish that the ineffective teaching of which they complain rises to the level of systemic substantial deprivations of the constitutional right to education. Second, even if such a deprivation exists, plaintiffs have not shown tenure is the cause of that deprivation, nor that the deprivation has a causal effect on student outcomes. Third, any showing or inference to that affect would be unreliable because plaintiffs' case fails to sufficiently account for many demographic factors and other state policies that affect teaching effectiveness and student outcomes.

Of course, the challenge in New York and various other states has to be tried. One cannot say for certain that plaintiffs will not be able to substantiate their case. The foregoing is simply to say it is highly unlikely that they can, not that plaintiffs should be denied the opportunity to try. To the contrary, allowing plaintiffs the opportunity to make their case has merit. Some courts were too quick to dismiss plaintiffs' school finance claims during the 1970s and 1980s. Based on courts' own assumptions of what facts could be shown, courts rejected plaintiffs' claims on their face.²⁶¹ When social science and evidence later developed, plaintiffs were barred from bringing claims or, at least, seriously prejudiced.²⁶² While tenure challenges are seriously flawed on current facts, things may change in the near future. Notwithstanding the flaws that plague VAMs and SGPs, those systems are well positioned to make breakthroughs.²⁶³ Remaining open to those breakthroughs, as well as variations of plaintiffs' theory, is important to the continued development and enforcement of the constitutional right to education.

C. Public Policy Cautions Against Judicial Intervention in a Multifaceted Problem

Even were plaintiffs to establish some generalized correlation between tenure and educational outcomes, it is not obvious that the solution is to eliminate tenure or terminate teachers. The solution to the problem is bound up in a complex set of public policies and market factors. Any number of different solutions or combined solutions is

²⁶¹ *San Antonio v. Rodriguez*, 411 U.S. 1 (1973); *McDaniel v. Thomas*, 285 S.E.2d 156, 160-61 (Ga. 1981).

²⁶² In Georgia, for instance, plaintiffs have struggled to restart litigation in their state, notwithstanding the theoretical and factual merits in the state. <http://schoolfunding.info/2012/01/school-funding-cases-in-georgia/>.

²⁶³ Superfine, *supra* note 42, at X ("teacher evaluation and accountability reforms appear to be moving in a positive direction").

plausible. The call to eliminate tenure or accelerate teacher terminations is premised on the notion that there is a reliable means by which to achieve that end, but states are still in the experimental stages of altering teacher evaluations (which explains the numerous flaws in the new systems).²⁶⁴ Wading into the politics and policy efficacy of terminating teacher, without solid social science and causal evidence, could place courts' institutional legitimacy in danger. Courts are ill-equipped to mediate the debate and experimentation in regard to teacher evaluation.

It is, likewise, nearly impossible for courts to predict the various indirect effects that altering teacher tenure and retention will produce, much less whether those effects do or do not outweigh the benefits. In New Mexico, for instance, students recently challenged the state's new SGP teacher evaluation and removal system as a violation of their constitutional right to education. They allege that the "evaluation system . . . hinders Defendants' duty to provide a uniform and sufficient system for all students by unfairly evaluating good teachers and by not ensuring those teachers who need improvement have adequate support to improve their instruction."²⁶⁵ Furthermore, the system undermines "teacher recruitment and retention efforts, especially in districts and campuses with higher populations of minority and at-risk students. . . . [Q]uality teachers have requested transfers out of such schools, and they have refused transfers into such schools because of the punitive teacher evaluation system."²⁶⁶ Rather than helping these students, the SGP system often makes matters worse for the neediest students.²⁶⁷ In short, teacher tenure and evaluation systems are in such flux that, in New Mexico, students challenge their existence as unconstitutional, while in California and New York, students challenge their absence as unconstitutional.

Analogous indirect effects of altering tenure may also move beyond teachers themselves. Teacher tenure policy intersects with any number of other education policies, including curriculum, funding, hiring, assessment, and student assignment. Any change in tenure has the capacity to produce reciprocal effects in these other areas. These effects may or may not support the end goal of delivering a constitutional education.²⁶⁸ If not, resolving one problem—tenure—would just create another. Thus, while a challenge to teacher tenure may be theoretically valid, the polycentric nature of tenure may render an isolated judicial analysis and attack practically unmanageable.²⁶⁹

Where multiple different problems—some of which are non-legal—and multiple different solutions are plausible, separation of powers principles dictate courts should intervene cautiously, at best.²⁷⁰ Constitutional education litigation is not a vehicle for

²⁶⁴ Baker, et al., *supra* note 22.

²⁶⁵ Martinez Complaint, *supra* note 32.

²⁶⁶ *Id.*

²⁶⁷ *Id.*

²⁶⁸ See generally Rebell, *supra* note 44 (discussing policy approaches other than VAMs and SGPs).

²⁶⁹ See *McCleary v. State*, 269 P.3d 227, 247 (2012) ("The legislature's 'uniquely constituted fact-finding and opinion gathering processes' provide the best forum for addressing the difficult policy questions inherent in forming the details of an education system."); see also William S. Koski, *The Politics of Judicial Decision-Making in Education Policy Reform Litigation*, 55 HASTINGS L.J. 1077, 1226 (2004).

²⁷⁰ Bauries, *supra* note 155.

courts to second-guess policy decisions reserved for the legislature.²⁷¹ School funding litigation has avoided these policy problems through careful litigation and judicial strategy that is missing from the tenure challenge. First, so-called school funding litigation is not just about funding.²⁷² Rather, it involves a macro-assessment of the education system that is not about dictating specific solutions, but dictating specific responsibility to the state for finding solutions.

Second, even when reduced to a financial dictate, prior litigation is primarily about expanding the financial pot. This may produce negative reciprocal effects in other areas of the state budget, but it is less likely to produce negative effects within education. Tenure and retention challenges are the equivalent of stirring or sifting the pot without knowing what the results will be. Third, adequacy and equity litigation focus on money because money places education systems in a position to address educational challenges in the myriad ways their local circumstances require.²⁷³ Thus, money is a concession to polycentric problems and the fact that educators must address them based on local circumstance. The tenure challenge, in contrast, seeks to have plaintiffs define—as in eliminate or restrict tenure—rigid solutions.

Finally, any restrictions that a constitutional right to education might place on teacher tenure must comply with the Due Process Clause of the U.S. Constitution.²⁷⁴ As discussed in Part II.C, systems that both effectuate the ends that plaintiffs desire and pass due process analysis do not appear to be currently available. Neither the plaintiffs nor the trial court in *Vergara* pay these due process concerns any attention. The failure to do so could be to replace the tenure system that violates the state constitution with another that violates the federal constitution. In sum, any or all of the foregoing policy problems caution against the judicial intervention that plaintiffs currently seek.

CONCLUSION

The constitutional challenge to tenure highlights a crucial point in social science research, school finance precedent, and the past decade of federal policy: the centrality of quality teachers to educational outcomes. None of these predecessors have managed a way to significantly improve teaching. Unfortunately, the current constitutional challenge to tenure does not either. The constitutional claim does, however, potentially achieve two other important ends. First, it elevates the concerns over ineffective teaching to a new plane. Rather than simply a policy prerogative, quality classroom teaching is part of students' constitutional right to education, which demands a remedy when violations occur. Second, the constitutional challenge to tenure expands the theoretical boundaries of school finance precedent. That precedent, when read properly, provides a basis to reform educational inequality through means other than money.

²⁷¹ *McCleary*, 269 P.3d at 247; *CFE III*, 828 N.Y.S.2d 235 (N.Y. 2006).

²⁷² Black, *supra* note 10.

²⁷³ See *Brigham v. State*, 692 A.2d 384 (1997); *Serrano v. Priest*, 557 P.2d 929, 947 (1976).

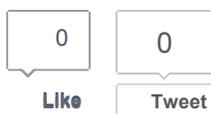
²⁷⁴ See generally *Debra P. v. Turlington*, 644 F.2d 397 (5th Cir. 1981) (articulating the due process limits on graduation exam).

The challenge to tenure, nonetheless, has not yet matured to a point that warrants judicial intervention to eliminate of tenure. Currently available evidence does not establish the causal and injury related facts necessary to make out a state responsibility for a constitutional violation. Moreover, even if a violation existed, any number of other remedies might be appropriate. Per separation of powers limitations, the choice amongst permissible remedies must be left to legislatures. Both state and federal legislatures are already experimenting with ways to improve instruction, some of which involve tenure, others do not. While state constitutions guarantee students an equal and adequate education, those constitutions do not afford courts the authority to intervene with preordained remedies or in the context of factual uncertainty.



Report: Californians make more, but pay less toward education than those in other states

Oct 8, 2013 | By Kathryn Baron | 11 Comments



California has made some historic strides in its efforts to boost school funding and provide additional resources to the neediest students, but a [new report](#) finds that spending on each student still falls below nearly every other state, in part because Californians pay less in taxes to support schools.

California's lackluster school funding is nothing new, but the study by the California Budget Project, a nonprofit fiscal and policy analysis organization, found that "California's financial support for schools lags its capacity."

"The state has more per capita in personal income than the rest of the United States but spends much less per capita income than the rest of the United States," said Jonathan Kaplan, senior policy analyst for education at the Budget Project.

In the report, per capita personal income is described as "a measure of the financial resources available to help support schools and other

public systems and services.” Most folks use the common definition – taxes.

The Budget Project traces this gap back to [Proposition 13](#). The 1978 ballot initiative imposed limits on property tax increases. Until then, local tax revenues accounted for nearly half of school funding. Since then, districts have had to rely more heavily on the state to meet their education funding needs.

In the 2012-13 fiscal year, Californians’ per capita personal income was more than \$47,000, more than \$3,000 above the national average. Nevertheless, just 3.18 percent of that personal income went to schools in California, compared to more than 4 percent in the rest of the country. The majority of funding – 57 percent – for California schools comes from the state, while only about 32 percent comes from “local sources, primarily local property taxes,” the report said. “In contrast,” the report said, “schools in the rest of the U.S. received roughly an equal proportion of their funds from the state and from local sources – 44.3 percent and 45.7 percent, respectively.”

The average spending by all states on education, excluding California, is \$11,755 per student, according to the study. California allocates about \$9,280 per student, nearly \$2,500 less than the national average. Compared to the highest-spending states, California trails Illinois in per-student spending by \$4,080, and New York by \$6,700. California also ranks at the bottom – 51st – in student-to-teacher ratio (measured by the total number of students in the state divided by the total number of certificated teachers).

A couple of significant actions by voters and lawmakers in the past year will improve the state’s financial situation and provide more funding for students who need it the most.

[Proposition 30](#), the ballot initiative approved by voters last November, could bring in as much as \$6 billion more a year for public schools through a temporary four-year sales tax increase for everyone and a seven-year income tax hike on the wealthiest Californians. But even that “will not provide California schools with sufficient resources to

meet the challenges of educating the state’s students,” according to the report.

Foremost among those challenges is that educating low-income and English-learner students costs more because those students require additional resources, and California schools enroll the largest share of those students than anywhere in the country. More than 30 percent of the nation’s 4.4 million school-age English learners attend California public schools, and a majority of students – 53 percent – are eligible for the [free and reduced-price lunch program](#), an indication that they live near or below the poverty level.

The [Local Control Funding Formula](#) (LCFF), approved as part of the state budget starting this fiscal year, fundamentally restructures how the state funds schools “and makes California’s education finance system more transparent,” write the reports’ analysts.

Under LCFF, schools receive a [base amount of money](#) of about \$7,643, which varies by grade level. On top of that, districts receive a targeted supplemental grant of 20 percent of the base, determined by how many English learners, foster youth and low-income students are in the district. LCFF also provides a concentration grant, amounting to 50 percent of the base grant, to districts whose disadvantaged students make up more than 55 percent of their enrollment.

While LCFF “is an important step toward aligning state dollars with student needs,” according to the Budget Project, reaching the target level determined to provide an adequate education to all students would require some \$20 billion more each year.

GOING DEEPER

[State Board to vote on Common Core for English learners](#), EdSource
Today, Nov. 6, 2012

[An Overview of the Local Control Funding Formula, California](#)
Legislative Analyst's Office, July 2013

**A Decade of Disinvestment: California Education Spending Nears
the Bottom, California Budget Project, Oct. 2011**

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Rising to the Challenge: Why Greater Investment in K-12 Education Matters for California's Students

California's K-12 schools face a unique set of challenges. Not only does California educate more students than any other state, but economically disadvantaged students and English learners (ELs) account for a larger share of students in California than in the rest of the US. Yet, even though California has more financial resources per capita than the rest of the US, the state spends far less of its total personal income on K-12 schools. As a result, California K-12 education spending continues to lag the nation by a number of key measures. Although Proposition 30, passed by California voters in November 2012, is expected to increase state revenues and boost school spending over the next few years, this revenue measure alone will not provide California schools with sufficient resources to meet the challenges of educating the state's students.

While California's current financial support for schools falls well short of the state's capacity to invest in K-12 education, the new Local Control Funding Formula (LCFF) – approved by the Governor and the Legislature earlier this year – is an important step toward aligning state education funding with student needs. The LCFF fundamentally restructures California's education finance system and directs additional resources to disadvantaged students – specifically ELs, students from low-income families, and foster youth. How the state allocates education dollars is especially important in California, because its schools rely more heavily on state funding – and relatively less on local property taxes – than those in the rest of the US. This is largely due to the limits that Proposition 13 of 1978 imposed on the local property tax as well as policies enacted after Proposition 13 to help schools and local governments cope with the loss of local revenues. This *School Finance Facts* compares California's student demographics, education funding, and school spending and staffing to that in the rest of the US, and shows why California will need to invest more to provide a high-quality education for all students.

California's Schools Educate a Large, Diverse Student Population

California educates far more students than any other state, and has a highly diverse student population. In 2012-13, 6.2 million students enrolled in public schools in California, which is 1.1 million more students than in Texas, 3.5 million more than in Florida, 3.6 million more than in New York, and 4.1 million more than in Illinois. Latinos comprised the majority (52.7 percent) of California public school students in 2012-13, whites slightly more than one-fourth (25.5 percent), Asians 11.7 percent, and blacks 6.3 percent

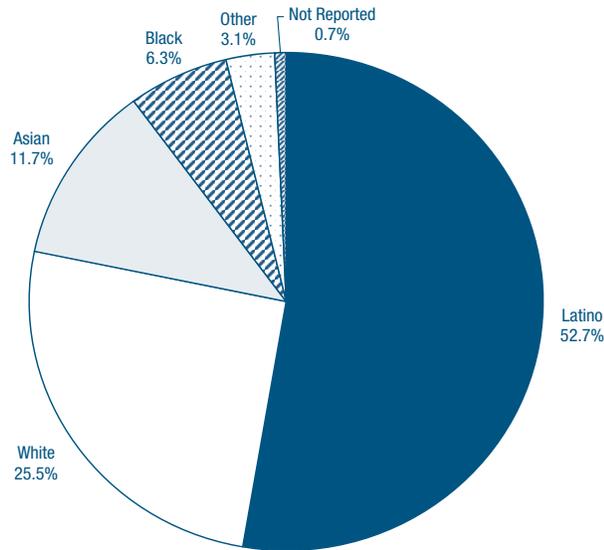
(Figure 1). The composition of students in California's schools has changed substantially during the past two decades. In 1992-93, whites comprised the largest share (43.4 percent) of California student enrollment, Latinos more than one-third (36.1 percent), Asians 11.0 percent, and blacks 8.6 percent.

California's Student Population Requires More Resources to Educate

California's schools enroll the largest share of English learners (ELs) in the US. To help pay for the additional services that ELs need to meet academic standards, the federal government allocates Title III dollars based on the number of ELs in each state.¹ Three in 10 (30.1 percent) of the nation's 4.4 million Title III beneficiaries attended a California school in 2011-12, and the state's 1.3 million ELs nearly equal the *combined* number of ELs in the next four most populous states – Texas, New York, Florida, and Illinois – even though these four states together have roughly twice as many students as California.

In addition to educating the largest share of the nation's ELs, California has a larger percentage of students from low-income families than does the rest of the US.² In

Figure 1: Latinos Comprise a Majority of Students Enrolled in California Public Schools



Number of Students Enrolled in California K-12 Public Schools in 2012-13 = 6.2 Million

Source: California Department of Education

2010-11, a majority of California's students (53.0 percent) were eligible for free or reduced-price lunches, a measure that is commonly used to compare the number of economically disadvantaged students among states (Figure 2).³ This proportion is larger than that for the rest of the US, where 46.8 percent of students were eligible for free or reduced-price lunches. Among the five most populous states, only Florida has a higher percentage of students from low-income families than California does. More than 3.3 million California students in 2010-11 came from households with incomes at or below the free and reduced-price lunch eligibility limit, which is 185 percent of the federal poverty line. This limit in 2010-11 was \$33,874 for a single parent with two children.

Research shows that ELs and students from low-income families cost more to educate.⁴ California's large number of these students means that the state needs to spend more than others to allow all students to reach state and national academic standards. However, California's school spending per student is lower than that in the rest of the US. Further, compared with other large states,

California spends far less per student than do states – such as Illinois and New York – that have smaller percentages of both ELs and economically disadvantaged students. California policymakers recently took an important step toward addressing the needs of ELs and students from low-income families by restructuring the state's education funding system and providing additional resources to school districts for these students (see text box on page 4).

California's Education Spending Continues to Lag the Nation

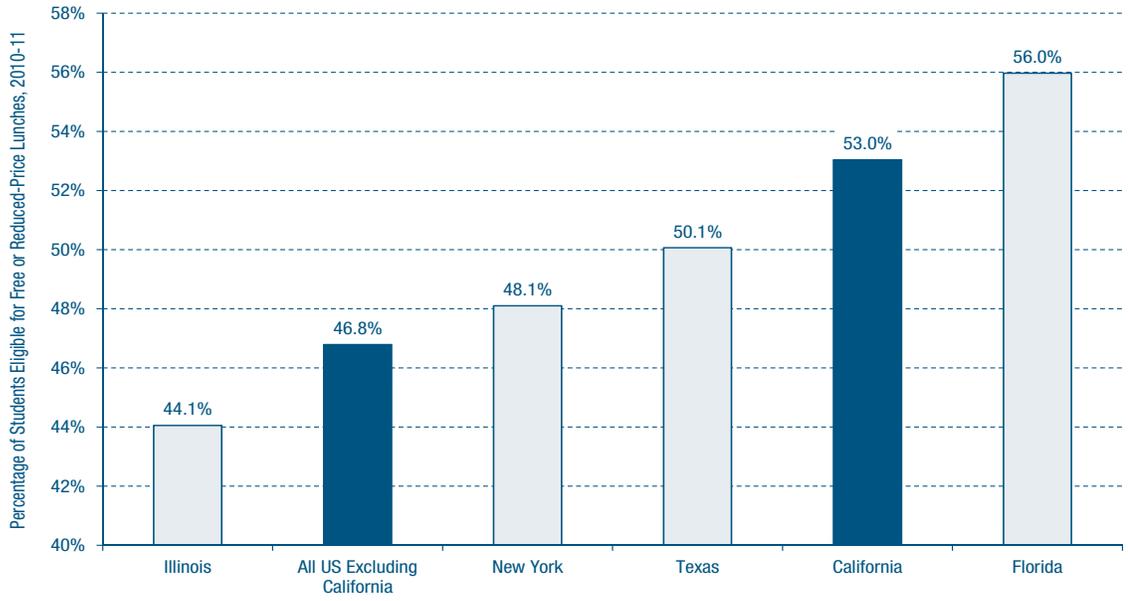
California's K-12 spending per student continues to lag the rest of the US. California's schools spent \$2,475 less per student than the rest of the US in 2012-13 (Figure 3). Compared to the other most populous states, California spent \$4,080 less per student in 2012-13 than Illinois and nearly \$6,700 less per student than New York, while spending just slightly more than both Florida (\$483 more per student) and Texas (\$880 more per student). Among all states, California ranked 44th in the nation in K-12 spending per student in 2012-13, not adjusting for regional cost differences.

California per student spending is expected to increase in the next couple of years, due in part to new revenues from Proposition 30, approved by the state's voters in November 2012. The impact of these new revenues on school spending relative to other states might be seen in the 2013-14 school year, which could potentially lift California higher in the national rankings. Still, it is important to note that most measures used to compare K-12 education spending across different states do not account for the additional resources required to educate ELs and students from low-income families. As a result, comparing California education spending to the rest of the US does not reflect the resources required to adequately educate California's diversity of students.

California's Schools Have More Students Per Staff Than Schools in the Rest of the US

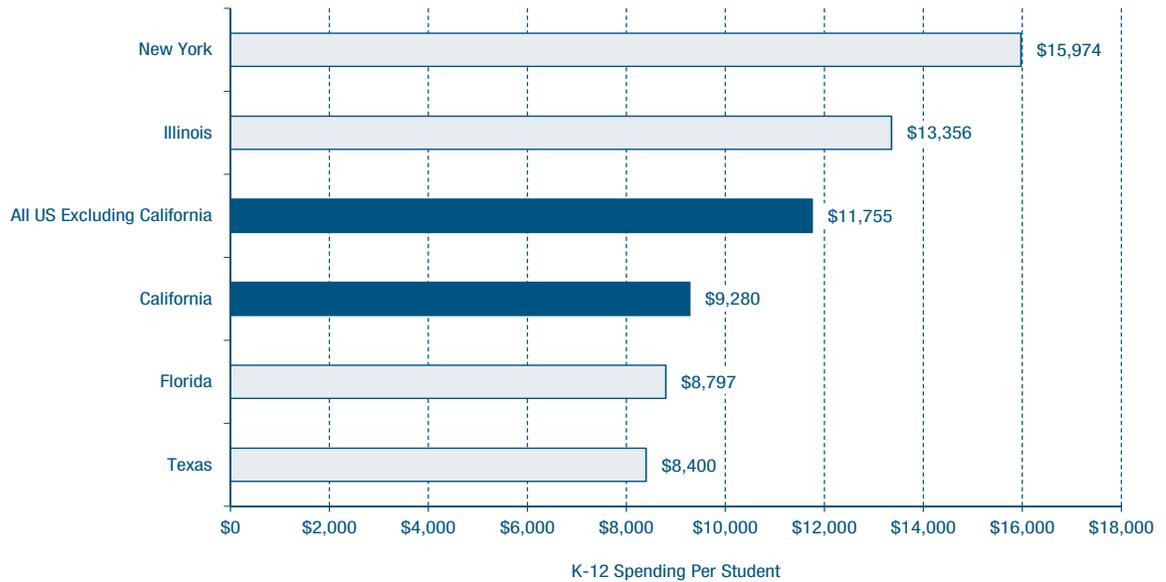
California has more students per school staff than the rest of the US, ranking last or near the bottom among all states on several key measures. The large number of students per

Figure 2: California Has a Larger Share of Students from Low-Income Families Than the Rest of the US
Among Large States, Only Florida Has a Higher Percentage



Source: National Center for Education Statistics

Figure 3: California Spent Nearly \$2,500 Less Per Student Than the Rest of the US in 2012-13
California Lagged New York and Illinois by Wide Margins, Was Only Slightly Above Other Large States



Note: Data are estimated.
Source: National Education Association

adult means that California's school staff has less time than those in other states to attend to individual student needs. As a result, California's schools may be unable to provide the quality of instruction, personalized guidance, and student services that other states do. California's schools:

- Rank 51st nationally in the number of students per teacher.** In 2012-13, California had a student-to-teacher ratio of 24.7-to-1, a level more than two-thirds (69.5 percent) higher than in the rest of the US, which had 14.5 students per teacher.⁵ The number of students per teacher in California jumped from 20.2 to 24.7 – an increase of 22.0 percent – between 2007-08 and 2012-13. This dramatic increase reversed the reductions that occurred after the state implemented the Class Size Reduction Program for grades K through three (K-3 CSR) in 1996.⁶ California reduced the financial penalties for noncompliance for schools that participate in the K-3 CSR Program in 2009, which led many schools to increase class sizes.
- Rank 51st nationally in the number of students per guidance counselor.**⁷ California's schools had a student-to-guidance-counselor ratio of 1,016-to-1 in 2010-11, more than twice the rest of the US, which had 437 students per guidance counselor. Between 2009-10 and 2010-11, the number of students per guidance counselor in California schools jumped from 810 to 1,016 – a 25.4 percent increase – while the number of students per guidance counselor in the rest of the US remained relatively flat.
- Rank 51st nationally in the number of students per librarian.** California's schools had a student-to-librarian ratio of 8,310-to-1 in 2010-11, more than nine times the rest of the US, which had 872 students per librarian.
- Rank 48th nationally in the number of students per administrator.**⁸ California's schools had a student-to-administrator ratio of 334-to-1 in 2010-11, compared to 205 students for each administrator in the rest of the US. California's relatively high number of students per administrator runs counter to a common misperception that the state's schools have large administrative staffs.

California's New School Funding Formula Directs Additional Resources to Disadvantaged Students

As part of the 2013-14 budget agreement, Governor Brown signed legislation that fundamentally restructures how the state provides dollars to schools. The state's new Local Control Funding Formula (LCFF) makes California's education finance system more transparent and rational. The LCFF also intends to fund schools more equitably than they were in the past by allocating dollars to school districts based on student needs.⁹ Under the new formula, all California school districts receive a "base grant" per student based on each student's grade level. The LCFF also provides each school district a "supplemental grant" – equal to 20 percent of the base grant – for its unduplicated number of English learners, foster youth, or students from low-income families. In addition, the LCFF provides a "concentration grant" – equal to 50 percent of the base grant – for the unduplicated number of these disadvantaged students above 55 percent of school district enrollment.

The LCFF is an important step toward aligning state dollars with student needs. However, it was not intended to provide, or determine, an adequate funding level for schools. The LCFF establishes a target funding level for all school districts, and meeting these targets will cost significantly more than the state currently provides. The Legislative Analyst's Office estimates that to fully implement the LCFF in 2013-14 would have cost \$18 billion more than the state spent on K-12 schools in 2012-13. While it is unclear when the state will have adequate resources to provide this level of school funding, the Department of Finance estimates that funding for schools will not be sufficient to fully implement the LCFF until 2020-21. Ultimately, the timeline for LCFF implementation will be determined by whether – and by how much – state revenue increases over the next several years as well as the level of funding the Legislature provides for the LCFF.

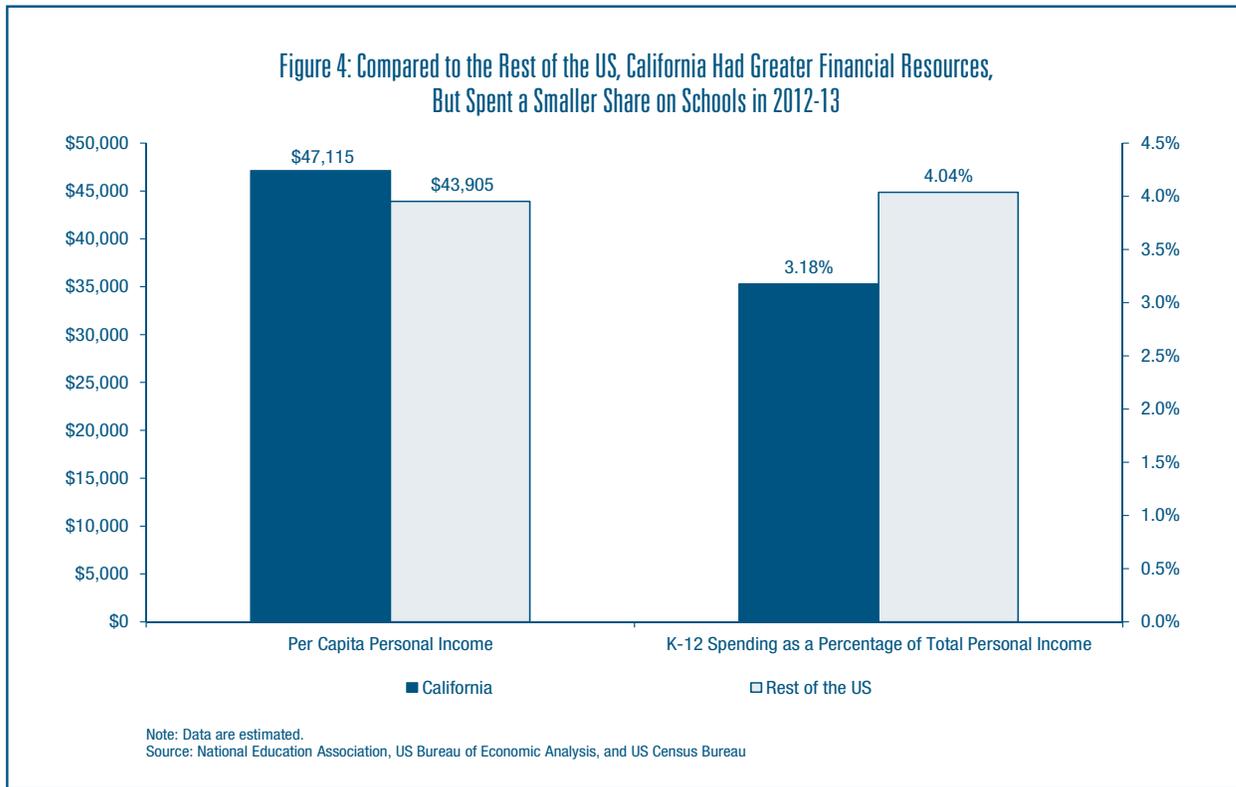
California Has Greater Financial Resources Than the Rest of the US, but Spends a Smaller Share on K-12 Schools

California's financial support for schools lags its capacity. California spends a smaller share of its total personal income on K-12 schools than does the rest of the US, despite having more personal income per capita. In 2012-13, California's per capita personal income (PCPI) – a measure of the financial resources available to help support schools and other public systems and services – was \$47,115, while PCPI in the rest of the US was \$43,905 (Figure 4). Despite the state's greater financial resources, California's spending on K-12 schools equaled 3.18 percent of total personal income, ranking 46th in the nation in 2012-13, while education spending in the rest of the US was 4.04 percent of personal income – more than one-fourth (27 percent) higher than in California. To reach the same share of personal income that the rest of the US spends on education, California would have had to spend an additional \$15.4 billion on K-12 schools in 2012-13, approximately \$400 more per state resident.

School Funding in California Relies Heavily on State Dollars

California schools, on the whole, rely on the state budget for a majority of their dollars. In 2012-13, California schools received 57.0 percent of their dollars from the state and slightly less than one-third (32.3 percent) from local sources, primarily local property taxes. In contrast, schools in the rest of the US received roughly an equal proportion of their funds from the state and from local sources – 44.3 percent and 45.7 percent, respectively.¹⁰

Figure 4: Compared to the Rest of the US, California Had Greater Financial Resources, But Spent a Smaller Share on Schools in 2012-13



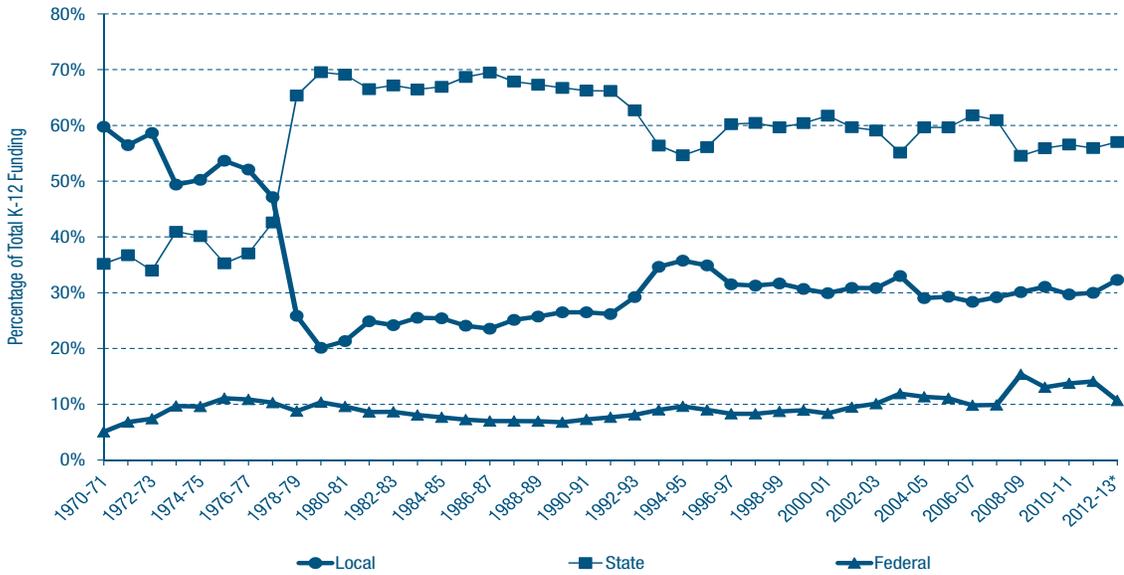
California schools' heavy reliance on the state budget dates back to 1978, when Proposition 13 fundamentally changed how schools receive their revenue.¹¹ In 1977-78, immediately prior to the passage of Proposition 13, local revenues provided nearly half (47.1 percent) of the funding for California's public schools. By the early 1980s, local sources provided about one out of every four dollars received by public schools (Figure 5). The shift away from California schools' historic reliance on local dollars reflects state legislation aimed at cushioning the impact of Proposition 13 on local governments. Proposition 13 resulted in a 53 percent drop in property tax collections, which are distributed to schools and local governments.¹² After voters approved Proposition 13, the Legislature sought to bolster local government finances by shifting property tax revenues from schools and community colleges to cities, counties, and special districts. The state, in turn, increased funding for schools and community colleges.¹³

California schools' greater reliance on state dollars also reflects the impact of a series of court decisions, most notably the 1976 *Serrano v. Priest* California Supreme Court decision. In *Serrano*, the court found that schools' dependence on local property taxes violated the equal protection rights of students in districts with relatively low property wealth, since the same property tax rate generated less revenue in low-property-tax-wealth districts than it did in high-property-tax-wealth districts. The state's response to these decisions established a limit on the combined state and local revenues received by a school district and used state funds to help equalize the funding available to high- and low- property-wealth districts.¹⁴

How Are California's School Dollars Spent?

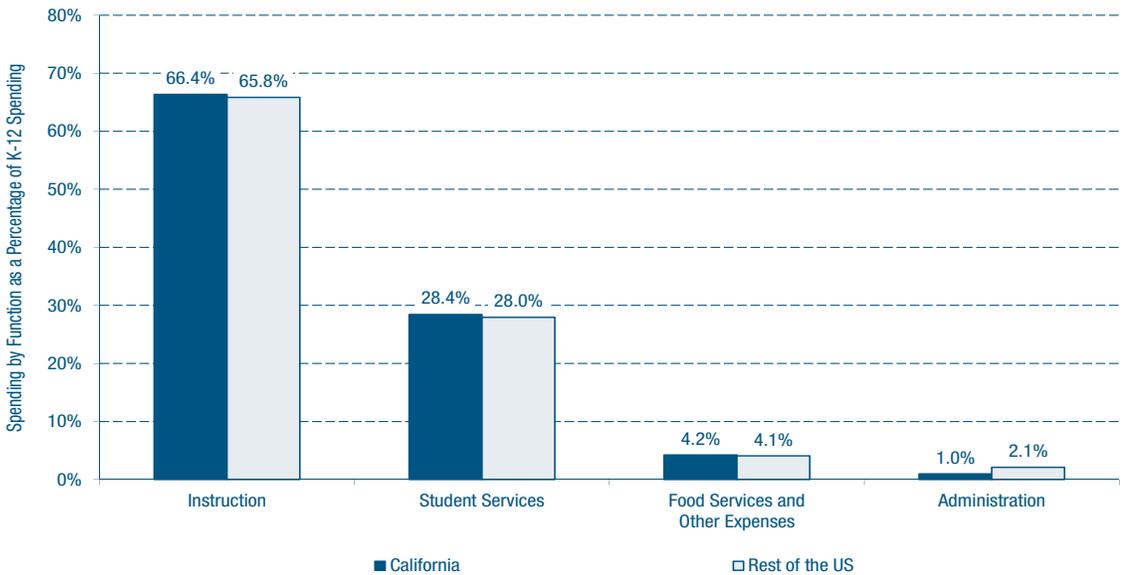
California spends a larger share of its education dollars on instruction and student services than do schools in the rest of the US.¹⁵ In 2010-11, California's schools spent 94.8 cents of each education dollar on instruction and student services, while schools in the rest of the US spent 93.8 cents on the same functions (Figure 6). In contrast, California's schools spent 5.2 cents of each dollar for K-12 education on administration, food services, and other expenses, while schools in the rest of the US spent 6.2 cents of each education dollar on the same functions. California's relatively high level of classroom spending is consistent with the fact that teacher salaries are higher, on average, in California – \$69,324 in 2012-13 – than those in the nation as a whole (\$56,383), reflecting California's cost of living, particularly higher housing costs.¹⁶

Figure 5: Since 1978-79, California's K-12 Schools Have Received a Larger Share of Their Funds From the State and a Smaller Share From Local Property Tax Revenues



* 2011-12 and 2012-13 estimated.
Source: National Education Association

Figure 6: California's K-12 Schools Spent a Larger Share on Instruction and Student Services Than Did Schools in the Rest of the US in 2010-11



Note: K-12 spending does not include capital outlay expenditures or interest on long-term debt.
Source: National Center for Education Statistics

Conclusion

California has more financial resources, but spends less on K-12 schools compared with the rest of the US. Moreover, California's students require more resources to educate, in part because the state enrolls the largest share of ELs in the nation and has a higher percentage of students from low-income families than does the rest of the US. By aligning state dollars with student needs, California's new Local Control Funding Formula will help boost schools' capacity to educate the state's diverse student population. However, California K-12 education spending continues to lag the nation by a wide margin, and its schools have substantially more students per school staff than do schools in the rest of the US. While Proposition 30 is expected to increase state education spending over the next few years, its tax increases expire at the end of 2018, and they alone will not provide California's schools with the resources needed to educate the state's students. To meet the challenge of providing California's students a high-quality education, the state would need to invest more of its financial resources in public schools.

Jonathan Kaplan prepared this School Finance Facts. The California Budget Project was established in 1995 to provide Californians with a source of timely, objective, and accessible expertise on state fiscal and economic policy issues. The CBP engages in independent fiscal and policy analysis and public education with the goal of improving public policies affecting the economic and social well-being of low- and middle-income Californians. General operating support for the CBP is provided by foundation grants, subscriptions, and individual contributions. Please visit the CBP's website at www.cbp.org.

ENDNOTES

- ¹ Title III of the Elementary and Secondary Education Act (ESEA) provides funds to states based on their number of English learners (ELs), including immigrant children and youth. This *School Finance Facts* uses Title III recipients to compare the number of ELs in the US because federal law requires the US Department of Education to choose the most accurate, up-to-date data to determine the number of ELs in each state for the purpose of allocating Title III grants.
- ² Unless otherwise noted, "rest of the US" includes the District of Columbia and excludes California.
- ³ This *School Finance Facts* uses National Center for Education Statistics (NCES) data to make national comparisons of the percentage of students eligible for free or reduced-price lunches, which includes prekindergarten through grade 12.
- ⁴ Jennifer Imazeki, *Assessing the Costs of K-12 Education in California Public Schools* (Institute for Research on Education Policy and Practice: December 2006), p. 10.
- ⁵ CBP analysis of National Education Association data.
- ⁶ As established in 1996, the K-3 Class Size Reduction (CSR) Program provided school districts with incentive funds to reduce class sizes in grades kindergarten through three to 20 or fewer students per teacher. Penalties for noncompliance with class size limits under the K-3 CSR Program were reduced from 2008-09 through 2013-14. As part of the 2013-14 budget agreement, school districts will continue to receive additional dollars as a percentage of their Local Control Funding Formula (LCFF) base grant if they make progress toward maintaining an average class of no more than 24 students for each school site in grades kindergarten through three, unless a collectively bargained alternative is implemented.
- ⁷ CBP analysis of NCES data. The most recent year for which NCES data are available is 2010-11.
- ⁸ Administrators include school-site and district administrators.
- ⁹ The LCFF also allocates funding to charter schools and county offices of education.
- ¹⁰ In 2012-13, federal dollars accounted for 10.7 percent of California school funding and 10.0 percent of the funds received by schools in the rest of the US.
- ¹¹ Proposition 13 limited property tax rates to 1 percent of a property's assessed value and replaced the practice of annually reassessing property at full cash value for tax purposes with a system based on cost at acquisition. Under Proposition 13, property is assessed at market value for tax purposes only when it changes ownership, and annual inflation adjustments are limited to no more than 2 percent. For a more comprehensive discussion of Proposition 13, see California Budget Project, *Proposition 13: Its Impact on California and Implications for State and Local Finances* (April 1997).
- ¹² California Budget Project, *Proposition 13: Its Impact on California and Implications for State and Local Finances* (April 1997), p. 6.
- ¹³ California Budget Project, *Proposition 13: Its Impact on California and Implications for State and Local Finances* (April 1997), pp. 2-3.
- ¹⁴ For a discussion of the *Serrano* case and subsequent efforts to address disparities in school funding, see Paul M. Goldfinger and Jannelle Kubinec, *Revenues and Revenue Limits: A Guide to School Finance in California* (School Services of California, Inc.: 2008).
- ¹⁵ Instruction includes activities dealing directly with the interaction between teachers and students. Student services include school-site administration, transportation, and operation and maintenance.
- ¹⁶ National Education Association, *Rankings & Estimates: Rankings of the States 2012 and Estimates of School Statistics 2013* (December 2012), p. 92. The national average for teacher salaries includes the District of Columbia and California.

**CALIFORNIA DEPARTMENT OF EDUCATION - SCHOOL FISCAL SERVICES DIVISION
2013–14 CURRENT EXPENSE PER AVERAGE DAILY ATTENDANCE (ADA)**

As of February 2, 2015

Address e-mail questions to sacsinfo@cde.ca.gov, or call 916-322-1770

CO = County Code

LEA = Local educational agency

CO	CDS	DISTRICT	Expenditures (EDP 365)	Current Expense ADA	Current Expense Per ADA	LEA Type
01	61119	Alameda Unified	87,845,924	9,066.5	9,689	Unified
01	61127	Albany City Unified	35,685,062	3,745.8	9,527	Unified
01	61143	Berkeley Unified	116,531,942	9,102.7	12,802	Unified
01	61150	Castro Valley Unified	72,439,246	9,048.7	8,005	Unified
01	61168	Emery Unified	10,231,304	696.7	14,685	Unified
01	61176	Fremont Unified	261,169,428	32,654.6	7,998	Unified
01	61192	Hayward Unified	190,594,690	19,816.5	9,618	Unified
01	61200	Livermore Valley Joint Unified	107,459,415	12,065.6	8,906	Unified
01	61218	Mountain House Elementary	354,902	21.4	16,584	Elementary
01	61234	Newark Unified	53,715,746	6,126.7	8,768	Unified
01	61242	New Haven Unified	104,590,630	12,140.8	8,615	Unified
01	61259	Oakland Unified	392,228,209	34,977.5	11,214	Unified
01	61275	Piedmont City Unified	31,871,236	2,556.7	12,466	Unified
01	61291	San Leandro Unified	72,129,241	8,264.8	8,727	Unified
01	61309	San Lorenzo Unified	90,686,180	10,761.7	8,427	Unified
01	75093	Dublin Unified	64,771,954	8,151.7	7,946	Unified
01	75101	Pleasanton Unified	120,349,769	14,449.3	8,329	Unified
01	75119	Sunol Glen Unified	2,278,007	258.1	8,826	Unified
02	61333	Alpine County Unified	2,552,645	78.1	32,705	Unified
03	73981	Amador County Unified	24,267,562	3,512.4	6,909	Unified
04	61382	Bangor Union Elementary	1,161,658	108.2	10,741	Elementary
04	61408	Biggs Unified	5,154,915	521.9	9,877	Unified
04	61424	Chico Unified	100,720,492	11,320.3	8,897	Unified
04	61432	Durham Unified	7,596,299	938.6	8,093	Unified
04	61440	Feather Falls Union Elementary	377,970	10.1	37,534	Elementary
04	61457	Golden Feather Union Elementary	1,600,963	95.9	16,694	Elementary
04	61499	Manzanita Elementary	2,157,080	284.8	7,573	Elementary
04	61507	Oroville City Elementary	21,867,820	2,439.2	8,965	Elementary
04	61515	Oroville Union High	20,955,683	2,116.3	9,902	High School
04	61523	Palermo Union Elementary	10,477,684	1,255.4	8,346	Elementary
04	61531	Paradise Unified	29,765,191	3,269.1	9,105	Unified
04	61549	Thermalito Union Elementary	11,194,593	1,289.5	8,682	Elementary
04	73379	Pioneer Union Elementary	1,019,007	60.1	16,969	Elementary
04	75507	Gridley Unified	16,309,904	1,964.8	8,301	Unified
05	61556	Bret Harte Union High	8,197,159	666.7	12,295	High School
05	61564	Calaveras Unified	24,813,483	2,988.0	8,304	Unified

05	61572	Mark Twain Union Elementary	6,133,821	779.3	7,871	Elementary
05	61580	Vallecito Union Elementary	6,159,609	550.6	11,186	Elementary
06	61598	Colusa Unified	10,735,330	1,385.3	7,750	Unified
06	61606	Maxwell Unified	2,996,280	325.9	9,194	Unified
06	61614	Pierce Joint Unified	10,099,324	1,357.7	7,438	Unified
06	61622	Williams Unified	9,769,468	1,255.0	7,785	Unified
07	61630	Acalanes Union High	58,362,101	5,097.9	11,448	High School
07	61648	Antioch Unified	146,060,038	17,095.8	8,544	Unified
07	61655	Brentwood Union Elementary	63,352,476	8,262.9	7,667	Elementary
07	61663	Byron Union Elementary	12,705,623	1,583.8	8,022	Elementary
07	61671	Canyon Elementary	618,284	67.4	9,173	Elementary
07	61697	John Swett Unified	13,780,624	1,564.3	8,809	Unified
07	61705	Knightsen Elementary	4,377,594	477.7	9,164	Elementary
07	61713	Lafayette Elementary	30,846,139	3,385.0	9,113	Elementary
07	61721	Liberty Union High	56,134,337	7,390.0	7,596	High School
07	61739	Martinez Unified	32,571,407	3,932.9	8,282	Unified
07	61747	Moraga Elementary	17,030,309	1,809.1	9,414	Elementary
07	61754	Mt. Diablo Unified	258,626,192	30,332.7	8,526	Unified
07	61762	Oakley Union Elementary	34,480,661	4,702.2	7,333	Elementary
07	61770	Orinda Union Elementary	24,238,510	2,431.9	9,967	Elementary
07	61788	Pittsburg Unified	84,776,310	10,230.7	8,287	Unified
07	61796	West Contra Costa Unified	255,530,369	28,020.5	9,119	Unified
07	61804	San Ramon Valley Unified	240,714,519	30,599.4	7,867	Unified
07	61812	Walnut Creek Elementary	28,688,626	3,459.0	8,294	Elementary
08	61820	Del Norte County Unified	35,181,965	3,321.2	10,593	Unified
09	61838	Buckeye Union Elementary	34,311,255	4,582.1	7,488	Elementary
09	61846	Camino Union Elementary	3,662,189	417.6	8,770	Elementary
09	61853	El Dorado Union High	56,459,945	6,394.3	8,830	High School
09	61879	Gold Oak Union Elementary	3,586,576	434.6	8,253	Elementary
09	61887	Gold Trail Union Elementary	4,371,621	577.1	7,576	Elementary
09	61895	Indian Diggings Elementary	271,936	17.7	15,372	Elementary
09	61903	Lake Tahoe Unified	33,072,213	3,534.4	9,357	Unified
09	61911	Latrobe Elementary	1,575,368	124.4	12,667	Elementary
09	61929	Mother Lode Union Elementary	8,569,691	1,070.2	8,008	Elementary
09	61945	Pioneer Union Elementary	3,003,540	305.9	9,820	Elementary
09	61952	Placerville Union Elementary	10,002,917	1,209.1	8,273	Elementary
09	61960	Pollock Pines Elementary	6,044,299	674.2	8,965	Elementary
09	61978	Rescue Union Elementary	27,275,629	3,687.7	7,396	Elementary
09	61986	Silver Fork Elementary	289,883	11.7	24,840	Elementary
09	73783	Black Oak Mine Unified	10,917,017	1,111.4	9,823	Unified
10	61994	Alvina Elementary	1,546,090	172.3	8,972	Elementary
10	62026	Big Creek Elementary	1,070,377	56.5	18,948	Elementary
10	62042	Burrel Union Elementary	1,265,896	124.8	10,145	Elementary
10	62109	Clay Joint Elementary	1,644,445	245.6	6,695	Elementary
10	62117	Clovis Unified	303,835,543	38,845.2	7,822	Unified
10	62125	Coalinga/Huron Joint Unified	36,436,049	4,048.3	9,000	Unified

10	62158	Fowler Unified	19,558,630	2,333.2	8,383	Unified
10	62166	Fresno Unified	602,188,446	65,542.3	9,188	Unified
10	62240	Kingsburg Elementary Charter	17,816,085	2,309.6	7,714	Elementary
10	62257	Kingsburg Joint Union High	9,331,031	1,118.3	8,344	High School
10	62265	Kings Canyon Joint Unified	82,801,703	9,289.4	8,914	Unified
10	62281	Laton Joint Unified	5,696,263	675.0	8,439	Unified
10	62323	Monroe Elementary	1,617,957	204.3	7,921	Elementary
10	62331	Orange Center	2,515,433	299.7	8,393	Elementary
10	62356	Pacific Union Elementary	2,853,235	345.9	8,249	Elementary
10	62364	Parlier Unified	34,489,454	3,199.6	10,779	Unified
10	62372	Pine Ridge Elementary	1,710,372	85.7	19,955	Elementary
10	62380	Raisin City Elementary	2,721,646	307.7	8,845	Elementary
10	62414	Sanger Unified	79,955,126	9,197.8	8,693	Unified
10	62430	Selma Unified	54,647,091	6,146.8	8,890	Unified
10	62513	Washington Colony Elementary	3,246,760	402.8	8,061	Elementary
10	62539	West Park Elementary	2,815,188	339.4	8,294	Elementary
10	62547	Westside Elementary	2,507,415	226.3	11,079	Elementary
10	73809	Firebaugh-Las Deltas Unified	19,658,401	2,241.6	8,770	Unified
10	73965	Central Unified	111,521,794	14,771.7	7,550	Unified
10	73999	Kerman Unified	34,895,592	4,783.7	7,295	Unified
10	75127	Mendota Unified	23,343,426	2,853.3	8,181	Unified
10	75234	Golden Plains Unified	17,783,096	1,803.8	9,859	Unified
10	75275	Sierra Unified	13,334,119	1,262.1	10,565	Unified
10	75408	Riverdale Joint Unified	13,044,797	1,527.1	8,542	Unified
10	75598	Caruthers Unified	12,345,500	1,350.7	9,140	Unified
10	76778	Washington Unified	25,655,371	2,449.9	10,472	Unified
11	62554	Capay Joint Union Elementary	1,232,194	196.0	6,287	Elementary
11	62596	Lake Elementary	1,126,774	165.1	6,823	Elementary
11	62638	Plaza Elementary	988,178	126.9	7,788	Elementary
11	62646	Princeton Joint Unified	2,293,010	181.3	12,650	Unified
11	62653	Stony Creek Joint Unified	2,063,461	91.0	22,688	Unified
11	62661	Willows Unified	10,494,518	1,367.4	7,675	Unified
11	75481	Orland Joint Unified	16,844,677	2,109.5	7,985	Unified
11	76562	Hamilton Unified	5,961,491	699.9	8,517	Unified
12	62679	Arcata Elementary	5,124,487	504.5	10,158	Elementary
12	62687	Northern Humboldt Union High	15,764,710	1,425.9	11,056	High School
12	62695	Big Lagoon Union Elementary	630,928	50.3	12,543	Elementary
12	62703	Blue Lake Union Elementary	1,410,471	150.3	9,384	Elementary
12	62729	Bridgeville Elementary	625,263	38.0	16,459	Elementary
12	62737	Cuddeback Union Elementary	1,131,117	113.4	9,979	Elementary
12	62745	Cutten Elementary	3,703,155	546.4	6,777	Elementary
12	62794	Fieldbrook Elementary	1,027,656	136.0	7,559	Elementary

12	62810	Fortuna Union High	8,876,667	1,016.0	8,737	High School
12	62828	Freshwater Elementary	2,390,685	260.3	9,183	Elementary
12	62836	Garfield Elementary	602,506	51.6	11,688	Elementary
12	62851	Green Point Elementary	215,394	7.4	29,305	Elementary
12	62885	Hydesville Elementary	1,246,561	169.4	7,361	Elementary
12	62893	Jacoby Creek Elementary	3,290,537	402.2	8,182	Elementary
12	62901	Klamath-Trinity Joint Unified	14,095,455	925.7	15,228	Unified
12	62919	Kneeland Elementary	417,469	31.8	13,149	Elementary
12	62927	Loleta Union Elementary	1,072,608	105.2	10,194	Elementary
12	62935	Maple Creek Elementary	349,011	10.9	32,019	Elementary
12	62950	McKinleyville Union Elementary	8,297,282	1,112.9	7,456	Elementary
12	62968	Orick Elementary	296,864	8.5	34,925	Elementary
12	62976	Pacific Union Elementary	3,633,912	490.6	7,407	Elementary
12	62984	Peninsula Union Elementary	506,499	32.9	15,381	Elementary
12	63008	Rio Dell Elementary	2,431,256	305.9	7,947	Elementary
12	63024	Scotia Union Elementary	1,787,274	213.8	8,362	Elementary
12	63032	South Bay Union Elementary	4,059,822	420.7	9,651	Elementary
12	63040	Southern Humboldt Joint Unified	7,307,025	697.9	10,471	Unified
12	63057	Trinidad Union Elementary	1,466,036	156.7	9,354	Elementary
12	75374	Ferndale Unified	3,990,208	483.7	8,250	Unified
12	75382	Mattole Unified	1,123,664	60.4	18,607	Unified
12	75515	Eureka City Unified	32,128,700	3,510.1	9,153	Unified
12	76802	Fortuna Elementary	9,964,317	1,105.4	9,014	Elementary
13	63073	Brawley Elementary	30,028,199	3,691.3	8,135	Elementary
13	63081	Brawley Union High	14,810,309	1,752.8	8,450	High School
13	63099	Calexico Unified	76,329,067	8,654.3	8,820	Unified
13	63107	Calipatria Unified	10,152,584	1,126.2	9,015	Unified
13	63115	Central Union High	35,117,809	3,837.4	9,151	High School
13	63123	El Centro Elementary	40,338,534	4,707.7	8,569	Elementary
13	63131	Heber Elementary	9,588,935	1,157.2	8,287	Elementary
13	63149	Holtville Unified	14,183,776	1,492.1	9,506	Unified
13	63164	Imperial Unified	28,679,276	3,664.4	7,826	Unified
13	63172	Magnolia Union Elementary	918,860	127.8	7,192	Elementary
13	63180	McCabe Union Elementary	8,980,107	1,317.7	6,815	Elementary
13	63198	Meadows Union Elementary	4,480,959	454.8	9,854	Elementary
13	63206	Mulberry Elementary	716,378	76.2	9,405	Elementary
13	63214	San Pasqual Valley Unified	11,405,748	703.7	16,207	Unified
13	63222	Seeley Union Elementary	3,508,260	326.1	10,759	Elementary
13	63230	Westmorland Union Elementary	3,386,172	356.1	9,510	Elementary
14	63248	Big Pine Unified	2,608,395	170.4	15,308	Unified
14	63271	Death Valley Unified	1,090,076	24.5	44,457	Unified
14	63289	Lone Pine Unified	5,296,792	357.8	14,803	Unified
14	63297	Owens Valley Unified	1,564,102	56.7	27,581	Unified
14	63305	Round Valley Joint Elementary	1,339,074	128.3	10,434	Elementary

14	76687	Bishop Unified	18,065,673	1,838.8	9,825	Unified
15	63313	Arvin Union	28,482,271	3,023.3	9,421	Elementary
15	63321	Bakersfield City Elementary	248,117,955	28,098.6	8,830	Elementary
15	63339	Beardsley Elementary	12,522,639	1,659.8	7,545	Elementary
15	63347	Belridge Elementary	1,129,750	38.0	29,722	Elementary
15	63354	Blake Elementary	160,278	7.6	21,006	Elementary
15	63362	Panama Buena Vista Union Elementary	127,080,288	16,698.4	7,610	Elementary
15	63370	Buttonwillow Union Elementary	2,937,656	326.1	9,008	Elementary
15	63388	Caliente Union Elementary	716,138	48.8	14,681	Elementary
15	63404	Delano Union Elementary	54,367,944	5,610.5	9,690	Elementary
15	63412	Delano Joint Union High	42,789,659	3,987.0	10,732	High School
15	63420	Di Giorgio Elementary	1,579,138	183.4	8,610	Elementary
15	63438	Edison Elementary	8,541,439	1,066.2	8,011	Elementary
15	63446	Elk Hills Elementary	1,721,489	191.4	8,997	Elementary
15	63461	Fairfax Elementary	18,473,012	2,284.1	8,088	Elementary
15	63479	Fruitvale Elementary	22,289,827	3,197.5	6,971	Elementary
15	63487	General Shafter Elementary	1,757,449	144.1	12,199	Elementary
15	63503	Greenfield Union Elementary	67,982,662	8,794.8	7,730	Elementary
15	63529	Kern Union High	325,660,869	34,224.9	9,515	High School
15	63545	Kernville Union Elementary	7,017,446	788.9	8,895	Elementary
15	63552	Lakeside Union Elementary	9,776,652	1,239.6	7,887	Elementary
15	63560	Lamont Elementary	24,765,490	2,813.7	8,802	Elementary
15	63578	Richland Union Elementary	27,101,474	3,294.9	8,225	Elementary
15	63586	Linns Valley-Poso Flat Union	403,163	27.8	14,502	Elementary
15	63594	Lost Hills Union Elementary	6,504,360	542.7	11,986	Elementary
15	63610	Maple Elementary	1,997,869	282.7	7,067	Elementary
15	63628	Maricopa Unified	3,349,468	309.2	10,832	Unified
15	63651	McKittrick Elementary	1,799,249	69.2	26,001	Elementary
15	63669	Midway Elementary	1,894,030	104.7	18,097	Elementary
15	63677	Mojave Unified	22,755,446	2,455.7	9,266	Unified
15	63685	Muroc Joint Unified	15,184,185	1,905.4	7,969	Unified
15	63693	Norris Elementary	23,904,529	3,767.6	6,345	Elementary
15	63719	Pond Union Elementary	2,240,595	213.5	10,496	Elementary
15	63750	Rosedale Union Elementary	37,902,784	5,204.3	7,283	Elementary
15	63768	Semitropic Elementary	2,892,002	262.8	11,005	Elementary
15	63776	Southern Kern Unified	26,713,658	2,879.7	9,277	Unified
15	63784	South Fork Union	2,382,107	242.3	9,832	Elementary
15	63792	Standard Elementary	23,058,075	2,763.0	8,345	Elementary
15	63800	Taft City	16,839,972	1,928.7	8,731	Elementary
15	63818	Taft Union High	20,724,567	971.6	21,330	High School
15	63826	Tehachapi Unified	32,981,285	3,981.4	8,284	Unified
15	63834	Vineland Elementary	6,143,353	761.5	8,067	Elementary
15	63842	Wasco Union Elementary	25,229,204	3,405.9	7,407	Elementary
15	63859	Wasco Union High	14,946,470	1,571.5	9,511	High School
15	73544	Rio Bravo-Greeley Union Elementary	7,351,384	996.5	7,377	Elementary

15	73742	Sierra Sands Unified	43,274,531	4,655.8	9,295	Unified
15	73908	McFarland Unified	31,015,975	3,192.4	9,716	Unified
15	75168	El Tejon Unified	6,926,486	728.7	9,505	Unified
16	63875	Armona Union Elementary	7,025,824	924.9	7,596	Elementary
16	63883	Central Union Elementary	18,741,846	1,735.7	10,798	Elementary
16	63891	Corcoran Joint Unified	26,745,565	3,097.6	8,634	Unified
16	63917	Hanford Elementary	45,861,998	5,634.7	8,139	Elementary
16	63925	Hanford Joint Union High	29,460,597	3,595.8	8,193	High School
16	63933	Island Union Elementary	2,334,220	335.0	6,967	Elementary
16	63941	Kings River-Hardwick Union Elementary	5,232,074	733.1	7,137	Elementary
16	63958	Kit Carson Union Elementary	3,100,829	380.9	8,140	Elementary
16	63966	Lakeside Union Elementary	2,897,656	290.7	9,968	Elementary
16	63974	Lemoore Union Elementary	21,785,826	2,821.3	7,722	Elementary
16	63982	Lemoore Union High	16,024,147	1,969.1	8,138	High School
16	63990	Pioneer Union Elementary	10,746,794	1,554.3	6,914	Elementary
16	73932	Reef-Sunset Unified	22,944,015	2,475.9	9,267	Unified
17	64014	Kelseyville Unified	14,631,185	1,580.1	9,260	Unified
17	64022	Konocti Unified	26,700,021	2,776.5	9,616	Unified
17	64030	Lakeport Unified	12,115,116	1,427.1	8,489	Unified
17	64048	Lucerne Elementary	2,047,148	247.8	8,261	Elementary
17	64055	Middletown Unified	12,678,170	1,444.3	8,778	Unified
17	64063	Upper Lake Union Elementary	4,383,539	496.2	8,834	Elementary
17	64071	Upper Lake Union High	3,067,383	256.3	11,967	High School
18	64089	Big Valley Joint Unified	1,972,748	179.9	10,968	Unified
18	64105	Janesville Union Elementary	2,402,240	322.5	7,449	Elementary
18	64113	Johnstonville Elementary	1,575,153	215.3	7,315	Elementary
18	64139	Lassen Union High	7,656,781	853.8	8,968	High School
18	64162	Ravendale-Termo Elementary	260,835	9.2	28,352	Elementary
18	64170	Richmond Elementary	1,271,280	218.5	5,819	Elementary
18	64188	Shaffer Union Elementary	1,482,503	175.1	8,467	Elementary
18	64196	Susanville Elementary	6,839,301	970.4	7,048	Elementary
18	64204	Westwood Unified	2,179,359	168.1	12,966	Unified
18	75036	Fort Sage Unified	1,938,017	142.3	13,615	Unified
19	64212	ABC Unified	170,097,769	20,227.9	8,409	Unified
19	64246	Antelope Valley Union High	193,183,524	20,304.6	9,514	High School
19	64261	Arcadia Unified	74,841,963	9,481.5	7,893	Unified
19	64279	Azusa Unified	85,801,584	9,191.2	9,335	Unified
19	64287	Baldwin Park Unified	117,357,782	14,004.3	8,380	Unified
19	64295	Bassett Unified	39,343,829	3,973.4	9,902	Unified
19	64303	Bellflower Unified	103,281,947	12,969.1	7,964	Unified
19	64311	Beverly Hills Unified	54,551,840	4,111.5	13,268	Unified
19	64329	Bonita Unified	77,887,764	9,632.0	8,086	Unified
19	64337	Burbank Unified	116,403,183	14,706.1	7,915	Unified
19	64345	Castaic Union	23,272,316	2,559.3	9,093	Elementary
19	64352	Centinela Valley Union High	67,093,178	6,042.6	11,103	High School

19	64378	Charter Oak Unified	43,247,891	5,176.3	8,355	Unified
19	64394	Claremont Unified	56,477,570	6,763.0	8,351	Unified
19	64436	Covina-Valley Unified	109,044,805	12,243.5	8,906	Unified
19	64444	Culver City Unified	56,332,868	6,442.0	8,745	Unified
19	64451	Downey Unified	182,902,677	22,075.3	8,285	Unified
19	64469	Duarte Unified	33,468,129	3,567.1	9,382	Unified
19	64477	Eastside Union Elementary	26,997,759	3,123.4	8,644	Elementary
19	64485	East Whittier City Elementary	71,607,505	8,929.8	8,019	Elementary
19	64501	El Monte City	77,519,922	9,181.3	8,443	Elementary
19	64519	El Monte Union High	86,872,660	9,081.9	9,565	High School
19	64527	El Rancho Unified	78,350,125	9,039.4	8,668	Unified
19	64535	El Segundo Unified	27,804,315	3,300.2	8,425	Unified
19	64550	Garvey Elementary	44,983,741	5,123.1	8,781	Elementary
19	64568	Glendale Unified	221,289,400	25,154.7	8,797	Unified
19	64576	Glendora Unified	55,684,833	7,409.9	7,515	Unified
19	64584	Gorman Elementary	956,408	98.2	9,740	Elementary
19	64592	Hawthorne Elementary	65,385,142	8,009.8	8,163	Elementary
19	64600	Hermosa Beach City Elementary	10,489,875	1,390.5	7,544	Elementary
19	64626	Hughes-Elizabeth Lakes Union Elementary	2,494,632	235.0	10,615	Elementary
19	64634	Inglewood Unified	105,881,599	11,319.1	9,354	Unified
19	64642	Keppel Union Elementary	21,312,050	2,583.2	8,250	Elementary
19	64659	La Canada Unified	36,138,857	3,954.2	9,139	Unified
19	64667	Lancaster Elementary	108,310,007	13,433.1	8,063	Elementary
19	64683	Las Virgenes Unified	90,865,317	10,715.4	8,480	Unified
19	64691	Lawndale Elementary	49,419,875	5,598.7	8,827	Elementary
19	64709	Lennox	50,790,627	4,955.9	10,249	Elementary
19	64717	Little Lake City Elementary	35,715,774	4,481.5	7,970	Elementary
19	64725	Long Beach Unified	662,722,019	77,043.7	8,602	Unified
19	64733	Los Angeles Unified	5,501,618,471	526,883.3	10,442	Unified
19	64758	Los Nietos	16,777,207	1,765.7	9,502	Elementary
19	64766	Lowell Joint Elementary	23,466,381	3,129.5	7,498	Elementary
19	64774	Lynwood Unified	120,427,470	14,138.0	8,518	Unified
19	64790	Monrovia Unified	50,247,548	5,703.5	8,810	Unified
19	64808	Montebello Unified	257,355,330	28,494.2	9,032	Unified
19	64816	Mountain View Elementary	61,111,210	7,226.1	8,457	Elementary
19	64832	Newhall	51,936,725	6,657.8	7,801	Elementary
19	64840	Norwalk-La Mirada Unified	170,830,933	18,455.3	9,256	Unified
19	64857	Palmdale Elementary	146,346,217	18,499.5	7,911	Elementary
19	64865	Palos Verdes Peninsula Unified	95,598,629	11,381.9	8,399	Unified
19	64873	Paramount Unified	125,293,334	15,276.7	8,202	Unified
19	64881	Pasadena Unified	173,182,260	16,727.7	10,353	Unified
19	64907	Pomona Unified	232,589,809	24,753.2	9,396	Unified
19	64931	Rosemead Elementary	23,374,960	2,706.6	8,636	Elementary
19	64964	San Marino Unified	33,152,454	3,062.6	10,825	Unified

19	64980	Santa Monica-Malibu Unified	119,346,831	10,816.7	11,034	Unified
19	64998	Saugus Union	75,431,061	9,707.1	7,771	Elementary
19	65029	South Pasadena Unified	39,028,470	4,593.8	8,496	Unified
19	65037	South Whittier Elementary	26,592,719	3,102.5	8,572	Elementary
19	65045	Sulphur Springs Union	47,790,681	5,295.3	9,025	Elementary
19	65052	Temple City Unified	44,157,212	5,827.6	7,577	Unified
19	65060	Torrance Unified	193,416,211	23,382.6	8,272	Unified
19	65078	Valle Lindo Elementary	9,318,099	1,183.4	7,874	Elementary
19	65094	West Covina Unified	77,214,586	8,948.4	8,629	Unified
19	65102	Westside Union Elementary	60,871,073	8,615.7	7,065	Elementary
19	65110	Whittier City Elementary	51,647,845	5,979.7	8,637	Elementary
19	65128	Whittier Union High	115,065,513	12,498.2	9,207	High School
19	65136	William S. Hart Union High	181,536,435	21,663.1	8,380	High School
19	65151	Wilsona Elementary	9,837,881	1,254.9	7,839	Elementary
19	65169	Wiseburn Elementary	19,427,879	2,457.3	7,906	Elementary
19	73437	Compton Unified	225,078,031	22,957.6	9,804	Unified
19	73445	Hacienda la Puente Unified	166,937,453	19,260.4	8,667	Unified
19	73452	Rowland Unified	127,127,607	14,304.3	8,887	Unified
19	73460	Walnut Valley Unified	109,137,285	14,280.8	7,642	Unified
19	75291	San Gabriel Unified	42,049,343	5,254.5	8,003	Unified
19	75309	Acton-Agua Dulce Unified	10,671,775	1,219.7	8,750	Unified
19	75333	Manhattan Beach Unified	58,091,103	6,671.4	8,707	Unified
19	75341	Redondo Beach Unified	68,433,034	8,813.8	7,764	Unified
19	75713	Alhambra Unified	154,478,604	17,304.4	8,927	Unified
20	65177	Alview-Dairyland Union Elementary	2,979,754	355.2	8,389	Elementary
20	65185	Bass Lake Joint Union Elementary	6,614,164	813.2	8,133	Elementary
20	65193	Chowchilla Elementary	14,889,445	2,064.8	7,211	Elementary
20	65201	Chowchilla Union High	8,167,973	965.5	8,460	High School
20	65243	Madera Unified	144,165,991	18,624.4	7,741	Unified
20	65276	Raymond-Knowles Union Elementary	840,001	71.2	11,791	Elementary
20	75580	Golden Valley Unified	15,820,986	1,892.7	8,359	Unified
20	75606	Chawanakee Unified	7,768,433	836.1	9,291	Unified
20	76414	Yosemite Unified	16,000,469	1,631.6	9,807	Unified
21	65300	Bolinas-Stinson Union Elementary	3,312,211	114.5	28,928	Elementary
21	65318	Dixie Elementary	18,613,402	1,873.0	9,938	Elementary
21	65334	Kentfield Elementary	13,666,157	1,197.8	11,409	Elementary
21	65342	Laguna Joint Elementary	242,135	17.0	14,268	Elementary
21	65359	Lagunitas Elementary	3,487,185	287.5	12,130	Elementary
21	65367	Larkspur-Corte Madera	14,967,374	1,415.0	10,578	Elementary
21	65375	Lincoln Elementary	184,375	11.8	15,612	Elementary
21	65391	Mill Valley Elementary	33,718,997	3,143.0	10,728	Elementary
21	65409	Nicasio	922,135	50.4	18,296	Elementary
21	65417	Novato Unified	64,456,977	7,532.2	8,558	Unified
21	65425	Reed Union Elementary	17,981,797	1,494.3	12,034	Elementary

21	65433	Ross Elementary	5,903,521	364.7	16,187	Elementary
21	65458	San Rafael City Elementary	38,329,521	4,398.8	8,714	Elementary
21	65466	San Rafael City High	26,267,356	2,121.8	12,380	High School
21	65474	Sausalito Elementary	4,641,612	145.3	31,938	Elementary
21	65482	Tamalpais Union High	60,126,037	3,819.0	15,744	High School
21	65516	Union Joint Elementary	193,612	10.5	18,439	Elementary
21	73361	Shoreline Unified	11,715,886	482.7	24,271	Unified
21	75002	Ross Valley Elementary	20,431,011	2,222.6	9,192	Elementary
22	65532	Mariposa County Unified	15,615,895	1,570.4	9,944	Unified
23	65540	Anderson Valley Unified	6,328,690	516.6	12,251	Unified
23	65565	Fort Bragg Unified	16,614,659	1,659.4	10,013	Unified
23	65573	Manchester Union Elementary	629,361	51.2	12,302	Elementary
23	65581	Mendocino Unified	6,490,052	505.4	12,840	Unified
23	65607	Round Valley Unified	5,186,902	302.3	17,156	Unified
23	65615	Ukiah Unified	52,080,443	5,363.6	9,710	Unified
23	65623	Willits Unified	13,925,073	1,458.3	9,549	Unified
23	73866	Potter Valley Community Unified	3,421,377	235.7	14,513	Unified
23	73916	Laytonville Unified	4,124,829	373.7	11,038	Unified
23	75218	Leggett Valley Unified	1,998,792	102.1	19,577	Unified
23	76349	Arena Union Elementary/Point Arena Joint Union High	6,398,835	383.7	16,678	Comm Admin
24	65631	Atwater Elementary	34,279,403	4,563.3	7,512	Elementary
24	65649	Ballico-Cressey Elementary	2,811,078	350.0	8,032	Elementary
24	65680	El Nido Elementary	1,636,562	175.6	9,322	Elementary
24	65698	Hilmar Unified	17,730,675	2,161.9	8,201	Unified
24	65722	Le Grand Union Elementary	3,295,947	402.3	8,194	Elementary
24	65730	Le Grand Union High	5,168,944	498.0	10,380	High School
24	65748	Livingston Union	18,944,384	2,483.0	7,630	Elementary
24	65755	Los Banos Unified	73,663,233	9,419.1	7,821	Unified
24	65763	McSwain Union Elementary	6,066,740	837.7	7,242	Elementary
24	65771	Merced City Elementary	76,927,556	9,781.7	7,864	Elementary
24	65789	Merced Union High	89,402,763	9,298.2	9,615	High School
24	65813	Plainsburg Union Elementary	886,310	123.0	7,206	Elementary
24	65821	Planada Elementary	6,648,186	724.4	9,177	Elementary
24	65839	Snelling-Merced Falls Union Elementary	868,632	97.4	8,918	Elementary
24	65862	Weaver Union Elementary	19,532,329	2,623.5	7,445	Elementary
24	65870	Winton	14,419,258	1,818.8	7,928	Elementary
24	73619	Gustine Unified	13,558,545	1,714.2	7,909	Unified
24	73726	Merced River Union Elementary	1,709,183	143.5	11,907	Elementary
24	75317	Dos Palos Oro Loma Jt. Unified	18,484,104	2,233.4	8,276	Unified
24	75366	Delhi Unified	22,484,228	2,515.4	8,939	Unified
25	65896	Surprise Valley Joint Unified	1,683,643	104.3	16,136	Unified

25	73585	Modoc Joint Unified	6,977,896	744.0	9,379	Unified
25	73593	Tulelake Basin Joint Unified	5,206,733	449.6	11,581	Unified
26	73668	Eastern Sierra Unified	8,140,402	406.1	20,047	Unified
26	73692	Mammoth Unified	11,992,729	1,118.2	10,725	Unified
27	65961	Alisal Union	65,614,592	8,452.5	7,763	Elementary
27	65979	Bradley Union Elementary	901,516	77.4	11,651	Elementary
27	65987	Carmel Unified	41,249,873	2,367.0	17,427	Unified
27	65995	Chualar Union	2,948,672	328.4	8,980	Elementary
27	66027	Graves Elementary	340,992	38.5	8,859	Elementary
27	66035	Greenfield Union Elementary	23,871,503	3,171.1	7,528	Elementary
27	66050	King City Union	20,426,044	2,467.8	8,277	Elementary
27	66068	South Monterey County Joint Union High	15,280,000	1,823.6	8,379	High School
27	66076	Lagunita Elementary	742,256	95.0	7,812	Elementary
27	66084	Mission Union Elementary	1,110,233	127.0	8,743	Elementary
27	66092	Monterey Peninsula Unified	99,035,030	9,626.3	10,288	Unified
27	66134	Pacific Grove Unified	24,983,061	2,081.5	12,002	Unified
27	66142	Salinas City Elementary	64,259,052	8,533.3	7,530	Elementary
27	66159	Salinas Union High	119,294,426	13,169.2	9,059	High School
27	66167	San Antonio Union Elementary	1,703,685	151.2	11,266	Elementary
27	66175	San Ardo Union Elementary	1,456,409	102.1	14,272	Elementary
27	66183	San Lucas Union Elementary	932,063	54.4	17,140	Elementary
27	66191	Santa Rita Union Elementary	20,453,413	3,035.0	6,739	Elementary
27	66225	Spreckels Union Elementary	6,538,220	929.4	7,035	Elementary
27	66233	Washington Union Elementary	7,062,081	910.1	7,760	Elementary
27	73825	North Monterey County Unified	37,004,096	4,131.1	8,958	Unified
27	75150	Big Sur Unified	685,821	13.5	50,802	Unified
27	75440	Soledad Unified	40,229,566	4,603.0	8,740	Unified
27	75473	Gonzales Unified	20,961,226	2,328.0	9,004	Unified
28	66241	Calistoga Joint Unified	12,259,144	793.3	15,454	Unified
28	66258	Howell Mountain Elementary	1,569,626	81.6	19,229	Elementary
28	66266	Napa Valley Unified	135,769,596	15,903.3	8,537	Unified
28	66282	Pope Valley Union Elementary	1,127,321	44.5	25,310	Elementary
28	66290	St. Helena Unified	23,411,003	1,250.5	18,721	Unified
29	66316	Chicago Park Elementary	1,172,376	118.0	9,933	Elementary
29	66324	Clear Creek Elementary	1,170,337	156.2	7,495	Elementary
29	66332	Grass Valley Elementary	11,067,957	1,139.1	9,716	Elementary
29	66340	Nevada City Elementary	6,493,407	807.5	8,042	Elementary
29	66357	Nevada Joint Union High	28,454,588	2,883.6	9,868	High School
29	66373	Pleasant Ridge Union Elementary	10,554,981	1,260.3	8,375	Elementary
29	66381	Pleasant Valley Elementary	3,769,480	432.8	8,710	Elementary
29	66399	Ready Springs Union Elementary	2,088,255	207.2	10,078	Elementary

29	66407	Union Hill Elementary	4,367,140	580.8	7,520	Elementary
29	66415	Twin Ridges Elementary	1,355,491	94.9	14,291	Elementary
30	66423	Anaheim Elementary	155,085,104	18,687.8	8,299	Elementary
30	66431	Anaheim Union High	269,553,357	30,165.1	8,936	High School
30	66449	Brea-Olinda Unified	42,618,843	5,803.9	7,343	Unified
30	66456	Buena Park Elementary	40,639,384	5,050.2	8,047	Elementary
30	66464	Capistrano Unified	357,702,918	48,211.7	7,419	Unified
30	66472	Centralia Elementary	35,953,847	4,381.5	8,206	Elementary
30	66480	Cypress Elementary	28,234,943	3,827.1	7,378	Elementary
30	66498	Fountain Valley Elementary	42,957,224	6,182.2	6,949	Elementary
30	66506	Fullerton Elementary	103,839,300	13,492.3	7,696	Elementary
30	66514	Fullerton Joint Union High	121,487,634	13,795.6	8,806	High School
30	66522	Garden Grove Unified	390,683,265	45,576.0	8,572	Unified
30	66530	Huntington Beach City Elementary	50,425,927	6,840.7	7,371	Elementary
30	66548	Huntington Beach Union High	141,775,453	15,684.9	9,039	High School
30	66555	Laguna Beach Unified	42,052,932	2,884.2	14,580	Unified
30	66563	La Habra City Elementary	40,736,693	4,982.0	8,177	Elementary
30	66589	Magnolia Elementary	50,816,465	6,231.2	8,155	Elementary
30	66597	Newport-Mesa Unified	224,573,666	21,008.1	10,690	Unified
30	66613	Ocean View Elementary	70,644,746	8,996.2	7,853	Elementary
30	66621	Orange Unified	202,231,418	26,440.3	7,649	Unified
30	66647	Placentia-Yorba Linda Unified	199,044,142	25,113.1	7,926	Unified
30	66670	Santa Ana Unified	473,189,476	51,594.9	9,171	Unified
30	66696	Savanna Elementary	18,158,024	2,350.1	7,726	Elementary
30	66746	Westminster	76,533,413	9,522.3	8,037	Elementary
30	73635	Saddleback Valley Unified	212,109,703	28,627.3	7,409	Unified
30	73643	Tustin Unified	172,974,466	23,211.5	7,452	Unified
30	73650	Irvine Unified	230,943,963	29,437.3	7,845	Unified
30	73924	Los Alamitos Unified	74,846,035	9,633.2	7,770	Unified
31	66761	Ackerman Charter	3,586,242	523.0	6,857	Elementary
31	66779	Alta-Dutch Flat Union Elementary	978,120	93.7	10,443	Elementary
31	66787	Auburn Union Elementary	12,461,592	1,219.6	10,218	Elementary
31	66795	Colfax Elementary	3,246,108	336.5	9,648	Elementary
31	66803	Dry Creek Joint Elementary	47,263,180	6,594.9	7,167	Elementary
31	66829	Eureka Union Elementary	24,360,018	3,327.7	7,320	Elementary
31	66837	Foresthill Union Elementary	3,105,058	379.4	8,185	Elementary
31	66845	Loomis Union Elementary	15,731,230	2,199.7	7,152	Elementary
31	66852	Newcastle Elementary	3,202,965	152.6	20,987	Elementary
31	66886	Placer Hills Union Elementary	4,641,577	489.5	9,483	Elementary
31	66894	Placer Union High	35,318,009	4,014.8	8,797	High School
31	66910	Roseville City Elementary	70,612,267	9,783.7	7,217	Elementary
31	66928	Roseville Joint Union High	78,934,193	9,746.8	8,099	High School
31	66944	Tahoe-Truckee Unified	45,656,459	3,490.0	13,082	Unified
31	66951	Western Placer Unified	48,542,281	6,409.9	7,573	Unified
31	75085	Rocklin Unified	78,620,071	10,812.6	7,271	Unified

32	66969	Plumas Unified	20,354,941	1,778.7	11,444	Unified
33	66977	Alvord Unified	154,577,328	18,640.8	8,292	Unified
33	66985	Banning Unified	36,288,937	4,183.8	8,674	Unified
33	66993	Beaumont Unified	64,656,731	8,401.7	7,696	Unified
33	67033	Corona-Norco Unified	397,944,186	51,720.2	7,694	Unified
33	67041	Desert Center Unified	645,014	13.0	49,540	Unified
33	67058	Desert Sands Unified	223,425,527	25,409.1	8,793	Unified
33	67082	Hemet Unified	169,489,767	19,782.9	8,567	Unified
33	67090	Jurupa Unified	153,454,607	18,749.5	8,184	Unified
33	67116	Menifee Union Elementary	64,945,837	8,901.9	7,296	Elementary
33	67124	Moreno Valley Unified	269,902,946	32,680.2	8,259	Unified
33	67157	Nuview Union Elementary	12,399,742	1,505.9	8,234	Elementary
33	67173	Palm Springs Unified	193,816,279	21,141.7	9,167	Unified
33	67181	Palo Verde Unified	25,762,570	3,074.9	8,378	Unified
33	67199	Perris Elementary	42,344,402	4,721.7	8,968	Elementary
33	67207	Perris Union High	81,644,834	8,693.2	9,392	High School
33	67215	Riverside Unified	324,433,832	40,197.5	8,071	Unified
33	67231	Romoland Elementary	23,389,396	3,283.7	7,123	Elementary
33	67249	San Jacinto Unified	72,229,546	8,758.9	8,246	Unified
33	73676	Coachella Valley Unified	163,938,105	17,312.9	9,469	Unified
33	75176	Lake Elsinore Unified	169,728,283	20,515.8	8,273	Unified
33	75192	Temecula Valley Unified	210,937,397	27,220.4	7,749	Unified
33	75200	Murrieta Valley Unified	166,936,032	21,931.0	7,612	Unified
33	75242	Val Verde Unified	159,204,843	19,004.1	8,377	Unified
34	67280	Arcohe Union Elementary	2,944,505	372.9	7,896	Elementary
34	67314	Elk Grove Unified	498,903,937	59,279.3	8,416	Unified
34	67322	Elverta Joint Elementary	2,364,145	282.2	8,377	Elementary
34	67330	Folsom-Cordova Unified	147,408,333	18,334.9	8,040	Unified
34	67348	Galt Joint Union Elementary	33,735,692	3,647.2	9,250	Elementary
34	67355	Galt Joint Union High	18,813,326	2,145.6	8,768	High School
34	67413	River Delta Joint Unified	17,956,535	1,871.6	9,594	Unified
34	67421	Robla Elementary	17,150,596	2,116.8	8,102	Elementary
34	67439	Sacramento City Unified	361,785,107	39,853.7	9,078	Unified
34	67447	San Juan Unified	323,889,751	38,089.0	8,503	Unified
34	73973	Center Joint Unified	35,871,246	4,261.3	8,418	Unified
34	75283	Natomas Unified	74,393,907	8,924.2	8,336	Unified
34	76505	Twin Rivers Unified	237,719,497	24,963.2	9,523	Unified
35	67454	Bitterwater-Tully Union Elemen	307,349	24.5	12,550	Elementary
35	67462	Cienega Union Elementary	247,917	30.4	8,147	Elementary
35	67470	Hollister	40,924,533	5,208.3	7,858	Elementary
35	67488	Jefferson Elementary	212,787	19.2	11,094	Elementary
35	67504	North County Joint Union Elementary	4,872,088	737.0	6,611	Elementary
35	67520	Panoche Elementary	109,290	2.8	39,032	Elementary
35	67538	San Benito High	24,621,845	2,823.8	8,719	High School
35	67553	Southside Elementary	1,482,138	228.3	6,491	Elementary
35	67561	Tres Pinos Union Elementary	892,174	127.6	6,991	Elementary

35	67579	Willow Grove Union Elementary	195,256	16.7	11,713	Elementary
35	75259	Aromas/San Juan Unified	10,687,552	1,049.9	10,180	Unified
36	67587	Adelanto Elementary	60,282,333	7,621.9	7,909	Elementary
36	67595	Alta Loma Elementary	42,929,756	5,807.3	7,392	Elementary
36	67611	Barstow Unified	46,347,966	5,590.9	8,290	Unified
36	67637	Bear Valley Unified	20,666,877	2,424.8	8,523	Unified
36	67645	Central Elementary	32,432,933	4,574.0	7,091	Elementary
36	67652	Chaffey Joint Union High	197,870,218	23,304.5	8,491	High School
36	67678	Chino Valley Unified	210,574,707	28,136.4	7,484	Unified
36	67686	Colton Joint Unified	182,199,875	22,101.0	8,244	Unified
36	67694	Cucamonga Elementary	21,521,863	2,385.9	9,020	Elementary
36	67702	Etiwanda Elementary	99,270,399	13,253.4	7,490	Elementary
36	67710	Fontana Unified	308,376,671	38,469.8	8,016	Unified
36	67736	Helendale Elementary	3,930,831	558.5	7,039	Elementary
36	67777	Morongo Unified	74,399,477	7,941.4	9,369	Unified
36	67785	Mountain View Elementary	17,008,509	2,558.4	6,648	Elementary
36	67793	Mt. Baldy Joint Elementary	1,181,863	127.6	9,259	Elementary
36	67801	Needles Unified	8,207,965	777.8	10,553	Unified
36	67819	Ontario-Montclair	197,084,677	22,099.0	8,918	Elementary
36	67827	Oro Grande Elementary	3,580,665	111.2	32,215	Elementary
36	67843	Redlands Unified	162,503,196	19,904.8	8,164	Unified
36	67850	Rialto Unified	211,083,033	25,380.5	8,317	Unified
36	67868	Rim of the World Unified	31,318,982	3,634.4	8,617	Unified
36	67876	San Bernardino City Unified	473,907,245	46,934.4	10,097	Unified
36	67892	Trona Joint Unified	4,697,488	231.8	20,264	Unified
36	67918	Victor Elementary	80,360,351	11,087.0	7,248	Elementary
36	67934	Victor Valley Union High	79,693,112	8,839.6	9,016	High School
36	67959	Yucaipa-Calimesa Jt. Unified	63,432,390	7,834.2	8,097	Unified
36	73858	Baker Valley Unified	2,416,499	157.1	15,378	Unified
36	73890	Silver Valley Unified	29,539,609	2,180.7	13,546	Unified
36	73957	Snowline Joint Unified	57,299,099	7,376.6	7,768	Unified
36	75044	Hesperia Unified	152,024,608	20,173.7	7,536	Unified
36	75051	Lucerne Valley Unified	7,670,026	749.5	10,234	Unified
36	75069	Upland Unified	78,356,234	11,169.4	7,015	Unified
36	75077	Apple Valley Unified	98,773,673	12,344.0	8,002	Unified
37	67967	Alpine Union Elementary	14,238,185	1,714.3	8,306	Elementary
37	67975	Bonsall Union Elementary	15,775,887	2,069.8	7,622	Elementary
37	67983	Borrego Springs Unified	5,381,620	400.9	13,425	Unified
37	67991	Cajon Valley Union	129,192,610	15,370.7	8,405	Elementary
37	68007	Cardiff Elementary	7,787,785	718.6	10,837	Elementary
37	68023	Chula Vista Elementary	185,735,207	23,260.4	7,985	Elementary
37	68031	Coronado Unified	29,538,406	3,024.8	9,765	Unified
37	68049	Dehesa Elementary	3,053,618	189.5	16,113	Elementary
37	68056	Del Mar Union Elementary	43,174,744	4,255.9	10,145	Elementary
37	68080	Encinitas Union Elementary	47,876,897	5,238.4	9,140	Elementary
37	68098	Escondido Union Elementary	142,536,298	16,788.5	8,490	Elementary
37	68106	Escondido Union High	71,852,018	7,215.0	9,959	High School

37	68114	Fallbrook Union Elementary	49,516,618	5,011.3	9,881	Elementary
37	68122	Fallbrook Union High	23,674,596	2,327.8	10,170	High School
37	68130	Grossmont Union High	177,958,416	16,684.0	10,666	High School
37	68155	Jamul-Dulzura Union Elementary	5,687,988	582.1	9,772	Elementary
37	68163	Julian Union Elementary	5,062,048	293.4	17,253	Elementary
37	68171	Julian Union High	2,539,059	142.7	17,789	High School
37	68189	Lakeside Union Elementary	38,931,391	4,660.9	8,353	Elementary
37	68197	La Mesa-Spring Valley	93,224,202	11,554.3	8,068	Elementary
37	68205	Lemon Grove Elementary	31,425,729	3,771.0	8,333	Elementary
37	68213	Mountain Empire Unified	16,888,107	1,470.3	11,486	Unified
37	68221	National Elementary	48,001,246	5,554.9	8,641	Elementary
37	68296	Poway Unified	274,161,097	34,377.8	7,975	Unified
37	68304	Ramona City Unified	43,565,013	5,469.8	7,965	Unified
37	68312	Rancho Santa Fe Elementary	9,828,493	669.5	14,680	Elementary
37	68338	San Diego Unified	1,086,212,633	105,528.5	10,293	Unified
37	68346	San Dieguito Union High	101,538,567	11,966.1	8,486	High School
37	68353	San Pasqual Union Elementary	4,301,032	531.8	8,088	Elementary
37	68361	Santee	44,950,869	6,245.3	7,198	Elementary
37	68379	San Ysidro Elementary	38,514,741	4,857.9	7,928	Elementary
37	68387	Solana Beach Elementary	35,040,821	2,945.2	11,898	Elementary
37	68395	South Bay Union	56,889,151	5,527.9	10,291	Elementary
37	68403	Spencer Valley Elementary	2,611,551	29.5	88,557	Elementary
37	68411	Sweetwater Union High	341,385,174	37,986.8	8,987	High School
37	68437	Vallecitos Elementary	1,920,139	191.6	10,021	Elementary
37	68452	Vista Unified	182,972,170	21,432.0	8,537	Unified
37	73551	Carlsbad Unified	81,230,247	10,544.6	7,703	Unified
37	73569	Oceanside Unified	172,201,940	18,575.5	9,270	Unified
37	73791	San Marcos Unified	146,409,151	19,315.3	7,580	Unified
37	75416	Warner Unified	3,222,357	206.5	15,607	Unified
37	75614	Valley Center-Pauma Unified	36,065,475	3,970.3	9,084	Unified
38	68478	San Francisco Unified	484,096,955	49,496.9	9,780	Unified
39	68486	Banta Elementary	2,561,196	306.1	8,367	Elementary
39	68502	Escalon Unified	19,757,509	2,608.5	7,574	Unified
39	68544	Jefferson Elementary	17,683,807	2,360.9	7,490	Elementary
39	68569	Lincoln Unified	62,150,757	8,803.3	7,060	Unified
39	68577	Linden Unified	17,991,136	2,220.6	8,102	Unified
39	68585	Lodi Unified	235,834,304	26,821.2	8,793	Unified
39	68593	Manteca Unified	166,803,879	21,928.6	7,607	Unified
39	68619	New Hope Elementary	1,677,580	193.1	8,687	Elementary
39	68627	New Jerusalem Elementary	2,220,282	20.9	106,031	Elementary
39	68635	Oak View Union Elementary	2,778,884	396.0	7,018	Elementary
39	68650	Ripon Unified	20,307,117	2,886.5	7,035	Unified
39	68676	Stockton Unified	308,254,751	32,386.0	9,518	Unified
39	75499	Tracy Joint Unified	126,643,615	15,343.9	8,254	Unified
39	76760	Lammersville Joint Unified	17,999,252	2,623.3	6,861	Unified

40	68700	Atascadero Unified	36,387,224	4,551.1	7,995	Unified
40	68726	Cayucos Elementary	2,606,184	204.5	12,742	Elementary
40	68759	Lucia Mar Unified	79,854,397	10,165.9	7,855	Unified
40	68791	Pleasant Valley Joint Union Elementary	1,114,457	122.4	9,104	Elementary
40	68809	San Luis Coastal Unified	73,225,673	7,010.3	10,446	Unified
40	68825	San Miguel Joint Union Elementary	5,312,674	580.6	9,150	Elementary
40	68833	Shandon Joint Unified	3,427,454	271.6	12,618	Unified
40	68841	Templeton Unified	17,301,272	2,391.5	7,235	Unified
40	75457	Paso Robles Joint Unified	50,951,166	6,181.7	8,242	Unified
40	75465	Coast Unified	9,620,814	705.0	13,647	Unified
41	68858	Bayshore Elementary	3,045,715	361.4	8,427	Elementary
41	68866	Belmont-Redwood Shores Elementary	32,205,881	3,618.3	8,901	Elementary
41	68874	Brisbane Elementary	5,450,464	460.3	11,842	Elementary
41	68882	Burlingame Elementary	24,373,982	3,146.1	7,747	Elementary
41	68890	Cabrillo Unified	27,850,221	3,210.4	8,675	Unified
41	68908	Hillsborough City Elementary	21,499,519	1,488.1	14,448	Elementary
41	68916	Jefferson Elementary	44,777,390	6,143.2	7,289	Elementary
41	68924	Jefferson Union High	43,951,590	4,432.4	9,916	High School
41	68932	Pacifica	25,239,435	3,109.4	8,117	Elementary
41	68940	La Honda-Pescadero Unified	4,780,443	327.9	14,579	Unified
41	68957	Las Lomas Elementary	19,186,358	1,344.5	14,270	Elementary
41	68965	Menlo Park City Elementary	36,437,513	2,801.6	13,006	Elementary
41	68973	Millbrae Elementary	17,261,223	2,387.1	7,231	Elementary
41	68981	Portola Valley Elementary	11,390,654	627.5	18,154	Elementary
41	68999	Ravenswood City Elementary	38,409,011	3,337.0	11,510	Elementary
41	69005	Redwood City Elementary	80,933,107	8,646.1	9,361	Elementary
41	69013	San Bruno Park Elementary	21,131,156	2,681.2	7,881	Elementary
41	69021	San Carlos Elementary	27,129,024	2,943.7	9,216	Elementary
41	69039	San Mateo-Foster City	88,806,013	11,318.7	7,846	Elementary
41	69047	San Mateo Union High	110,617,594	7,836.5	14,116	High School
41	69062	Sequoia Union High	111,159,640	7,795.0	14,260	High School
41	69070	South San Francisco Unified	65,614,172	8,914.1	7,361	Unified
41	69088	Woodside Elementary	8,547,150	439.3	19,458	Elementary
42	69104	Ballard Elementary	1,597,475	100.5	15,889	Elementary
42	69112	Blochman Union Elementary	1,409,080	125.4	11,237	Elementary
42	69120	Santa Maria-Bonita Elementary	116,234,319	15,089.4	7,703	Elementary
42	69138	Buellton Union Elementary	7,186,295	663.6	10,829	Elementary
42	69146	Carpinteria Unified	21,719,444	2,177.0	9,977	Unified
42	69161	Cold Spring Elementary	3,016,868	160.7	18,778	Elementary
42	69179	College Elementary	3,748,913	237.7	15,774	Elementary
42	69195	Goleta Union Elementary	37,999,767	3,541.7	10,729	Elementary
42	69203	Guadalupe Union Elementary	10,227,634	1,170.4	8,739	Elementary
42	69211	Hope Elementary	9,131,257	964.3	9,469	Elementary

42	69229	Lompoc Unified	75,860,558	8,970.4	8,457	Unified
42	69245	Los Olivos Elementary	2,037,636	199.7	10,205	Elementary
42	69252	Montecito Union Elementary	10,028,006	468.1	21,422	Elementary
42	69260	Orcutt Union Elementary	33,191,944	4,233.9	7,840	Elementary
42	69310	Santa Maria Joint Union High	66,517,911	7,200.2	9,238	High School
42	69328	Santa Ynez Valley Union High	10,052,252	1,003.4	10,018	High School
42	69336	Solvang Elementary	3,998,045	600.4	6,659	Elementary
42	69344	Vista del Mar Union Elementary	2,187,119	112.2	19,498	Elementary
42	75010	Cuyama Joint Unified	2,794,333	230.1	12,143	Unified
42	76786	Santa Barbara Unified	119,290,938	13,423.8	8,887	Unified
43	69369	Alum Rock Union Elementary	104,935,135	11,361.0	9,236	Elementary
43	69377	Berryessa Union Elementary	58,105,420	7,728.0	7,519	Elementary
43	69385	Cambrian Elementary	28,002,909	3,273.7	8,554	Elementary
43	69393	Campbell Union	67,499,400	7,403.9	9,117	Elementary
43	69401	Campbell Union High	73,578,932	6,953.7	10,581	High School
43	69419	Cupertino Union Elementary	152,745,333	18,896.2	8,083	Elementary
43	69427	East Side Union High	209,529,210	22,213.7	9,432	High School
43	69435	Evergreen Elementary	97,725,529	12,849.4	7,605	Elementary
43	69450	Franklin-McKinley Elementary	78,520,545	9,029.1	8,696	Elementary
43	69468	Fremont Union High	105,074,125	10,305.5	10,196	High School
43	69484	Gilroy Unified	86,213,397	10,825.1	7,964	Unified
43	69492	Lakeside Joint Elementary	1,288,483	84.7	15,221	Elementary
43	69500	Loma Prieta Joint Union Elemen	4,617,425	481.4	9,592	Elementary
43	69518	Los Altos Elementary	48,585,152	4,475.3	10,856	Elementary
43	69526	Los Gatos Union Elementary	28,321,316	3,172.6	8,927	Elementary
43	69534	Los Gatos-Saratoga Joint Union High	41,403,532	3,130.7	13,225	High School
43	69542	Luther Burbank Elementary	4,174,132	528.9	7,893	Elementary
43	69575	Moreland	40,725,813	4,531.0	8,988	Elementary
43	69583	Morgan Hill Unified	60,054,878	8,171.6	7,349	Unified
43	69591	Mountain View Whisman	45,864,705	4,856.6	9,444	Elementary
43	69609	Mountain View-Los Altos Union High	55,471,809	3,626.7	15,296	High School
43	69617	Mt. Pleasant Elementary	24,298,028	2,431.7	9,992	Elementary
43	69625	Oak Grove Elementary	85,569,683	10,793.2	7,928	Elementary
43	69633	Orchard Elementary	6,608,641	863.5	7,653	Elementary
43	69641	Palo Alto Unified	179,902,458	12,029.7	14,955	Unified
43	69666	San Jose Unified	293,374,350	31,207.6	9,401	Unified
43	69674	Santa Clara Unified	135,638,128	14,725.0	9,211	Unified
43	69682	Saratoga Union Elementary	24,252,337	2,085.7	11,628	Elementary
43	69690	Sunnyvale	62,891,884	6,704.2	9,381	Elementary
43	69708	Union Elementary	42,311,951	5,295.2	7,991	Elementary
43	73387	Milpitas Unified	78,615,821	9,884.3	7,954	Unified

44	40261	Santa Cruz City Elementary/High	64,475,018	6,501.8	9,916	Comm Admin
44	69732	Bonny Doon Union Elementary	1,536,895	119.4	12,871	Elementary
44	69757	Happy Valley Elementary	1,121,479	124.1	9,036	Elementary
44	69765	Live Oak Elementary	16,383,275	1,722.4	9,512	Elementary
44	69773	Mountain Elementary	1,231,581	125.1	9,846	Elementary
44	69781	Pacific Elementary	978,534	102.4	9,560	Elementary
44	69799	Pajaro Valley Unified	181,790,122	17,450.0	10,418	Unified
44	69807	San Lorenzo Valley Unified	20,781,957	2,243.0	9,265	Unified
44	69849	Soquel Union Elementary	15,098,869	1,918.4	7,870	Elementary
44	75432	Scotts Valley Unified	18,560,092	2,383.5	7,787	Unified
45	69856	Anderson Union High	14,473,440	1,579.9	9,161	High School
45	69872	Bella Vista Elementary	3,036,441	317.5	9,564	Elementary
45	69880	Black Butte Union Elementary	2,084,808	176.8	11,789	Elementary
45	69914	Cascade Union Elementary	10,901,176	1,151.9	9,464	Elementary
45	69922	Castle Rock Union Elementary	707,691	62.5	11,332	Elementary
45	69948	Columbia Elementary	6,928,942	807.4	8,582	Elementary
45	69955	Cottonwood Union Elementary	7,178,624	872.3	8,230	Elementary
45	69971	Enterprise Elementary	29,268,992	3,503.6	8,354	Elementary
45	69989	Fall River Joint Unified	11,257,016	1,090.4	10,324	Unified
45	69997	French Gulch-Whiskeytown Elementary	330,853	23.3	14,194	Elementary
45	70003	Grant Elementary	4,933,695	612.9	8,049	Elementary
45	70011	Happy Valley Union Elementary	4,193,441	478.8	8,759	Elementary
45	70029	Igo, Ono, Platina Union Elementary	832,938	64.8	12,856	Elementary
45	70037	Indian Springs Elementary	461,998	13.8	33,478	Elementary
45	70045	Junction Elementary	2,429,290	233.9	10,388	Elementary
45	70052	Millville Elementary	1,950,780	230.9	8,448	Elementary
45	70078	North Cow Creek Elementary	1,888,556	245.1	7,704	Elementary
45	70086	Oak Run Elementary	379,137	26.5	14,296	Elementary
45	70094	Pacheco Union Elementary	4,510,810	555.6	8,119	Elementary
45	70110	Redding Elementary	26,133,268	3,000.2	8,711	Elementary
45	70128	Shasta Union Elementary	1,060,590	117.4	9,034	Elementary
45	70136	Shasta Union High	42,083,191	4,225.1	9,960	High School
45	70169	Whitmore Union Elementary	455,005	26.9	16,921	Elementary
45	73700	Mountain Union Elementary	914,775	61.4	14,899	Elementary
45	75267	Gateway Unified	22,812,975	2,341.7	9,742	Unified
46	70177	Sierra-Plumas Joint Unified	4,739,373	353.9	13,391	Unified
47	70185	Big Springs Union Elementary	1,183,730	124.4	9,518	Elementary
47	70193	Bogus Elementary	209,620	10.8	19,355	Elementary
47	70201	Butteville Union Elementary	1,660,966	191.2	8,689	Elementary

47	70227	Delphic Elementary	514,389	48.8	10,534	Elementary
47	70243	Dunsmuir Elementary	1,269,497	99.2	12,796	Elementary
47	70250	Dunsmuir Joint Union High	1,296,329	62.1	20,872	High School
47	70292	Forks of Salmon Elementary	168,780	11.0	15,358	Elementary
47	70318	Gazelle Union Elementary	370,200	29.9	12,365	Elementary
47	70326	Grenada Elementary	1,664,167	175.9	9,460	Elementary
47	70334	Happy Camp Union Elementary	1,413,498	111.2	12,715	Elementary
47	70359	Hornbrook Elementary	658,833	36.8	17,903	Elementary
47	70367	Junction Elementary	350,007	27.4	12,765	Elementary
47	70375	Klamath River Union Elementary	231,140	10.6	21,765	Elementary
47	70383	Little Shasta Elementary	285,908	15.2	18,835	Elementary
47	70409	McCloud Union Elementary	663,792	70.3	9,438	Elementary
47	70417	Montague Elementary	1,412,891	172.1	8,211	Elementary
47	70425	Mt. Shasta Union Elementary	4,181,418	474.4	8,815	Elementary
47	70458	Seiad Elementary	378,867	32.5	11,643	Elementary
47	70466	Siskiyou Union High	6,547,607	546.3	11,986	High School
47	70482	Weed Union Elementary	2,082,035	229.3	9,081	Elementary
47	70490	Willow Creek Elementary	513,626	34.5	14,883	Elementary
47	70508	Yreka Union Elementary	7,368,773	940.9	7,832	Elementary
47	70516	Yreka Union High	6,883,226	661.3	10,409	High School
47	73684	Butte Valley Unified	3,329,073	280.5	11,867	Unified
47	76455	Scott Valley Unified	6,562,908	609.3	10,772	Unified
48	70524	Benicia Unified	36,076,054	4,755.8	7,586	Unified
48	70532	Dixon Unified	26,652,070	3,250.4	8,200	Unified
48	70540	Fairfield-Suisun Unified	155,551,429	20,432.6	7,613	Unified
48	70565	Travis Unified	40,467,816	5,313.2	7,616	Unified
48	70573	Vacaville Unified	81,863,187	10,772.7	7,599	Unified
48	70581	Vallejo City Unified	114,178,488	12,609.3	9,055	Unified
49	40246	Petaluma City Elementary/Joint Union High	67,391,073	7,281.5	9,255	Comm Admin
49	40253	Santa Rosa Elementary/High, City of	129,870,528	14,370.1	9,038	Comm Admin
49	70599	Alexander Valley Union Elementary	1,641,253	111.9	14,666	Elementary
49	70607	West Sonoma County Union High	19,445,881	1,970.6	9,868	High School
49	70615	Bellevue Union Elementary	17,030,733	1,729.6	9,847	Elementary
49	70623	Bennett Valley Union Elementary	7,295,484	1,022.8	7,133	Elementary
49	70649	Cinnabar Elementary	2,118,818	200.8	10,550	Elementary
49	70656	Cloverdale Unified	11,855,135	1,351.0	8,775	Unified
49	70672	Dunham Elementary	1,558,363	171.7	9,074	Elementary
49	70680	Forestville Union Elementary	3,482,748	347.0	10,038	Elementary
49	70698	Fort Ross Elementary	519,459	26.2	19,812	Elementary
49	70706	Geyserville Unified	3,297,569	252.9	13,041	Unified

49	70714	Gravenstein Union Elementary	4,791,342	686.5	6,979	Elementary
49	70722	Guerneville Elementary	2,781,351	263.9	10,540	Elementary
49	70730	Harmony Union Elementary	2,771,280	188.3	14,718	Elementary
49	70763	Horicon Elementary	1,464,225	56.6	25,893	Elementary
49	70789	Kenwood	2,153,990	153.6	14,020	Elementary
49	70797	Liberty Elementary	1,820,695	207.8	8,761	Elementary
49	70805	Mark West Union Elementary	10,708,638	1,291.4	8,292	Elementary
49	70813	Monte Rio Union Elementary	1,191,595	88.4	13,486	Elementary
49	70821	Montgomery Elementary	514,913	22.9	22,505	Elementary
49	70839	Oak Grove Union Elementary	7,276,646	830.1	8,766	Elementary
49	70847	Old Adobe Union	15,245,770	1,608.1	9,480	Elementary
49	70870	Piner-Olivet Union Elementary	9,284,422	1,115.7	8,322	Elementary
49	70888	Kashia Elementary	361,267	8.4	43,059	Elementary
49	70896	Rincon Valley Union Elementary	26,174,577	3,047.7	8,588	Elementary
49	70904	Roseland	18,429,442	1,582.6	11,645	Elementary
49	70938	Sebastopol Union Elementary	5,427,926	539.3	10,064	Elementary
49	70953	Sonoma Valley Unified	40,888,543	3,996.4	10,231	Unified
49	70961	Twin Hills Union Elementary	5,452,572	728.3	7,487	Elementary
49	70979	Two Rock Union	2,058,209	168.8	12,195	Elementary
49	70995	Waugh Elementary	6,890,398	897.2	7,680	Elementary
49	71001	West Side Union Elementary	1,357,971	160.9	8,438	Elementary
49	71019	Wilmar Union Elementary	2,058,438	210.2	9,794	Elementary
49	71035	Wright Elementary	13,226,948	1,558.0	8,490	Elementary
49	73882	Cotati-Rohnert Park Unified	47,457,689	5,517.4	8,602	Unified
49	75358	Windsor Unified	38,547,381	5,102.0	7,555	Unified
49	75390	Healdsburg Unified	18,938,411	1,638.3	11,560	Unified
50	40717	Modesto City Schools	236,530,082	28,391.8	8,331	Comm Admin
50	71043	Ceres Unified	92,621,641	11,697.4	7,918	Unified
50	71050	Chatom Union	5,264,831	628.2	8,381	Elementary
50	71068	Denair Unified	8,057,213	866.8	9,295	Unified
50	71076	Empire Union Elementary	21,798,202	2,838.4	7,680	Elementary
50	71084	Gratton Elementary	1,314,193	134.0	9,807	Elementary
50	71092	Hart-Ransom Union Elementary	5,549,523	780.4	7,111	Elementary
50	71100	Hickman Community Charter	7,906,390	1,073.9	7,363	Elementary
50	71134	Keyes Union Elementary	5,864,448	691.8	8,477	Elementary
50	71142	Knights Ferry Elementary	836,397	83.8	9,984	Elementary
50	71209	Paradise Elementary	1,536,631	186.6	8,234	Elementary
50	71217	Patterson Joint Unified	38,990,952	5,488.8	7,104	Unified
50	71233	Roberts Ferry Union Elementary	1,001,286	123.8	8,089	Elementary
50	71266	Salida Union Elementary	19,350,713	2,469.0	7,838	Elementary
50	71274	Shiloh Elementary	1,130,073	140.4	8,050	Elementary
50	71282	Stanislaus Union Elementary	23,971,057	3,074.3	7,797	Elementary

50	71290	Sylvan Union Elementary	57,306,167	7,855.3	7,295	Elementary
50	71324	Valley Home Joint Elementary	1,268,489	146.4	8,663	Elementary
50	73601	Newman-Crows Landing Unified	22,309,407	2,751.0	8,110	Unified
50	75549	Hughson Unified	17,932,814	2,068.0	8,672	Unified
50	75556	Riverbank Unified	21,666,779	2,148.4	10,085	Unified
50	75564	Oakdale Joint Unified	40,427,196	4,975.2	8,126	Unified
50	75572	Waterford Unified	15,725,835	1,655.0	9,502	Unified
50	75739	Turlock Unified	102,936,831	13,276.0	7,754	Unified
51	71357	Brittan Elementary	3,278,803	418.0	7,844	Elementary
51	71365	Browns Elementary	1,177,195	157.5	7,474	Elementary
51	71373	East Nicolaus Joint Union High	3,020,522	302.3	9,993	High School
51	71381	Franklin Elementary	3,196,539	466.5	6,852	Elementary
51	71399	Live Oak Unified	13,036,436	1,673.3	7,791	Unified
51	71407	Marcum-Illinois Union Elementary	1,725,171	155.2	11,116	Elementary
51	71415	Meridian Elementary	655,643	65.6	10,002	Elementary
51	71423	Nuestro Elementary	1,075,528	135.7	7,926	Elementary
51	71431	Pleasant Grove Joint Union Elementary	1,317,629	185.2	7,115	Elementary
51	71449	Sutter Union High	5,724,883	670.0	8,545	High School
51	71456	Winship-Robbins Elementary	1,566,656	183.9	8,519	Elementary
51	71464	Yuba City Unified	101,392,834	12,153.5	8,343	Unified
52	71472	Antelope Elementary	5,927,901	677.2	8,754	Elementary
52	71498	Corning Union Elementary	15,013,799	1,897.0	7,915	Elementary
52	71506	Corning Union High	10,155,862	895.8	11,338	High School
52	71514	Elkins Elementary	178,140	15.8	11,253	Elementary
52	71522	Evergreen Union Elementary	7,546,997	1,002.1	7,531	Elementary
52	71530	Flournoy Union Elementary	357,282	30.3	11,803	Elementary
52	71548	Gerber Union Elementary	3,359,724	369.1	9,102	Elementary
52	71555	Kirkwood Elementary	733,596	91.8	7,996	Elementary
52	71563	Lassen View Union Elementary	2,326,261	292.9	7,943	Elementary
52	71571	Los Molinos Unified	5,390,109	553.2	9,744	Unified
52	71621	Red Bluff Union Elementary	17,534,107	2,044.8	8,575	Elementary
52	71639	Red Bluff Joint Union High	15,741,159	1,464.9	10,746	High School
52	71647	Reeds Creek Elementary	934,343	114.0	8,194	Elementary
52	71654	Richfield Elementary	1,814,686	231.8	7,829	Elementary
53	71662	Burnt Ranch Elementary	1,197,646	82.3	14,549	Elementary
53	71670	Coffee Creek Elementary	169,478	10.0	16,948	Elementary
53	71688	Cox Bar Elementary	243,127	6.3	38,592	Elementary
53	71696	Douglas City Elementary	1,604,944	169.8	9,453	Elementary
53	71738	Junction City Elementary	879,160	77.1	11,410	Elementary
53	71746	Lewiston Elementary	852,037	48.0	17,743	Elementary
53	71761	Trinity Center Elementary	246,047	13.6	18,078	Elementary
53	73833	Southern Trinity Joint Unified	1,957,638	77.4	25,286	Unified

53	75028	Mountain Valley Unified	4,398,025	295.8	14,869	Unified
53	76513	Trinity Alps Unified	7,750,368	647.5	11,969	Unified
54	71795	Allensworth Elementary	773,069	75.1	10,299	Elementary
54	71803	Alpaugh Unified	3,365,034	284.8	11,815	Unified
54	71811	Alta Vista Elementary	4,381,465	559.0	7,839	Elementary
54	71829	Buena Vista Elementary	1,536,110	179.3	8,568	Elementary
54	71837	Burton Elementary	30,587,266	4,110.5	7,441	Elementary
54	71845	Citrus South Tule Elementary	506,774	42.8	11,849	Elementary
54	71852	Columbine Elementary	1,433,320	192.0	7,465	Elementary
54	71860	Cutler-Orosi Joint Unified	34,522,331	3,926.7	8,792	Unified
54	71894	Ducor Union Elementary	1,467,138	190.8	7,691	Elementary
54	71902	Earlimart Elementary	16,688,084	1,879.7	8,878	Elementary
54	71944	Hope Elementary	1,526,447	201.8	7,566	Elementary
54	71951	Hot Springs Elementary	416,054	16.0	26,036	Elementary
54	71969	Kings River Union Elementary	3,656,439	441.1	8,289	Elementary
54	71985	Liberty Elementary	2,251,656	343.8	6,550	Elementary
54	71993	Lindsay Unified	38,697,030	3,991.2	9,696	Unified
54	72009	Monson-Sultana Joint Union Elementary	3,416,899	423.7	8,064	Elementary
54	72017	Oak Valley Union Elementary	3,427,843	475.2	7,214	Elementary
54	72025	Outside Creek Elementary	839,404	97.6	8,597	Elementary
54	72033	Palo Verde Union Elementary	4,477,331	492.3	9,095	Elementary
54	72041	Pixley Union Elementary	9,781,080	1,042.9	9,379	Elementary
54	72058	Pleasant View Elementary	4,426,367	536.3	8,254	Elementary
54	72082	Richgrove Elementary	7,448,246	655.1	11,370	Elementary
54	72090	Rockford Elementary	2,607,355	406.2	6,419	Elementary
54	72108	Saucelito Elementary	812,185	86.4	9,398	Elementary
54	72116	Sequoia Union Elementary	2,293,222	309.8	7,402	Elementary
54	72132	Springville Union Elementary	2,124,739	278.9	7,620	Elementary
54	72140	Stone Corral Elementary	1,147,385	131.2	8,745	Elementary
54	72157	Strathmore Union Elementary	5,891,395	798.9	7,374	Elementary
54	72173	Sundale Union Elementary	5,476,817	786.0	6,968	Elementary
54	72181	Sunnyside Union Elementary	2,844,458	342.6	8,304	Elementary
54	72199	Terra Bella Union Elementary	8,426,878	890.5	9,464	Elementary
54	72207	Three Rivers Union Elementary	913,326	150.2	6,081	Elementary
54	72215	Tipton Elementary	4,807,206	592.4	8,115	Elementary
54	72223	Traver Joint Elementary	1,925,835	223.1	8,632	Elementary
54	72231	Tulare City	68,378,641	9,220.5	7,416	Elementary
54	72249	Tulare Joint Union High	47,991,313	4,920.3	9,754	High School
54	72256	Visalia Unified	197,047,048	26,375.2	7,471	Unified
54	72264	Waukena Joint Union Elementary	1,911,370	244.9	7,806	Elementary
54	72298	Woodville Elementary	4,308,520	469.4	9,179	Elementary
54	75325	Farmersville Unified	23,224,175	2,486.1	9,341	Unified

54	75523	Porterville Unified	107,163,697	12,571.5	8,524	Unified
54	75531	Dinuba Unified	49,906,577	6,181.7	8,073	Unified
54	76794	Woodlake Unified	18,984,829	2,210.6	8,588	Unified
54	76836	Exeter Unified	22,367,016	2,846.1	7,859	Unified
55	72306	Bellevue Elementary	1,318,815	132.3	9,971	Elementary
55	72348	Columbia Union	4,318,962	552.5	7,818	Elementary
55	72355	Curtis Creek Elementary	4,187,759	462.4	9,056	Elementary
55	72363	Jamestown Elementary	3,399,369	320.7	10,600	Elementary
55	72371	Sonora Elementary	5,014,646	660.3	7,595	Elementary
55	72389	Sonora Union High	10,222,875	1,021.0	10,012	High School
55	72397	Soulsbyville Elementary	3,621,615	500.5	7,237	Elementary
55	72405	Summerville Elementary	3,172,064	366.4	8,657	Elementary
55	72413	Summerville Union High	5,531,158	426.9	12,957	High School
55	72421	Twain Harte-Long Barn Union Elementary	2,686,508	274.1	9,802	Elementary
55	75184	Big Oak Flat-Groveland Unified	4,535,228	319.3	14,202	Unified
56	72447	Briggs Elementary	4,365,406	555.9	7,852	Elementary
56	72454	Fillmore Unified	30,673,579	3,654.2	8,394	Unified
56	72462	Hueneme Elementary	63,985,027	8,157.0	7,844	Elementary
56	72470	Mesa Union Elementary	4,436,242	625.7	7,090	Elementary
56	72504	Mupu Elementary	1,316,476	142.4	9,245	Elementary
56	72512	Ocean View	20,894,430	2,559.8	8,162	Elementary
56	72520	Ojai Unified	21,256,596	2,556.7	8,314	Unified
56	72538	Oxnard	130,949,401	16,324.9	8,021	Elementary
56	72546	Oxnard Union High	127,502,837	14,918.8	8,546	High School
56	72553	Pleasant Valley Elementary	47,015,267	6,353.4	7,400	Elementary
56	72561	Rio Elementary	36,232,491	4,658.1	7,778	Elementary
56	72579	Santa Clara Elementary	492,169	56.1	8,770	Elementary
56	72603	Simi Valley Unified	142,047,280	17,487.2	8,123	Unified
56	72611	Somis Union Elementary	2,524,104	248.4	10,162	Elementary
56	72652	Ventura Unified	137,132,379	16,761.0	8,182	Unified
56	73759	Conejo Valley Unified	158,772,058	19,413.8	8,178	Unified
56	73874	Oak Park Unified	33,622,039	4,502.4	7,468	Unified
56	73940	Moorpark Unified	55,013,566	6,419.7	8,569	Unified
56	76828	Santa Paula Unified	43,768,730	5,233.9	8,363	Unified
57	72678	Davis Joint Unified	71,683,896	7,648.3	9,373	Unified
57	72686	Esparto Unified	8,000,015	900.8	8,881	Unified
57	72694	Washington Unified	56,059,978	7,100.5	7,895	Unified
57	72702	Winters Joint Unified	12,088,072	1,472.1	8,211	Unified
57	72710	Woodland Joint Unified	75,048,443	9,345.4	8,030	Unified
58	72728	Camptonville Elementary	603,597	48.6	12,422	Elementary
58	72736	Marysville Joint Unified	72,441,928	8,717.0	8,310	Unified
58	72744	Plumas Lake Elementary	8,256,322	1,109.0	7,445	Elementary
58	72751	Wheatland Elementary	12,339,489	1,133.2	10,889	Elementary
58	72769	Wheatland Union High	5,595,877	702.4	7,967	High School
		STATEWIDE TOTALS	48,783,324,548	5,501,603.2	8,867	

What Should Be Done?

California schools need more resources. The limit on property taxes enacted by Proposition 13 in 1978 severely decreased overall school funding. When we account for cost of living, California ranks 45th in per-pupil funding. New York spends 50% more than California for each child in public schools. California needs to spend as much or more on its children's education as the other states. As we improve the system for all students, we must eliminate the disparities in revenues between different districts and different schools.

All students in California must receive equal opportunities to learn the content in the state standards, to have up-to-date facilities and materials, and to have qualified teachers.

Californians need to explore the many fair and responsible ways to provide extra funding for districts with large numbers of students from low-income families.

Further Information

PPIC School Finance Information
<http://www.ppic.org/main/issue>

Ed Source School Finance Information:
http://www.edsource.org/edu_fin.cfm

The California Master Plan for Education:
http://www.sen.ca.gov/ftp/sen/committee/joint/master_plan/_home/links.htm

Timar, T. (2004). "Categorical School Finance: Who Gains? Who Loses?" Policy Analysis for California Education:
http://pace.berkeley.edu/pace_publications.html

For this and other brochures in English and Spanish:
www.JustSchoolsCalifornia.org

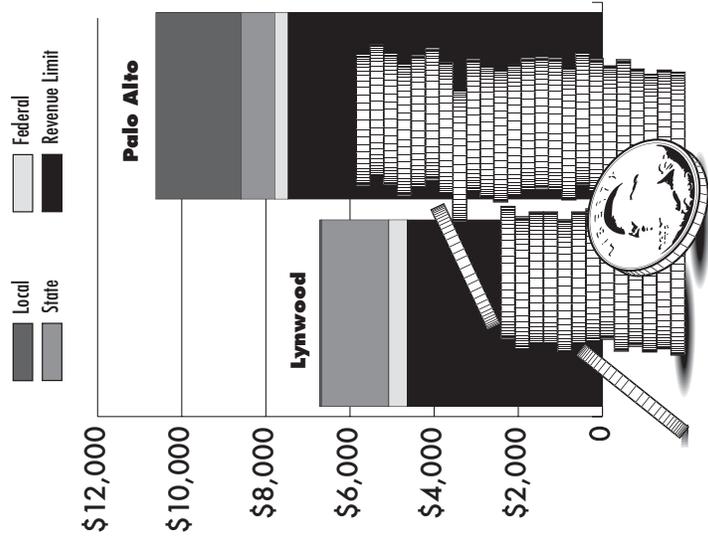
Funding Essentials for California Schools

California's School Funding Is Not Equal

A court ruling in 1976 (*Serrano v. Priest*) was supposed to make school district finances roughly equal throughout the state. However, almost thirty years later, funding is still unequal. Districts located in wealthy areas, serving mostly white students, receive more money (from local, state, and federal sources combined) than districts in other areas. Districts like Palo Alto spend more than \$10,000 per pupil, while largely low-income communities like Lynwood spend around \$6000 per pupil.

Differences in Funding Between Districts

The table below compares the revenues per student received by two districts of similar size:



How Do Schools Get Money?

Basic Funding

Basic (or “revenue limit”) funding pays for teachers and routine operations. This money comes from state funding and local property taxes. While most districts receive similar basic funding, a few wealthy districts, with higher local tax revenue, get much more.

Categorical Funds

Schools get “categorical funds” for special purposes (for example, special education or reducing class size). This money comes from the state or federal government. Often, this money does not correspond with level of need. Schools that have mastered the application system can get more than the ones that require the most help.

Parcel Taxes

Parcel taxes (a form of local property tax) are most often found in districts with high-income families. They raise \$500 per pupil, on average.

Lottery

When California voters approved the state lottery in 1988, many people believed that it would be a major source of new dollars for schools. However, income from the lottery provides only 1–2% of K–12 funding each year.

Private Funds

In 2000, private foundations raised more than \$30 million for California public schools. Districts located in white and wealthier communities get more private donations than districts in poor communities.

School Facilities Funds

Districts in higher-income areas also have more money for school construction and improvement. In addition, the lack of vacant space in urban districts makes construction more difficult and expensive.

Inequalities Matter

The differences in the money that districts receive are often quite large. And even small differences matter a lot to schools. In the table on the front page, Palo Alto’s base funding (the Revenue Limit) provides it with almost \$3000 more per student than Lynwood. Adding funds from Local, State, and Federal sources, the difference grows to almost \$4000 per student. This inequality represents a gap of \$120,000 for a classroom of 30 students. The funding gap is important because:

- California schools compete for credentialed teachers. A district with less revenue may lose these teachers to districts that can pay them more.
- Funding inequalities over many years have added up, so now students in lower-income communities have less access to textbooks and other instructional materials in their schools.
- The extra money that wealthier districts spend often pays for essential school opportunities such as smaller class sizes, libraries and arts programs, counseling, and even building modernization.

Schools in low-income communities have greater needs and often cost more to operate than other schools. Competition for teachers, security costs, older facilities, and years of neglect, are just a few reasons why they need relatively more money.

SPECIAL SERIES

A New Paradigm for Educational Accountability: Accountability for Resources and Outcomes

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Resource Accountability: Enforcing State Responsibilities for Sufficient and Equitable Resources Used Effectively to Provide All Students a Quality Education

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Abstract: Darling-Hammond, Wilhoit, and Pittenger (2014) addressed the need for states to align their accountability systems with new college- and career-ready learning standards. The authors recommended a new accountability paradigm that focuses on 1) meaningful learning, enabled by 2) professionally skilled and committed educators, and supported by 3) adequate and appropriate resources. This paper explicates the provision of adequate and appropriate resources, the third of these three pillars of a comprehensive approach to accountability. Adequate resources, effectively used, are prerequisites to building the capacity of schools to deliver the two other pillars, professionally skilled and committed educators and meaningful learning. Also, the effective use of

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public school funding is an oft-ignored but crucial step toward ensuring equal educational opportunity for all students.

Keywords: accountability; resource accountability; educational equity; equal education; needs assessment; economically disadvantaged; academic standards; college- and career-readiness

La Rendición de Cuentas de los Recursos: Haciendo Cumplir las Responsabilidades del Estado de Otorgar Recursos Suficientes y Equitativos para que Sean Utilizados Eficazmente para Proporcionar a Todos los Estudiantes una Educación de Calidad

Resumen: En el número del 18 de agosto 2014 esta publicación, los autores Linda Darling-Hammond, Gene Wilhoit, y Linda Pittenger abordaron la necesidad de que los estados alineen sus sistemas de responsabilidad educativa con un nuevo paradigma que prepare a los estudiantes para que sean exitosos en la universidad y carreras profesionaes. Los autores recomendaron un nuevo paradigma de la rendición de cuentas que se centrase en 1) el aprendizaje significativo, habilitado por 2) educadores profesionalmente cualificados y comprometidos, y con el apoyo de 3) los recursos adecuados y apropiados (Darling-Hammond, Wilhoit, y Pittenger, 2014). En este trabajo se explicita la provisión de los recursos adecuados y apropiados, el tercero de estos tres pilares de un enfoque integral para la rendición de cuentas. Recursos suficientes que se usen con eficacia, son requisitos previos para viabilizar la capacidad de las escuelas para sustentar los otros dos pilares, educadores profesionalmente cualificados y comprometidos y lso aprendizajes significativos. Además, la financiación efectiva de la de escuelas públicas es un paso a menudo ignorado, pero crucial para garantizar la igualdad de oportunidades educativas para todos los estudiantes.

Palabras clave: responsabilidad educativas; recursos; equidad educativa; educación igualitaria; evaluación de las necesidades; normas académicas; preparación universitaria y profesional

Prestação de Contas dos Recursos: Fazer Cumprir as Responsabilidades do Estado de Fornecer Recursos Adequados e Equitativos para ser Efetivamente Usados para Brindar a Todos os Alunos uma Educação de Qualidade

Resumo: No número de 18 agosto de 2014 desta publicação, os autores Linda Darling-Hammond, Gene Wilhoit, e Linda Pittenger abordaram a necessidade de que os Estados alinhem seus sistemas de ensino com um novo paradigma de responsabilidade educacional que prepare os alunos para ser bem sucedidos nos estudos universitários e as carreiras profissionais. Os autores recomendam um novo paradigma de responsabilidade educativa baseados em 1) a aprendizagem significativa, ativado por 2) educadores profissionalmente qualificados e comprometidos, e com o apoio de 3) recursos adequados e apropriados (Darling-Hammond, Wilhoit, e Pittenger, 2014). Neste trabalho, o fornecimento de recursos adequados e apropriados são explícitas, o terceiro dos três pilares de uma abordagem abrangente para a prestação de contas. Recursos suficientes utilizados de forma eficaz, são pré-requisitos para viabilizar a capacidade das escolas para sustentar os outros dois pilares, educadores profissionalmente qualificados e comprometidos e aprendizagem significativa. Além disso, o financiamento eficaz das escolas públicas é um passo muitas vezes esquecido, mas crucial para garantir a igualdade de oportunidades educacionais para todos os alunos.

Palavras-chave: responsabilidade educacional; recursos; equidade educacional; educação igual; avaliação das necessidades; padrões acadêmicos; faculdade e prontidão carreira

Introduction

In the August 18, 2014, volume of this publication, authors Linda Darling-Hammond, Gene Wilhoit, and Linda Pittenger addressed the need for states to align their accountability

systems with new college- and career-ready learning standards. The authors recommended a new accountability paradigm that focuses on 1) meaningful learning, enabled by 2) professionally skilled and committed educators, and supported by 3) adequate and appropriate resources (Darling-Hammond, Wilhoit, & Pittenger, 2014). This paper explicates the provision of adequate and appropriate resources, the third of these three pillars of a comprehensive approach to accountability. Adequate resources, effectively used, are prerequisites to building the capacity of schools to deliver the two other pillars, professionally skilled and committed educators and meaningful learning. Also, the effective use of public school funding is an oft-ignored but crucial step toward ensuring equal educational opportunity for all students.

Outline of the Paper

All 50 state constitutions require the states to provide public education and finance it. Through legislative enactment, the states, which control about 90% of elementary and secondary school funding, put in place systems of funding public education that determine both the level and allocation of state revenue to local school districts and the extent to which communities can raise local tax revenues to support their schools. While discussions of this core state responsibility usually focus on the amount of state and local money states spend on public education and how those funds are allocated across districts, little attention is given to the extent to which states put in place protocols for ensuring local districts effectively and efficiently use their funds to provide essential resources in schools and classrooms. A few states have taken the lead, however, by pursuing school finance reforms to provide both fair and equitable school funding and the effective and efficient application of funds at the local level. These states have pioneered ways to support local school and district implementation of proven educational programs and services that meet student needs and, therefore, offer students a genuine opportunity to meet state academic learning standards.

This paper explores the urgent need to broaden the formulation of state public education finance to encompass not only the provision of fair and equitable funding, but also measures designed to promote the effective use of those funds on resources essential to enable all students to achieve state academic standards. Put simply, resource accountability means states must simultaneously provide fair and adequate funding and advance the effective use of those funds.

In the first section of the paper, we underscore the importance of resource accountability through examples of deficiencies and harm to students caused by inadequate state school funding systems. In the second section, we recount one state's major strides along the path to resource accountability by aligning cost- and needs-based resources with state learning standards and from that reform deduce a model applicable to all states. In that section, we also note progress in other states and argue that the federal government must adopt new policies that promote comprehensive resource accountability in the states as a condition of receiving federal education funds. In the final section, we summarize the strong and growing evidence that sufficient investment effectively spent results in major improvements in educational achievement and attainment.

Legal Background

The state constitutions impose on the States the legal obligation to provide quality education to all of their children. Honoring this crucial responsibility requires not only sufficient funding and the educational resources the funding procures but also programs and services proven to be successful for low-income students and students with special needs.

Some states adopted education articles in their constitutions in the late eighteenth century, when our nation was founded, based on the deeply held belief that knowledge and civic involvement were essential to the preservation of freedom and democracy and the protection of individual rights. Other states added education articles to their constitutions in the late nineteenth century as a result of the Common School movement, which sought equal educational opportunity for the low-wealth children of new immigrants and workers in a mixed industrial and agricultural age. The opponents of this movement believed that education gave rise to “futile aspirations” on the part of “those born to inferior positions” and that class distinctions made for social cohesion (Edwards & Rickey, 1947).

Nonetheless, the movement prevailed and led to statements in state constitutional conventions that affirmed the crucial role of public education, such as this in 1894: “Whatever may have been the schools’ value heretofore . . . their importance for the future cannot be overestimated. The public problems confronting the rising generation will demand accurate knowledge and the highest development of reasoning power more than ever before” (Steele, 1900, p. 695). This imperative rings equally true today.

Importantly, these education articles provide the legal grounds to secure the opportunity to obtain the knowledge and reasoning power necessary to prepare school children for active participation in the civic and economic life in the 21st Century. This legal ground has a rich history, primarily emanating from lawsuits filed in forty-five of the fifty states to enforce the educational rights guaranteed to public school children in the state constitutions, especially on behalf of vulnerable students – low income and at-risk students, students with disabilities and other special needs, and students of color. In recent years, these lawsuits have implicated “standards based” education, namely, state adoption of substantive curriculum standards, along with assessment-based accountability intended to measure student proficiency and hold local districts and schools accountable for performance. These state standards articulate modern, substantive, and detailed goals for educational attainment.

In the current context, litigation raising violations of a state’s duty to its school children under the constitutional education article allows the court to use the substantive curriculum and performance standards as benchmarks analyzing the claimed educational deprivation. For example, overcrowded or dilapidated facilities may prevent students from having access to the science labs they need to meet science standards. Uncertified teachers in classrooms, missing English-learner programs and the absence of basic services for students provide further evidence that states are not holding themselves accountable for basic educational resources. Trials challenging unequal and inadequate state funding are increasingly grounded in extensive proofs of the deficits in teachers, support staff, interventions for struggling students and other resources essential to afford students a meaningful opportunity to achieve the very academic and performance standards imposed by the state on local schools and districts through current accountability regimes.

Against this backdrop, most states are now moving to college- and career-ready standards, but few states are taking steps to align their funding systems with the standards. Meanwhile, growing concentrated poverty creates intense challenges for public schools (Berliner, 2014; Southern Education Foundation, 2013).¹ Test-score and performance accountability should not “get ahead of the difficult work of providing educators in high-poverty schools” with the school supports they need to help their students master the common

¹ At this time, Ohio and Kansas are considering removing or weakening the education articles in their state constitutions, threatening to reverse the egalitarian values embodied in the Common School movement. See, e.g., House Concurrent Resolution 5006, Kansas Session of 2011, Pittner (2014).

² Levers of change for low-income students and schools (arguing that resource accountability must enable high-poverty

core standards (Duncan & Murnane, 2014).² As recent court cases demonstrate, a comprehensive approach to resource accountability is a fundamental prerequisite to enabling students to reach the current state standards, let alone more “rigorous” college- and career-ready standards.

There also is strong evidence that states with school funding systems concretely linked to the actual cost of delivering their academic standards to all students, including those with additional programmatic needs, realize achievement gains benefiting students and strengthening the states’ civic and economic health. These states have constructed a bridge connecting state standards with funding and resources, driven by assessments of student needs and an accurate analysis of the costs of delivering the standards. By taking these politically difficult, but crucial steps, states can begin to place their standards within reach of all students. In this framework for school finance reform, sufficient investment is fundamental, and appropriate use of funding is also essential.

The Need for Resource Accountability

Many state education finance systems impose inequities and limit educational opportunities; taken together across the country, they deprive millions of schoolchildren of the opportunity to learn, especially children in poverty, children of color, children learning English and children with special needs. Court findings show that students in many low-wealth neighborhoods and in communities of color attend school in crumbling buildings, with overcrowded classes, high teacher and staff turnover, and curricula too weak to enable them to get into good colleges. In addition, examining and comparing key features of the fifty state education finance systems through the measures of fairness used in the “National Report Card, Is School Funding Fair?” reveals the extent to which the states have a demonstrated commitment to sufficient funding, allocated in relation to student need, offering insight into the relationship between school funding and availability of essential resources in the nation’s classrooms and schools (Baker, Sciarra, & Farrie, in press).

Trials Bring Deep Resource Deficits to Light

Although the state constitutions establish the states affirmative responsibility to provide education to all school-age children, far too many states fall short of effectuating that right in a meaningful way, consistent with contemporary needs and demands. It is not surprising, then, that most states have faced lawsuits seeking adequate resources for quality educational opportunities, and a dozen such cases are currently in process. The evidence in these cases typically reveals severe deprivation of resources in schools in low-wealth urban and rural communities, which judges often enumerate in detailed findings derived from an extensive evidentiary record developed in courtrooms across the nation.

For example, in Massachusetts in the early 1990s, the state’s low-wealth districts were “unable to provide the programs, services and personnel...necessary to meet the needs of [their] students,” and large class sizes in the elementary grades were barriers to the “individual attention and instruction...elementary students needed.” A close look at a few districts revealed school buildings in “terrible condition” and an “extremely unsafe” high school. It was revealed that low-wealth districts also tended to have more “inexperienced and poor quality teachers”

² Levers of change for low-income students and schools (arguing that resource accountability must enable high-poverty schools to “attract and retain skilled, experienced teachers”).

and did not have “enough offerings for advanced students” (*McDuffy v. Secretary of the Executive Office of Education*, 1993, p. 521).

Comparisons to the state’s more affluent districts showed that those districts were able to provide “significantly greater... opportunities,” (*McDuffy v. Secretary of the Executive Office of Education*, 1993, p. 521) such as top-flight teacher professional development, extensive writing programs, thorough computer instruction, and a wide variety of classes in the visual and performing arts. In short, they were able to educate their children. But, students in low-wealth communities had “significantly fewer educational opportunities and lower educational quality” (p. 521) due to “inadequate financial support” (p. 520) and unpredictable funding

Similarly, in Arkansas, small, rural, mostly African-American school districts charged the state with violating the Arkansas Constitution’s education article. The trial court declared the state’s school funding system unconstitutional because it was “inequitable and inadequate under...the Arkansas constitution. Too many of our children,” the court wrote, “are leaving school for a life of deprivation, burdening our culture with the corrosive effects of citizens who lack the education to contribute” (*Lake View School District No. 25 v. Huckabee*, 2001). In its Findings of Fact, the court stated:

[S]ome districts cannot afford to build new buildings, complete necessary repairs or buy buses... [For example,] Lee County Schools went two years without a band program due to lack of funds... and does not offer any advanced placement courses. ... The science laboratories have little or no equipment...[, and] the bus fleet of 26 buses has only five that meet State requirements... Facilities, materials, teachers and other resources affect a student’s opportunity and ability to learn...(*Lake View School District No. 25 v. Huckabee*, 2011, n.p., paragraphs 18-32)

In New Jersey’s *Abbott v. Burke* (*Abbott II*) school funding case, the New Jersey Supreme Court declared the state’s school funding system unconstitutional because it caused “tragically inadequate” education for children in the state’s low-wealth, high-need school districts (1990). The Court found that “the poorer the district and the greater its needs, the less the money available, and the worse the education.” Because the Defendant State claimed that better funding would not matter, the Court reviewed the evidence and concluded, “Money can make a difference. If effectively used, it can provide the students with an equal educational opportunity, a chance to succeed. They are entitled to that chance, constitutionally entitled. They have the right to the same educational opportunity that money buys for others” (*Abbott II*, 1990, p. 363).

Reviewing the facts adduced in the crucible of trial, the Court declared that Many opportunities offered to students in...suburban districts are denied [in low-wealth, high-need urban districts]. ...While [suburban] Princeton has one computer per eight children, [urban] East Orange has one computer per forty-three children, and [urban] Camden has one computer per fifty-eight children. ... In [urban] Jersey City, computer classes are being taught in storage closets.

Science education is deficient in some poorer urban districts. Princeton has seven laboratories in its high school, each with built-in equipment. ... However, many poorer urban districts offer science classes in labs built in the 1920’s and 1930’s, where sinks do not work, equipment such as microscopes is not available, supplies for chemistry or biology classes are insufficient, and hands-on investigative techniques cannot be taught.

The disparity in foreign-language programs is dramatic. ... Music programs are vastly superior in...suburban districts. ... Art programs in some poorer urban districts suffer compared to programs in...suburban districts. ... Physical education

programs in some poorer urban districts are deficient. In East Orange High School there are no...sports facilities; the track team practices in the second floor hallway. All of [urban] Irvington's elementary schools have no outdoor play space.... Many poorer urban districts operate schools that, due to their age and lack of maintenance, are crumbling. These facilities do not provide an environment in which children can learn; indeed, the safety of children in these schools is threatened...the record in this case demonstrates that deficient facilities are conducive to a deficient education. (*Abbott II*, 1990, p. 394-397)

In a later ruling that addressed facilities needs in more depth, the New Jersey Supreme Court held, "These deplorable conditions have a direct and deleterious impact on the education available to the at-risk [low-income] children" (*Abbott V*, 1998, p. 470).

In other states, courts find similar resource and opportunity deficits and declare violations of their state constitutions' education articles. The North Carolina Supreme Court, for instance, found it necessary to "hold[] the State accountable" for the many programs and services not being provided to [rural] students (*Hoke County Board of Education v. North Carolina*, 2004, p. 389). It declared: "The children of North Carolina are our state's most valuable renewable resource," and called for immediate compliance with constitutional requirements, holding that "[w]e cannot . . . imperil even one more class unnecessarily" (*Hoke County Board of Education v. North Carolina*, 2004, p. 377).

The Ohio Supreme Court found that "exhaustive evidence was presented to establish that [low-wealth] school districts were starved for funds, lacked teachers, buildings, and equipment, and had inferior educational programs, and that their pupils were being deprived of educational opportunity," (*DeRolph v. State*, 1997, p. 205) despite "a greater level of tax effort" (p. 230) by local taxpayers in the lower wealth communities. Also, "visits to Ohio school buildings demonstrated that some students were 'making do in a decayed carcass from an era long passed,' and others were educated in 'dirty, depressing places'.... Obviously, state funding...cannot be considered adequate if the districts lack sufficient funds to provide their students a safe and healthy learning environment" (pp. 206-08).

Resources and resource accountability were apparently absent in Ohio, based on the unrefuted evidence presented at trial, as the Court summarized:

[M]any of the school districts throughout the state cannot provide the basic resources necessary to educate our youth. ...school districts have insufficient funds to purchase textbooks.... For some classes, there were no textbooks at all. The curricula in [certain] school districts are severely limited...compared to what might be expected of a system designed to educate Ohio's youth.... For example, [some districts] offer no honors program and no advanced placement courses, which disqualifies some of the students from even being considered for a scholarship or admittance to some universities. None of the [plaintiff] school districts is financially able to keep up with the technological training needs of the students in the districts. [They] lack sufficient computers, computer labs, ..., software, and related supplies.... (*DeRolph v. State*, 1997, p. 208)

These school districts, plagued with deteriorating buildings, insufficient supplies, inadequate curricula and technology, and large student-teacher ratios, desperately lack the resources necessary to provide students with a minimally adequate education (*DeRolph v. State*, 1997, pp. 207-210)...despite higher local tax efforts (p. 230).

Most recently, the South Carolina Supreme Court held that students are being denied access to certified teachers, safe and healthy school buildings, and adequate preschool programs. The

court declared, “[O]ur State’s education system fails to provide school districts with the resources necessary to meet the minimally-adequate standard.” The Court also questioned “the prudence of creating school districts filled with students of the most disadvantaged socioeconomic background, exposing students in those school districts to substandard educational inputs, and then maintaining that nothing can be done.” Moreover, the Court held that, “South Carolina’s education funding scheme is a fractured formula denying students...the constitutionally required opportunity,” and “the cost of the educational package in South Carolina is based on a convergence of outmoded and outdated policy considerations that fail the students of the Plaintiff Districts” (*Abbeville County School District v. State of South Carolina*, 2014).

Unfortunately, this synopsis is far from exhaustive. Court findings in other states (e.g., *Campbell v. State of Wyoming*, 1995; *Texas Taxpayer and Student Fairness Coalition v. State of Texas*, 2014) recount numerous additional examples of daunting conditions and startling contrasts between the resources found in well-funded schools and resources in under-funded schools.³ In sum, the school funding litigations often bring to light severe deficiencies in educational opportunities, especially for low-income children in urban and rural communities. The courts connect these missing investments to constitutional violations that deny children the knowledge and experiences they need to become capable, engaged citizens and workers.

Is School Funding Fair? A National Report Card

Underlying and causing the gross resource inequities reported by courts in state after state are the states’ school funding systems. Based on in-depth analyses of all fifty funding systems and key comparisons among them, “Is School Funding Fair? A National Report Card” (Report Card) finds that many state school funding systems are remarkably unfair (Baker, Sciarra, & Farrie, in press). A fair system is one that ensures equal educational opportunity by providing a sufficient level of funding to support delivery of rigorous academic standards, distributed to districts within the state to account for the additional needs generated by student poverty, as defined by the Report Card (Baker, Sciarra, & Farrie, in press).

First issued in 2010, the Report Card is built on the principle that stable and equitable state systems of school finance are an essential precondition for the delivery of a high-quality education and of critical importance to efforts to close persistent achievement gaps among the nation’s low-income students, English language learners, and students with disabilities. Without a nationwide commitment to the principles of fair school funding and progressive state finance systems, efforts to improve overall achievement while also reducing gaps will be unproductive and unsustainable.

The Report Card evaluates state school finance systems on four separate, but interrelated, fairness indicators: funding level, funding distribution, state fiscal effort, and public school “coverage.” Funding level depends largely on fiscal effort, and coverage can affect the

³ See, e.g., *Texas Taxpayer and Student Fairness Coalition v. State of Texas*, No. D-1-GN-003130 (Travis County Dist. Ct. Aug. 28, 2014)(on appeal); *McCleary v. State of Washington*, No. 07-2-02323-2 SEA (King County Sup. Ct. Feb. 4, 2010), *aff’d* 269 P.3d 227 (Wash. 2012); *Lobato v. State of Colorado*, No. 2005CV4794 (Denver County Dist. Ct. Dec. 9, 2011), *rev’d on other grounds* 304 P.3d 1132 (Colo. 2013); *Montoy v. State of Kansas*, No. 99-C-1738 (Shawnee County Dist. Ct. Dec. 2, 2003), *aff’d* 120 P.3d 306 (Kan. 2005); *Columbia Falls v. State of Montana*, 109 P.3d 257 (Mont. 2005); *Campaign for Fiscal Equity v. State of New York*, 719 NYS.2d 475 (N.Y. County Jan. 9, 2001), *aff’d* 801 N.E.2d 326 (N.Y. 2003); *Campbell v. State of Wyoming*, 907 P.2d 1238 (1995); *Roosevelt Elem. Sch. Dist. v. Bishop*, 877 P.2d 806 (Ariz. 1994); *McDuffy v. Sec’y of Educ.*, 615 N.E.2d 516 (Mass. 1993); *Edgewood ISD v. Kirby*, 777 S.W.2d 391 (Texas 1989); *Horton v. Meskill*, 376 A.2d 359, 366-76 (Conn. 1977). See also *Williams v. State of California*, No. 312236 (Superior Court, County of San Francisco), Complaint filed May 17, 2000.

political will to fund public education. To show the important interplay between funding level and funding distribution, the Report Card profiles each state.

The fairness profile in Figure 1 (Baker, Sciarra, & Farrie, in press), below, presents three hypothetical states. State A is low-funding and “flat,” which means it distributes a low level of revenue across districts without adjusting for poverty. States B and C provide the same level of funding to districts at 0% poverty, but diverge markedly at higher poverty rates. State B is “regressive,” providing less funding to high-poverty districts, and State A has an upward, “progressive” distribution that better addresses the needs of students in high-poverty schools. For the 2011-12 school year, only 15 states were progressive, 19 were flat, and 14 were regressive. In fact, Nevada, North Dakota and Wyoming were extremely regressive because school districts with a poverty rate of 30% received at least 20% less funding per pupil than districts with a 0% (zero percent) poverty rate.⁴

⁴ Overall, school funding in the U.S. is regressive, unlike “the vast majority of O.E.C.D. countries” (Porter, 2013, quoting Andreas Schleicher, Deputy Director for Education, OECD).

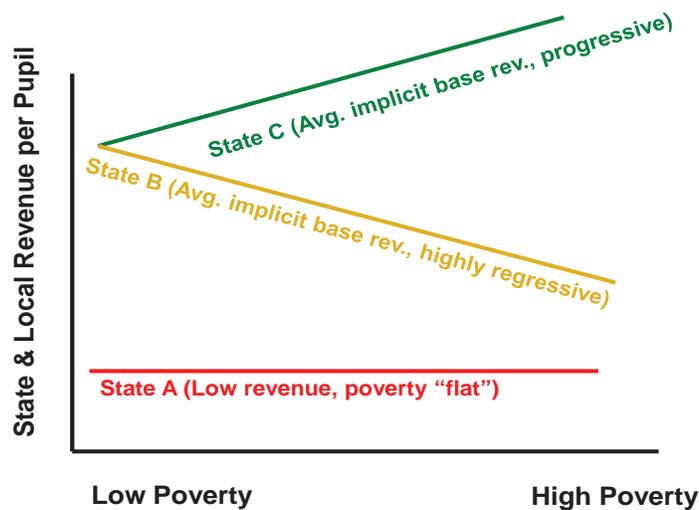


Figure 1. Funding profile

Source: *Is School Funding Fair? A National Report Card*. (Baker, Sciarra, & Farrie, in press)

The Report Card also groups states for regional comparisons, as in Figure 2, the Mid-Atlantic Region. This graph illustrates the national pattern of funding disparities within and among the states. In New Jersey and Delaware, funding increases with poverty, allowing districts to provide students extra programs and services to overcome the disadvantages imposed by concentrated poverty. The opposite pattern in Maryland means that high-poverty districts have less funding despite their need for additional resources. In fact in the 2011-12 school year, the most recent data available, Maryland left low-wealth, high-poverty districts to make do with 92 cents for every dollar spent in higher-wealth schools with lesser needs. This disparity creates additional hardships for the state's most at-risk students. Finally, New York is high funding but flat, which means it distributes state and local revenue across districts without adjusting for the extra challenges caused by poverty.

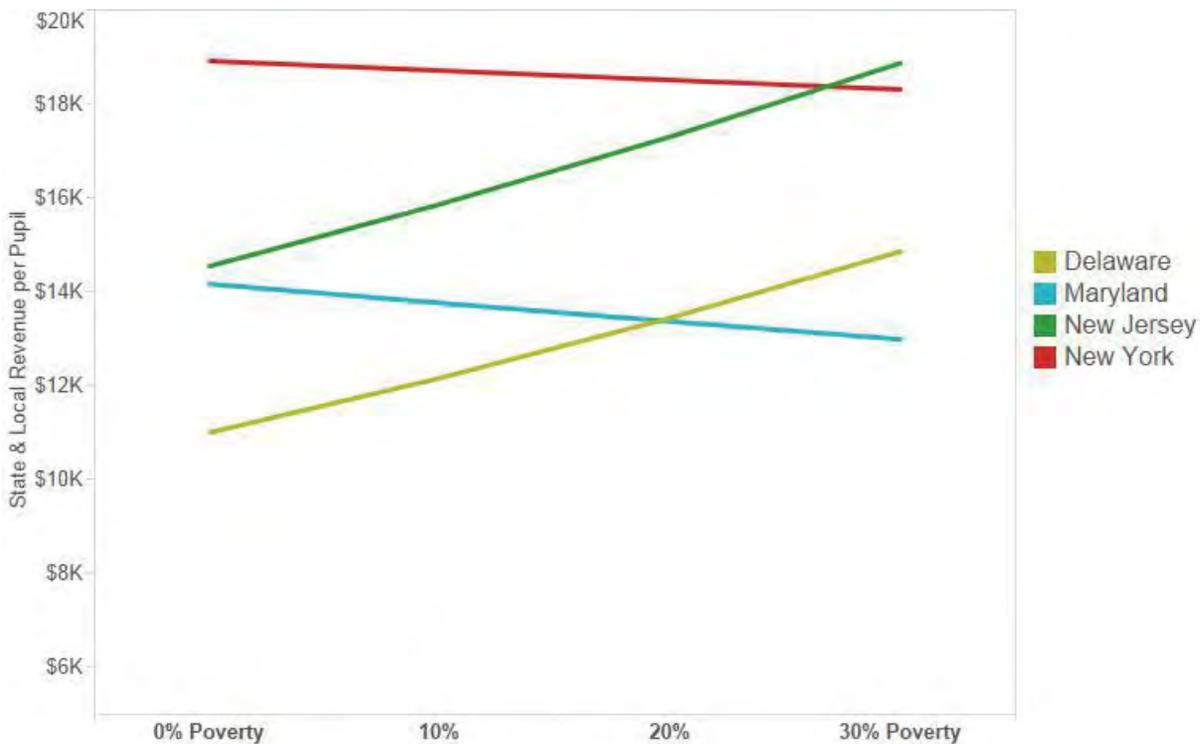


Figure 2. Funding profile: Mid-atlantic

Source: *Is School Funding Fair? A National Report Card*. (Baker, Sciarra, & Farrie, in press)

When we shift our focus to the Gulf Coast region, in Figure 3, we see a dramatic drop in per-pupil funding compared to the Mid-Atlantic region, even though each state’s revenue level is adjusted to reflect differences in regional wages, poverty, economies of scale, and population density, to recognize the variety of interstate differences. The Gulf Coast states fund their schools at levels similar to each other, and only Louisiana is progressive, with higher funding in its higher poverty districts. In Texas and even more pronounced in Mississippi, funding levels are low and flat, raising the question whether any districts in those states can offer sufficient resources to their students.

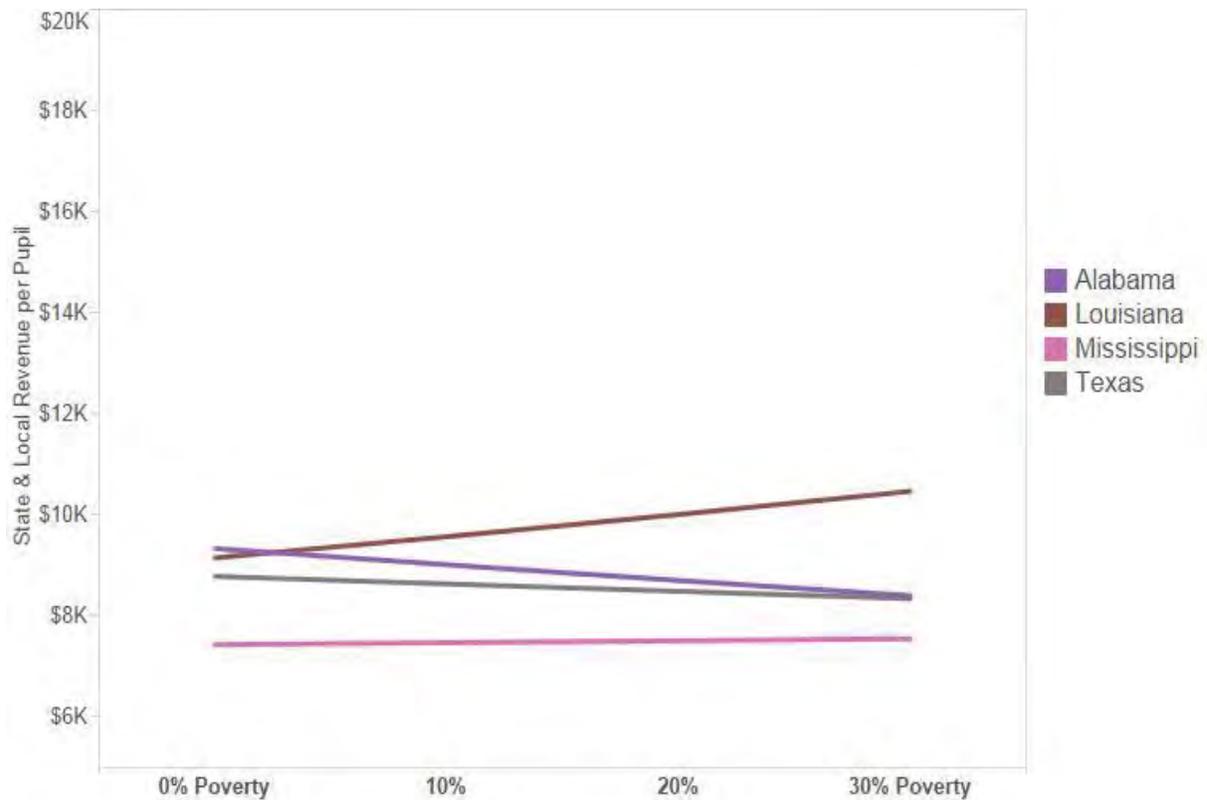


Figure 3. Funding Profile: Gulf Coast

Source: Is School Funding Fair? A National Report Card. (Baker, Sciarra, & Farrie, in press)

As the Report Card (Baker, Sciarra, & Farrie, in press) explains, while the distribution of funding to account for student need is crucial, the overall funding level in states is also a necessary element for fair school funding. Without a sufficient base, even a progressively funded system will be unable to provide quality educational opportunities. Across the entire country, disparities in funding among states are vast, with average per pupil funding ranging from \$6,369 in Idaho, to \$18,507 in New York. In eight states (Florida, Oklahoma, Tennessee, Mississippi, North Carolina, Arizona, Utah, Idaho), average funding levels are below \$8,000 per pupil.

The third indicator of fairness, effort, measures how each state uses its own fiscal capacity to support its public education system. What effort is the state making to fund its public schools? For example, West Virginia is a relatively poor state with \$35,152 in per capita Gross Domestic Product (GDP) but with a relatively high 5.1% of that fiscal capacity directed to its schools, earning an A in this measure on the Report Card. North Carolina, on the other hand, has stronger fiscal capacity, with \$44,063 in per capita GDP but the second lowest effort at 2.4 percent, which results in a very low funding level and earns an F.

The final indicator is coverage, which measures both the share of school-age children attending public school and the degree to which average family incomes vary between those within and outside the public school system. Rural states tend to have 90% or more of their children in public schools and lower income ratios between public and private families. In sharp contrast, around 20% of children in Louisiana and Washington, D.C. do not attend public schools, and the average household income of these children is two to almost four times higher

than their public school peers. A high share of private school students from higher income households may act to reduce the political will necessary to support fair school funding (Baker, Sciarra, & Farrie, in press).

Overall, the fair school funding Report Card concludes that only as states develop strong systems of public education, built on sufficient funding that's distributed progressively, as to poverty, will the states be able to implement and sustain the initiatives necessary to boost student achievement (Baker, Sciarra, & Farrie, in press).

Taken together, the findings of severe deficits in essential resources from court findings summarized above, along with the results from the National Report Card, demonstrate the stark reality of education deprivation endured by school children in far too many states. We now turn to key questions. How can policymakers ensure access to the essential resources and their effective use, which comprise genuine educational opportunity? How can they establish resource accountability that leads to higher achievement? Several states have shown the way forward, implementing school finance reforms designed to create and ensure comprehensive resource accountability.

Moving toward Comprehensive Resource Accountability

Several states have chosen the path to resource accountability by aligning educational resources with their learning standards. These exemplary states adopted student learning standards, and then engaged experts and educators in the task of calculating the costs of providing the resources necessary to enable all students, including those with varying needs, to achieve those standards. This forms the basis of a fair funding system, one that allocates sufficient funds to all students, with additional resources to address the needs of at-risk students and students in concentrated poverty. But these reforms go further because these states have also acted to ensure that new funds were “intelligently spent” (*Abbott II*, 1990, p. 359). They improved both the adequacy of resources and accountability for their use.

New Jersey is perhaps the most developed of these states, propelled by successive court directives. Thus, New Jersey serves as a model for other states to apply in their own contexts. Some other states have also taken a similar approach and made progress toward a more robust system of resource accountability. These individual state experiences, however, underscore the imperative that federal policymakers add their power to spur all states to pursue school finance reform grounded in comprehensive resource accountability.

New Jersey's Path to Resource Accountability

The New Jersey Supreme Court was the earliest and most articulate court to frame resource accountability. In its 1985 ruling in *Abbott v. Burke* (*Abbott I*), the Court held that the state Constitution requires “that [level of] educational opportunity which is needed in the contemporary setting to equip a child for [his or her] role as a citizen and as a competitor in the labor market.” The Court made clear, as does the Constitution, that the State itself has the duty to “assure the delivery of the constitutionally-required educational programs and facilities” for this level of opportunity (*Abbott I*, 1985, p. 382). The Court has proceeded, over subsequent decades, to hold the State accountable for providing the resources necessary to create and sustain this opportunity.

In 1990, after the trial in *Abbott*, the Court summarized the voluminous evidence, which showed that the state's then-current funding system produced deep deficits in educational resources and caused “tragically inadequate” education, to the great and enduring detriment of students in 28 low-wealth school districts educating over 20% of the state's students. When the

Court then shifted its attention to the remedy, it found that the State had no educational content or academic learning standards and no analysis of the needs of its disadvantaged students in these districts. Nor, did the State know the costs of providing programs to address those needs (*Abbott II*, 1990, p. 408).

Absent these basics, with which to design a remedy, the Court used the programs and funding levels in successful districts as a substitute and an interim solution. The Court ordered the State to (1) ensure that low-wealth districts' "educational expenditures per pupil are substantially equivalent to" the average of the more than a hundred "affluent suburban districts," and (2) study and fund the additional needs of students in the low-wealth districts. The Court held,

Funding must be certain, every year. The level of funding must also be adequate to provide for the special educational needs of these poorer urban districts and address their [students'] extreme disadvantages. (*Abbott II*, 1990, p. 408)

On the impetus of the Court's rulings, New Jersey changed course and allocated increased investments in its low-wealth districts, with their higher needs, without sacrificing funding in its higher-wealth schools. The legislative and executive branches of state government engaged in an iterative process with the state courts to eventually reach an agreed upon school funding statute that embodies resource accountability. As a result, the State retooled its school finance system from regressive to progressive, and now stands among the few states providing both a sufficient base funding level statewide and higher funding to the twenty-eight (now thirty-one) districts with greatest student needs (Baker, Sciarra, & Farrie, in press).

Responding to the Court's 1990 critique and after one failed attempt, the Legislature, in 1996 enacted a new school funding formula and adopted statewide "core curriculum content standards" in seven subject areas, English language arts, math, science, social studies, the arts, health and physical education and world languages. The standards also "incorporate career-planning skills, technology skills, critical-thinking skills, decision-making and problem-solving skills, self-management, and safety principles." In 1997, the New Jersey Supreme Court approved the standards, deeming them "a reasonable legislative definition of a constitutional...education," and applauding the State's major step forward in developing them (*Abbott IV*, 1994, p. 422-427).

Nevertheless, the Court wrote, "The standards themselves do not ensure any substantive level of achievement. Real improvement still depends on the sufficiency of educational resources," such as "successful teaching, effective supervision, efficient administration, and a variety of other...factors needed to assure a sound education" (*Abbott IV*, 1994, p. 417, 428-429). Therefore, the question remained whether the new funding formula assured the level of resources needed to provide the education in the standards to all students, including those in low-wealth districts.

In a thorough analysis, the Court reviewed the relevant funding provisions of the new law and found that it failed to "link the content standards to the actual funding needed to deliver that content." The Court pointed out, for example, that the State based the law's funding levels for low-wealth districts on a hypothetical district devoid of the high-need characteristics in low-wealth districts. The law also allowed suburban districts to spend more than the formula claimed was sufficient. Despite evidence to the contrary, the State tried to persuade the Court that the suburban expenditures were mere "excess" and "inefficiencies." That argument failed. (*Abbott IV*, 1994, p. 429-431).

Finally, the Court laid out a roadmap for the State to find its way to resource accountability. "We have always insisted that increased funding to the [high-need districts] be allocated for specific purposes realistically designed to improve education," the Court wrote.

And, “[t]he Commissioner [of Education] has an essential and affirmative role to assure that all education funding is spent effectively and efficiently...to achieve a constitutional education.” (*Abbott IV*, 1994, p. 441). Therefore, the Court directed the Commissioner to initiate a study to identify student and systemic needs, specify the supplemental programs required to address those needs, and present a plan for implementation. The Court remanded the case for hearings, in which both the Commissioner and the Abbott plaintiffs submitted reports and recommendations. The remand court approved most of the Commissioner’s recommendations, issuing its report in 1998 (*Abbott V*, 1998, p. 450, 456).

The recommended remedial measures included preschool education for all three- and four-year-olds, full-day kindergarten, technology, alternative schools, and school-to-work and college-transition programs (*Abbott V*, 1998, p. 473). Over the next several years, these and other advantageous measures transformed many of the “Abbott districts” and their schools into excellent learning communities. Challenges emerged, such as the need for institutions of higher education to offer degree and certification programs for preschool teachers and assistant teachers. The State assisted with the costs of mounting these particular programs (Lobman, Ryan & McLaughlin, 2005).

While ongoing progress occurred in low-wealth districts after the State developed and the Court approved programs in 1998, the state functioned with a disjointed funding system, a court-ordered interim remedy for the lowest wealth districts and annually negotiated funding for the rest of the state. Finally, in 2003, New Jersey education officials began the process of calculating the costs of the programs and services needed – for all students across a wide variety of districts – for an effective opportunity to reach the state’s standards. On that basis the state developed a school funding formula that it could apply statewide.⁵

The cost study process began with the core curriculum content standards because they defined a constitutional education, as the Court held earlier. Panels of educators and district administrators identified essential base resources, such as teachers, books and supplies, plus additional resources needed for low-income and ELL students, such as additional counselors and summer and after-school programs. The panels adjusted the required resource mix depending on concentrations of students with special needs. The state then estimated the costs of the resources and issued the “Report on the Cost of Education” in 2006. After public hearings, this phase of the process culminated in a 2007 Addendum with updated cost calculations (Dupree, Augenblick, & Silverstein, 2006).

Also in 2007, the state retained school finance experts to review the chosen array of resources and suggest revisions to the cost determinations in the report (Odden, 2007).⁶ Moreover, the state convened a new panel of experts to design a funding formula and resolve outstanding issues, such as the cost and funding method for the high quality, full day preschool program for all three- and four-year-olds in the low-wealth districts (*Abbott IV*, 2000; *Abbott VIII*, 2002; Belfield & Schwartz, 2007). In December 2007, the State Department of Education reported the costs and final funding formula in “A Formula for Success: All Children, All Communities” (New Jersey Department of Education, 2007).

In January 2008, the Legislature passed and the Governor signed the School Funding Reform Act (SFRA). Because it relied on and codified the cost study, the SFRA formula was designed to provide the resources determined to be necessary for all students – including low-

⁵ For a more detailed discussion of the cost study process and development of the new funding formula, see Sciarra and Farrie (in press).

⁶ The experts recommended changes, including adding professional development resources and improving the geographic cost adjustment.

income students, ELLs, students with disabilities and children in preschool – to achieve the state’s learning standards. The SFRA also requires the State to review the operation of the formula every three years and recommend adjustments to the formula’s costs and weights to the Legislature (School Funding Reform Act, 2008; Sciarra & Farrie, in press).

The process for designing the SFRA was methodical when compared with the ad hoc and often convoluted nature of many state school funding systems, which grow over the years as legislatures add numerous separate funding streams. The SFRA formula incorporates and aligns with the state standards, thus embodying resource accountability. The SFRA is structured to hold the State accountable for the resources students need to meet the standards imposed by the State. This logical relationship constitutes reciprocal accountability, instead of the one-way, top-down educational accountability in most states (School Funding Reform Act, 2008).

The SFRA formula generates additional funding, based on student needs, through weights for low-income and ELL students. Schools with students eligible for free or reduced price lunch receive an additional 47 to 57% of the base cost, depending on the concentration of low-income students, to address the impacts of poverty. Schools educating ELL students receive an additional 50% for these students, and students who are both low-income and ELL generate a little more than the at-risk amounts. Students with disabilities receiving speech-only services are funded at an appropriate amount, while other special education pupils are funded at a much higher level (School Funding Reform Act, 2008).

Of critical importance, the SFRA is also the first state funding formula to support universal, high quality preschool for all three- and four-year olds in low-wealth communities (Boylan & White, 2010). The New Jersey Supreme Court recognized early childhood education as “an indispensable component of any educational program designed to aid children in the [low-wealth districts],” necessary to “reverse the educational disadvantage these children start out with” (*Abbott II*, 1990, p. 402). The SFRA funds preschool programs at \$11,506 per pupil in public schools, \$12,934 per pupil in community settings and \$7,146 per pupil in Head Start to augment federal funds. All of these programs must comply with the same high quality benchmarks, including small class sizes and certified teachers. Because investments in preschool pay enormous dividends, it is puzzling that the U.S. chooses to invest at a lower rate than many developed nations (Barnett, Jung, Youn, & Frede, 2013; OECD, 2013).

In a 2009 ruling, the New Jersey Supreme Court upheld the formula and acknowledged the arduous road traveled to its development and adoption. The Court also wrote that it “remains committed” to “enforcing the constitutional rights of the children of this State should the formula prove ineffective or the required funding not be forthcoming” (*Abbott XX*, 2009, p. 1006). Over the years, the Court has held the state accountable for providing a genuine opportunity to all children.

Thus, the state uses the SFRA formula, annually, to calculate total funding for each district based on student enrollment, weighted by the categories of student need. State and local shares depend on the district’s “ability to pay,” that is, its relative property values and average income. Although sustaining full implementation is an ongoing challenge, the state’s funding formula and resource accountability are aligned with its standards and feature needs-based and cost-based allocations and programs. Whether the state will reassess costs in light of new college- and career-ready standards and fully fund the formula bears watching. In addition to the weighted student funding under the SFRA formula, the State Education Department adopted regulations directing districts with high concentrations of student poverty to utilize the funding for specific programs and staff, including full day kindergarten, reasonable class sizes at various grade levels, and intensive early math and

language arts literacy initiatives. The State also adopted detailed regulations governing the allocation of preschool education funding to essential components of high quality preschool programs, including small class size, developmentally appropriate curriculum, professional development and parent engagement. These affirmative requirements dovetail with the SFRA funding formula and are intended to carry out the Court’s overarching mandate that the State accompany the provision of funding with “firm controls” designed to ensure the effective and efficient use of all funding at the district and school levels (N.J.A.C. 6A:13 and 6A:13A).

As noted in a detailed review of New Jersey’s school funding history, by adopting the SFRA:

New Jersey successfully transitioned from funding public education based largely on political considerations in the annual negotiations over the state budget to funding determinations based on the actual cost of enabling all students, including low income (at-risk) children and English language learners (ELL), to achieve the state academic learning standards (Sciarra & Farrie, in press).

Only by assessing needs and implementing the programs that meet them, based on enabling students to reach the state’s standards can genuine accountability be achieved because only then do states build the capacity of their schools and students to meet the goals the standards set. The New Jersey process and its SFRA offer a new framework that overcomes the limits of traditional state school funding systems.

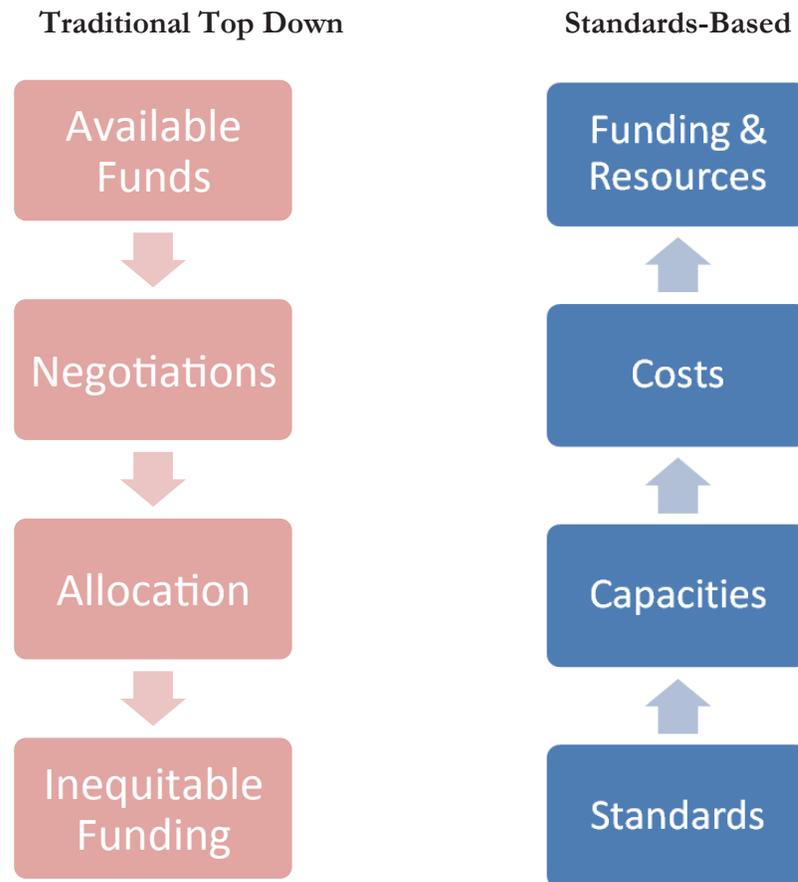
A Model for Developing Resource Accountability

Applying the New Jersey experience more broadly presents a practical model for the challenge of devising a meaningful formula when states decide to hold themselves accountable for actually funding their standards—due to a court order or otherwise. Traditionally, legislatures and governors considering resources for schools first determine how much money is available, without an analysis of educational standards, needs or costs. Then, they compromise on the distribution of that funding among the state’s school districts. This process often leads to an inequitable equilibrium, in which the allocation of resources represents the balance of political power, usually weighted in favor of well-to-do school districts.

However, when the starting point is state standards, such as the current college- and career-ready standards, funding questions are turned on their head, and the spotlight shifts to the question what comprises a constitutionally sound and effective school funding system tied to the standards. To align the funding system with the standards, legislators and state education departments must ask:

- What capacities—that is, what resources, conditions, programs and services—do schools need to enable their students to meet the standards?
- How much funding is required to build and maintain the required capacities?
- What kind of state education finance system would best deliver the funding and capacities to all schools?

FUNDING AND RESOURCE ACCOUNTABILITY



Few states have aligned their funding systems with their standards.

Figure 4. Funding and resource accountability
Source: Molly A. Hunter

To answer the capacity questions, states have identified education essentials and increasingly turned to cost studies to obtain information on the funding needed to support these essentials. Teaching quality heads everyone's list of essentials. Well-prepared teachers and other professional staff, with induction programs and mentoring for new teachers, and professional development are crucial to student learning. For low-income and minority students especially, research shows quality teaching has an enormous positive influence. Other resources widely acknowledged as essential include adequate facilities, a rigorous curriculum, small class sizes in the early grades, effective programs for English language learners and students with disabilities, and qualified principals. Laboratories, textbooks, and supplies are obvious needs.

In recent decades, based on extensive compelling research on brain development in young children, high-quality preschool has become another essential. Evidence of its effectiveness—improving student achievement, reducing delinquency and teen parenting, increasing earnings and home ownership—is nothing short of phenomenal. The economic payback to society also highly recommends increased spending on high-quality preschool (Belfield, 2007; Rolnick & Grunewald, 2003).

Identifying essentials often occurs as part of an education cost study, most initiated by the states themselves.⁷ As states implement college- and career-ready standards, more cost studies would be appropriate and may be anticipated. Whatever the study results, attaining full implementation from the legislature can be difficult, and the school districts must carefully use any increased funding on the most effective strategies and programs for improving student achievement.

New Jersey is not Alone

A number of other states have also successfully pursued resource accountability or are in the midst of a purposeful effort to do so. In Massachusetts, New York, and Maryland, for example, more resources targeted to effective programs improved opportunities and, when sustained, resulted in better outcomes for students. More recently, California enacted a more progressive funding system that also requires school districts to develop accountability plans for the effective use of their resources.

In Massachusetts, when the state’s highest court ordered the State to “devise a plan and sources of funds sufficient to meet the constitutional mandate,” (*McDuffy v. Secretary of the Executive Office of Education*, 1993) the legislature enacted the Education Reform Act of 1993 (ERA). The ERA incorporated proposals from the Massachusetts Business Alliance for Education, based on an education cost study that recommended adequate, stable funding and more investment in school districts educating “at-risk” students (Massachusetts Business Alliance for Education, 1991). Massachusetts became one of only a handful of states where per-pupil funding was significantly higher in low-wealth school districts where it was needed most (Churchill et al., 2002). The ERA also required school districts to mount “expanded programs...beyond the regular school day and year...based on recognized research of teaching and learning.” Geared to helping students reach the state academic standards, these programs involved accelerated learning, effective teaching strategies, and qualified staff (Massachusetts Department of Education, n.d.).

In 2007, in response to court rulings (*Campaign for Fiscal Equity v. State*, 2003),⁸ New York State rewrote and simplified its school funding statutes to increase state funding and send a majority of the new revenue to its high-poverty school districts. The state also enacted a “Contract for Excellence” law (New York Education Law section 211-d., 2007), which requires districts receiving substantial increases to target the new monies to create or expand one or more of six programs proven to be effective at raising achievement, including:

- High quality preschool
- Class size reduction
- Programs that give students “more time on task” and
- Professional development to improve teaching and principal quality

⁷ Four states have conducted studies as part of remedial orders in school funding cases. See *Lake View Sch. Dist. v. Huckebe* (AR); *Abbott v. Burke* (NJ); *Campaign for Fiscal Equity v. State* (NY); *Campbell County Sch. Dist. v. State* (WY).

⁸ Emphasizing that resources must be “calibrated to student need” (2003, p. 348) and quoting both the trial court’s holding that opportunity must “be placed within reach of all students” (p. 337) and the State Education Department position that “all children can learn given appropriate instructional, social and health services” (p. 337).

Districts must submit a plan for spending these funds and report annually on the results. Three separate education cost studies helped point the way for the remodeled funding system. All three studies recommended regional cost adjustments and a simpler formula, and found that schools with concentrated poverty had major resource gaps. In addition, the State concluded that local property taxes in these districts were already among the highest in the state. Unfortunately, the state retreated from the 2007 funding statute after only two years and completely retracted the increases.

In 2002, Maryland also implemented funding reforms based on cost studies that estimated the educational resources sufficient to offer students could reasonably be expected to meet state standards. The new law weighted funding based on enrollment of students in poverty and those learning English intended to boost investment in programs for these students, such as full-day kindergarten and pre-kindergarten for all “at-risk” students. Subsequently, however, Maryland’s funding system lost ground and became regressive, although funding levels remained above national averages (Augenblick and Myers, Inc., 2001; 2002 Maryland Laws Ch. 288 (S.B. 856, “Bridge to Excellence in Public Schools Act”); MGT of America, Inc., 2009; Baker, Sciarra, & Farrie, in press).

More recently, in 2013, California adopted the Local Control Finance Formula (LCFF), which takes into account the higher costs of educating students from low-wealth families, students learning English, and students in foster care and greatly simplifies the state system for distributing funds to school districts. LCFF provides a base per-pupil amount for each district’s average daily attendance, plus upward adjustments of 10.4% for K-3 students to reduce class size in the early grades, 20% for students learning English, in foster care, or low-income (FRL), and 50% for these students where they exceed 55% of the district’s enrollment (California Department of Education, n.d.).

The LCFF also requires each district to develop an accountability plan, including input from the public, which sets goals and measures progress disaggregated for student subgroups. These plans must include strategies for the investing resources in programs, services and strategies that will lead to better outcomes. This promising new finance formula will be more equitable, that is, more progressive, in its allocations, but questions remain about the adequacy of its funding levels (California Department of Education, n.d.; Fuller & Tobben, 2014). Because California schools enroll one in every eight students in the U.S., the strength of its education system will impact the entire nation.

Federal Policy Makers Must Promote Resource Accountability

For over a decade, federal education policy has focused on requiring schools with concentrated poverty to meet academic standards but has ignored the need to provide their students with the resources necessary to enable them to reach the standards. Years of demanding results without ensuring fundamental resources has failed to generate long-sought improvements. This approach is counterproductive.

Instead, the federal government should apply pivotal pressure under U.S. education laws to compel the states to ensure that “all children have a fair, equal and significant opportunity to obtain a high quality education and reach...challenging state academic achievement standards,” (Elementary and Secondary Education Act, 2001) the stated goal of the federal Elementary and Secondary Education Act. Students throughout the nation need both the Congress and the U.S. Department of Education (Education Department) to honor their educational rights and act as guarantors of the necessary investments that provide well-prepared and qualified educators, decent facilities, a strong curriculum, high quality preschool, and other basic resources.

In a recent encouraging step in this direction, the Education Department's Assistant Secretary for Civil Rights has issued guidance to states and school districts, in which she outlines the "chronic and widespread" problem of unequal access to rigorous courses, a stable faculty of effective teachers, safe school buildings and other resources, and how this hinders education, especially for students of color (U.S. Department of Education, Office of Civil Rights, 2014). This guidance reminds all states and school districts that they have an obligation under Title VI of the Civil Rights Act of 1964 to ensure that students, regardless of race, color, or national origin, have access to the resources needed to succeed in school and be equipped for the competitive workforce. The guidance also details how the Office for Civil Rights (OCR) will investigate resource disparities, and OCR recently notified two school districts that it will investigate their complaints of racially discriminatory funding against the New York State Education Department and the New York Board of Regents (Schenectady City Schools, 2014).

At times, the Education Department has acted without regard to resource accountability and inequities. In its 2012 award of \$400 million to school districts in support of its school reform priorities, for example, the Department ignored the precondition for sustaining the reforms—a fair state school finance system. The winning districts were in 12 states, all of which had serious deficiencies in the way they fund schools, some with the most inequitable resources in the nation. Many of the winning districts will be unable to sustain the reforms given these inequities (Education Justice at Education Law Center, 2012). The Education Department should use its awards to require the states to adopt, as a prerequisite, needs- and cost-based funding aligned with state standards and effective use of resources.

In a parallel federal process, however, resource accountability became a keen focus of the educational Equity and Excellence Commission (Commission). Established in 2011, the Commission's mission was to advise the Education Department on the disparities in meaningful educational opportunities that give rise to the achievement gap, including systems of finance, and to recommend ways in which federal policies could address such disparities. In its 2013 report, the Commission called for "bold action by the states and the federal government" to redesign the nation's school funding and explained the need for states to demonstrably link school finance to "the cost of delivering rigorous academic standards" in order to "produce high achievement" for all types of students, echoing the New Jersey experience. Although Equity Commission members represented a broad political spectrum, there was "complete agreement that achieving equity and excellence requires sufficient resources that are distributed based on student need and that are effectively used" (U.S. Department of Education, 2013).

The Equity Commission also urged the federal government to promote resource accountability by directing states, using incentives, to implement funding systems that "provide a meaningful educational opportunity" for students and "ensure the effective and efficient use of all funds to enable all students to achieve state content and performance standards." Its report also recommended federal legislation that "targets significant new federal funding to schools with high concentrations of low-income students" (U.S. Department of Education, 2013).

Potentially putting a key aspect of the Equity Commission's report into action, U.S. Senators Jack Reed and Sherrod Brown are sponsoring the Core Opportunity Resources for Equity and Excellence (CORE) Act. This bill aims to tackle existing disparities in public education by establishing federal resource accountability requirements to compel states and school districts to offer all students equitable access to a quality education, including "core resources for learning" and a plan for addressing any inequities in access to them. States would

have to identify gaps in access to the core resources and develop an action plan to close those gaps. The core resources include:

- High quality instructional teams, including teachers, principals, school librarians, counselors, and education support staff, such as counselors, social workers and nurses;
- Rigorous curricula that are accessible to all students, including students with disabilities and English learners;
- Equitable and instructionally appropriate class sizes; and,
- Sound school facilities and well-equipped instruction spaces.

Also, states that fail to make progress in eliminating disparities for two or more consecutive years, under this law, would be ineligible for certain grant programs through the Education Department (Reed, 2014). This proposal defines some of what schools need and prescribes measurement of the opportunity to learn, which is essential to resource accountability. For schools with concentrated poverty, the bill would be strengthened by the addition of wrap-around services, high quality preschool, and summer and after-school programs to its core resources (see Quinn, Dryfoos, & Barkan, 2005).

Federal funding invested in core resources and new requirements that states close opportunity gaps could move the nation toward resource accountability and higher achievement. OCR enforcement of Title VI could also enforce this law, which requires states to end the discrimination in access to basic educational resources found in many schools. Together, changes in federal policies and programs could bring opportunity to students currently being denied and thereby brighten the nation's future economic and civic life.

Several states have traveled the path toward resource accountability, and crucial steps along the way are clear for all to follow. Learn the needs of students and the programs and services that meet these needs. Calculate the costs of building and maintaining the capacity of schools to deliver these essentials. Then, design and implement a state education finance system that flows from the knowledge gained, and do the difficult political work of supporting the schools with stable funding that is sustained over the long term. Federal policies should oblige states to move forward in this direction.

Resource Accountability Results in Higher Achievement

When states adopt and sustain resource accountability, they are building equitable opportunities that spur better outcomes for students with benefits that perpetuate into adulthood. Researchers have examined education finance improvements, attained through court orders and by other means, and their effects on educational attainment and long-term adult outcomes. They find that increased funding causes higher academic achievement and economic attainment in adulthood for children from low-income families. Researchers have also measured impacts when states and districts direct funds to specific programs with proven efficacy.

In a landmark longitudinal analysis of school finance changes in 28 states from 1970 through 2010 and their effects on children born between 1955 and 1985, researchers C. Kirabo Jackson, Rucher Johnson, and Claudia Persico (2014) asked: whether these changes led to enduring spending changes; how the reforms affected the level and distribution of funding; and, how did they affect the long-term outcomes of children. Due to the release of newly available data, they were able to conduct a detailed analysis of the timing of the changes in outcomes in relation to the timing of the changes in funding. The results reveal that, for low-income children, "a twenty percent increase in per-pupil spending...for all 12 years of public school is

associated with [about an] additional year of completed education,” thus, significantly increasing the likelihood of high school graduation or education beyond graduation. It also produced “25 percent higher earnings and a 20 percentage-point reduction in the annual incidence of poverty in adulthood” (Jackson et al., 2014, p. 5).

Central to this May 2014 National Bureau of Economic Research Working Paper is the proof of causation, as it presents several “patterns that indicate that these improvements reflect the...effect of school spending” (Jackson et al., 2014, p. 5). Improvements are “larger with larger spending increases,” and “the timing of improvements in outcomes track the timing of the increases in spending” (p. 35). The researchers conclude “based on the consistent pattern of these results...these impacts indeed reflect the causal effect of school spending” and “spending increases only improve educational outcomes for those who are exposed during their school-age years” (p. 35). Finally, they answer the question whether increased school spending can improve educational and lifetime outcomes of disadvantaged children: “Our findings show that it can” (p. 44).⁹

This addition to the evidence on the “productivity” of education spending is both groundbreaking because the data base is so extensive and dramatic because the effects are so large. Nonetheless, it is unsurprising to those who have seen positive results from adequate and intelligently used investments in public education. This productivity makes it imperative that resource accountability be adopted to systematically measure and report on the inputs shown to be effective, including funding itself most certainly, but also the programs and strategies that money buys.

Researchers have also examined the effects of states adding resources to support school districts that historically spent less than the level deemed necessary for a quality education, such as New Jersey and Massachusetts. Trends in New Jersey state assessments and in the National Assessment of Educational Progress (NAEP) show scores rising in the fourth and eighth grades in both reading and mathematics in the “Abbott districts,” with gaps narrowing between students in these low-wealth urban districts and students in other districts. The Abbott district scores are approaching the national averages, while the state average scores are consistently above the national averages. Moreover, a longitudinal effects study finds that the implementation of high quality preschool in high-needs districts has garnered significant gains in fourth- and fifth-grade scores in language arts, mathematics and science. In addition, the preschool program decreases grade retention and special education placement rates (Barnett et al., 2013; Goertz & Weiss, 2009).¹⁰

In another initiative fostering resource accountability, Massachusetts made differential state aid investments in low- and middle-spending districts between 1993 and 2000. The state funding formula added increments based on the numbers of low-income students and English language learners in each district. Researcher Jonathan Guryan analyzed the effects of these funding reforms and their implementation in these historically under-funded school districts and found markedly improved student scores. Previously low-scoring students drove much of this progress. After only a few years of improved funding and comparing 1992 and 1996 test scores, the research concluded that increases in per-pupil spending led to significant increases in math, reading, science, and social studies scores for 4th-grade students (Guryan, 2001).

Also attributed by some to increased investments more equitably distributed, Massachusetts students on the whole outperformed their counterparts in most other states on

⁹ Also concluding that the “effects are statistically significant” and “robust to a rich set of controls for confounding policies and trends” (Jackson, Johnson, and Persico, 2014, p. 44).

¹⁰ See, also, Kirp (2012)—an in-depth review of substantial progress made by a high-needs district (Union City, NJ).

national tests such as National Assessment of Educational Progress (NAEP). The 2000 NAEP math scores, for example, placed Massachusetts 4th graders third among their peers in all other states, and 8th graders ranked fifth. In science, the 4th graders tied for first and the 8th graders tied for second (Churchill et al., 2002). In 2007, the state's students ranked first or tied for first in all four of these categories (Cavanagh & Manzo, 2007). Unfortunately, subsequent backsliding and underfunding have reduced opportunities in the state's high-poverty districts.

Conclusion

As state courts have explained, state constitutions guarantee public school children the opportunity for an education that prepares them for civic and economic participation. As one high court wrote, the vision behind this guarantee is that every child has the potential to be “a contributing member in society...The wisdom giving rise to that vision is that both the child and society benefit immeasurably when that potential is realized” (*Abbott IV*, 1994, p.445).¹¹ Resource accountability is an crucial ingredient to achieving these constitutional guarantees and realizing quality educational goals.

This resource accountability is realized by investing sufficient educational resources, equitably distributed to ensure access to quality teaching, a rigorous curriculum, and other essentials for all students, including those in poverty, learning English, and with other special needs. Resource accountability also requires applying these resources effectively to provide proven programs and services that address student needs. Measuring access to each key resource and ensuring that gaps in access are closed is the only sure road to equity and higher achievement. Resource accountability is a prerequisite for meaningful learning enabled by professionally skilled and committed educators, the two other pillars of a comprehensive approach to accountability.

References

- Abbott v. Burke (Abbott I), 495 A.2d 376, 382 (N.J. 1985).
 Abbott v. Burke (Abbott II), 575 A.2d 359, 363, 402, 408, 409 (N.J. 1990).
 Abbott v. Burke (Abbott IV), 693 A.2d 417, 422-27 (N.J. 1994)
 Abbott v. Burke (Abbott V), 710 A.2d 450, 470 (N.J. 1998).
 Abbott v. Burke (Abbott VI), 748 A.2d 82 (N.J. 2000).
 Abbott v. Burke (Abbott VIII), 790 A.2d 842 (N.J. 2002).
 Abbott v. Burke (Abbott XX), 971 A.3d 989, 1006 (N.J. 2009).
 Abbeville County School District v. State of South Carolina, 2014 WL 5839956 (S.C. 2014).
 Augenblick & Myers, Inc. (2001). *Calculation of the cost of an adequate education in Maryland in 1999-2000 using two different analytic approaches*. Denver, CO: Author.
 Baker, B., Sciarra, D., & Farrie, D. (in press). *Is school funding fair? A National Report Card* (4th ed.). Available at www.schoolfundingfairness.org
 Barnett, W.S., Jung, K., Youn, M.J., Frede, E. (2013). *Abbott Preschool Program Longitudinal Effects Study: Fifth grade follow-up*. New Brunswick, NJ: National Institute for Early Education Research.

¹¹ See, also, *West Orange-Cove v. Nelson* (2004)—observing that the state is at a fork in the road, as standards have risen, tests are more stringent, and the its demographics are changing to more low-income and non-English speaking; *Hoke County Board of Education v. North Carolina* (2014); *Montoy v. State of Kansas* (2005).

- Belfield, C. (2007). The promise of early childhood education interventions. In Clive R. Belfield & Henry M. Levin (Eds.), *The price we pay: Economic and social consequences of inadequate education*. Washington, DC: Brookings Institution Press.
- Belfield, C. & Schwartz, H. (2007). *The cost of high-quality pre-school education in New Jersey*. Newark, NJ: Education Law Center.
- Berliner, D. (2014). Effects of inequality and poverty vs. teachers and schooling on America's youth. *Teachers College Record*, 116(1).
- Boylan, E. & White, S. (2010, May). *Formula for success: Adding high-quality Pre-K to state school funding formulas*. Washington, DC: The Pew Center on the States.
- California Department of Education (n.d.). Local control funding formula overview. Retrieved from <http://www.cde.ca.gov/fg/aa/lc/lcffoverview.asp>
- Campaign for Fiscal Equity v. State, 801 N.E.2d 326, 337, 348, 475 (N.Y. 2003)
- Cavanagh, S., & Manzo, K. K. (2007, October 3). NAEP gains: Experts mull significance. *Education Week*.
- Churchill, A., McDermott, K., Bowles, S., Lee-Davis, C., Effrat, A., Berger, J., ... & Klock, R. (2002). *2002 Annual report on the progress of education reform in Massachusetts*. Boston, MA: Massachusetts Education Reform Review Commission.
- Civil Rights Act of 1964, 42 U.S.C. § 2000d, *et seq.* (1964).
- Darling-Hammond, L., Wilhoit, G., & Pittenger, L. (2014). Accountability for college and career readiness: Developing a new paradigm. *Education Policy Analysis Archives*, 22(86). Retrieved from <http://dx.doi.org/10.14507/epaa.v22n86.2014>
- DeRolph v. State, 78 Ohio St. 3d 193, 205-210, 230 (Ohio 1997).
- Duncan, G. & Murnane, R. (2014, August 6). Levers of change for low-income students and schools. *Education Week*, 24-26.
- Dupree, A., Augenblick, J., & Silverstein, J. (2007). *Report on the cost of education*. Trenton, NJ: New Jersey Department of Education. Retrieved from <http://nj.gov/education/sff/archive/report.pdf>
- Elementary and Secondary Education Act (ESEA), 2001, § 6301, *et seq.*
- Education Justice at Education Law Center (2012, December). *Latest race to the top grants go to states at bottom on school funding equity*. Retrieved from <http://www.educationjustice.org/news/december-18-2012-latest-race-to-the-top-grants-go-to-states-at-bottom-on-school-funding-equity.html>.
- Edwards, N. & Rickey, H.E. (1947). *The school in the American social order*. Boston, MA: Houghton Mifflin.
- Fuller, B. & Tobben, L. (2014, November). *Local control funding formula in California: How to monitor progress and learn from a grand experiment*. Retrieved from http://cisi.ucdavis.edu/wp-content/uploads/2014/11/PEEC_LCFFinCA_HTMP.LFTGE_11.5.14.pdf
- Goertz, M.E., & Weiss, M. (2009). *Assessing success in school finance litigation: The case of New Jersey, education, equity, and the law*. New York, NY: The Campaign for Educational Equity, Teachers College, Columbia University.
- Guryan, J. (2001). *Does money matter? Regression-discontinuity estimates from education finance reform in Massachusetts* (NBER Working Paper 8269). Cambridge, MA: National Bureau of Economic Research. <http://dx.doi.org/10.3386/w8269>
- Hoke County Board of Education v. North Carolina, 599 S.E.2d 365, 377, 389 (N.C. 2004).
- Jackson, C., Johnson, R., & Persico, C. (2014). *The effect of school finance reforms on the distribution of spending, academic achievement, and adult outcomes* (NBER Working Paper 20118). Cambridge, MA: National Bureau of Economic Research. <http://dx.doi.org/10.3386/w20118>

- Kaplan, M., Reville, S.P., & Rowe, R.R. (1991, November). *Report of the Committee on Distressed School Systems and School Reform*. Boston, MA: Massachusetts Board of Education.
- Kirp, D. (2012). *Improbable scholars: The rebirth of a great American school system and a strategy for America's schools*. New York, NY: Oxford University Press.
- Lake View School District No. 25 v. Huckabee, No. 1992-5318 (Pulaski County Chancery Court 2001).
- Lobman, C., Ryan, S. & McLaughlin, J. (2005). Reconstructing teacher education to prepare qualified preschool teachers: Lessons from New Jersey. *Early Childhood Research and Practice*, 7(2).
- Massachusetts Business Alliance for Education (1991). *Every child a winner! A Proposal for a legislative action plan for systemic reform of Massachusetts' public primary and secondary education system*. Retrieved from <http://www.mbae.org/about/advisory-council/>
- Massachusetts Department of Education (2003, April). *Massachusetts Board of Education 2002 annual report*. Malden, MA: Author.
- Massachusetts Department of Education (n.d.). *Guidelines for student and financial reporting*. Retrieved from <http://finance1.doe.mass.edu/account/guide1.html>
- McDuffy v. Secretary of the Executive Office of Education, 615 N.E.2d 516, 520, 521, 556 (Mass. 1993)
- MGT of America (2009). *Study of the Bridge to Excellence*. Tallahassee, FL.
- Montoy v. State of Kansas, 120 P.3d 306, (Kan. 2005).
N.J.A.C. 6A:13 and 6A:13A
- New Jersey Department of Education. (2006). *Updated appendix on Report on the Cost of Education*. Trenton, NJ: Author. Retrieved from <http://nj.gov/education/sff/archive/appendix/>
- New Jersey Department of Education. (2007). *A formula for success: All children, all communities*. Trenton, NJ: Author. Retrieved from www.state.nj.us/education/sff/reports/AllChildrenAllCommunities.pdf
- Odden, A. (2007). *Final report on the reviews of the Report on the Cost of Education for New Jersey*. Trenton, NJ: New Jersey Department of Education. Retrieved from <http://www.state.nj.us/education/sff/archive/reports/summary.pdf>.
- OECD (2013). *Education at a glance 2013: OECD indicators*. Washington, DC: OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/eag-2013-en>
- Pittner, N. (2014, May 10). Thorough and efficient is necessary for accountability. [Letter to the editor]. *The Columbus Dispatch*. Retrieved from <http://www.dispatch.com/content/stories/editorials/2014/05/10/thorough-and-efficient-is-necessary-for-accountability.html>
- Porter, E. (2013, November). In public education, edge still goes to rich. *New York Times*.
- Quinn, J., Dryfoos, J. & Barkan, C. (Eds.) (2005). *Community schools in action: Lessons from a decade of practice*. New York, NY: Oxford University Press.
- Reed, J. (2014, June 27). CORE act seeks to bridge student Achievement gap, expand access to resources for learning [Press Release]. Retrieved from <http://www.reed.senate.gov/news/releases/core-act-seeks-to-bridge-student-achievement-gap-expand-access-to-resources-for-learning>
- Rolnick, A., & Grunewald, R. (2003, December). Early childhood development: Economic development with a high public return. Federal Reserve Bank of Minneapolis, The Region (Supplement), 17(4).
- Schenectady City Schools (2014, December 2). Office for civil rights will investigate two NY school district claims of school funding discrimination. [Press Release]

- School Funding Reform Act of 2008, N.J.S.A. § 18A:7F-43-63 (2008). Available at http://www.njleg.state.nj.us/2006/bills/A0500/500_I2.pdf
- Schweinhart, L. (1993). *Significant benefits: The High/Scope Perry Preschool Study Through Age 27*. Ypsilanti, MI: High/Scope Press.
- Sciarra, D. & Farrie, D. (in press). From Rodriguez to Abbott: New Jersey's standards-linked school funding reform, in *The enduring legacy of Rodriguez: Creating new pathways to equal educational opportunity*.
- Southern Education Foundation (2013, October). *A new majority: Low income students in the south and nation*. Atlanta, GA: Author.
- Steele, W. (Ed.) (1900). *Revised record of the Constitutional Convention of the State of New York, May 8, 1894, to September 29, 1894* (Vol. 4.), p. 695. Albany, NY: The Argus Company.
- U.S. Department of Education, Office of Civil Rights. (2014, October 1). Dear colleague letter. Retrieved from <http://www2.ed.gov/about/offices/list/ocr/letters/colleague-bullying-201410.pdf>
- U.S. Department of Education. (2013). *For each and every child—a strategy for education equity and excellence*. Washington, DC: Author.
- West Orange-Cove v. Nelson, No. GV-100528 (Dist. Ct. Travis County, Texas Nov. 30, 2004) 2002 Maryland Laws Ch. 288 (S.B. 856)

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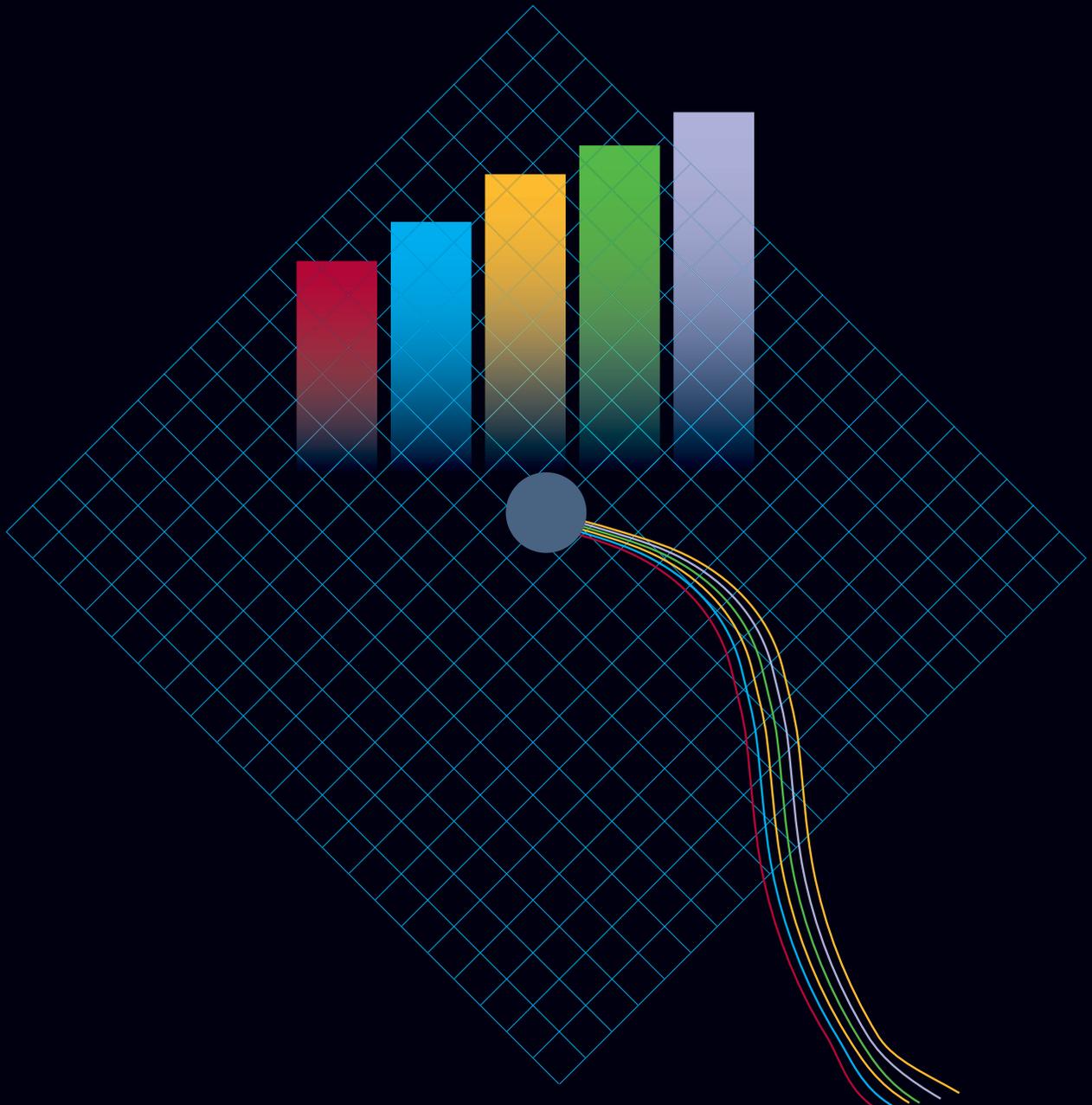
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Revisiting the Age-Old Question: Does Money Matter in Education?

Bruce D. Baker, Rutgers University

Executive Summary

This policy brief revisits the long and storied literature on whether money matters in providing a quality education. Increasingly, political rhetoric adheres to the unfounded certainty that money doesn't make a difference in education, and that reduced funding is unlikely to harm educational quality. Such proclamations have even been used to justify large cuts to education budgets over the past few years. These positions, however, have little basis in the empirical research on the relationship between funding and school quality.

In the following brief, I discuss selected major studies on three specific topics; a) whether money in the aggregate matters; b) whether specific schooling resources that cost money matter; and c) whether substantive and sustained state school finance reforms matter. Regarding these three questions, I conclude:

Does money matter? Yes. On average, aggregate measures of per-pupil spending are positively associated with improved or higher student outcomes. In some studies, the size of this effect is larger than in others and, in some cases, additional funding appears to matter more for some students than others. Clearly, there are other factors that may moderate the influence of funding on student outcomes, such as how that money is spent – in other words, money must be spent wisely to yield benefits. But, on balance, in direct tests of the relationship between financial resources and student outcomes, money matters.

Do schooling resources that cost money matter? Yes. Schooling resources which cost money, including class size reduction or higher teacher salaries, are positively associated with student outcomes. Again, in some cases, those effects are larger than others and there is also variation by student population and other contextual variables. On the whole, however, the things that cost money benefit students,

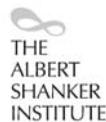
and there is scarce evidence that there are more cost-effective alternatives.

Do state school finance reforms matter? Yes. Sustained improvements to the level and distribution of funding across local public school districts can lead to improvements in the level and distribution of student outcomes. While money *alone* may not be the answer, more equitable and adequate allocation of financial inputs to schooling provide a necessary underlying condition for improving the equity and adequacy of outcomes. The available evidence suggests that appropriate combinations of more adequate funding with more accountability for its use may be most promising.

While there may in fact be better and more efficient ways to leverage the education dollar toward improved student outcomes, we do know the following:

- Many of the ways in which schools currently spend money do improve student outcomes.
- When schools have more money, they have greater opportunity to spend productively. When they don't, they can't.
- Arguments that across-the-board budget cuts will not hurt outcomes are completely unfounded.

In short, money matters, resources that cost money matter, and more equitable distribution of school funding can improve outcomes. Policymakers would be well-advised to rely on high-quality research to guide the critical choices they make regarding school finance.



Revisiting the Age-Old Question: Does Money Matter in Education?

Bruce D. Baker, Rutgers University

Framing the Question

It is hard to imagine a time in the history of American public education when there has been such a widespread political effort to argue that improving the quality of schools has little or nothing to do with the amount of money spent on public education. That is, that money simply doesn't matter.

Political certainty regarding the unimportance of money for schools and the need for schools to “tighten their belts” is frequently grounded in misrepresentations of total spending growth and test score trends at the national level over the past 30 years. The typical storyline is that spending per pupil has increased dramatically and pupil-to-teacher ratios have declined,¹ at the same time that scores on national assessments have stagnated, and scores on international assessments have fallen behind the rest of the developed world.² The conclusion: we're spending more and more, and not getting results, so it's clear that money doesn't make a difference.

To a large extent, the escalation of rhetoric is a sign of the times, in terms of both economic and political context. U.S. Secretary of Education Arne Duncan has declared this to be the era of the “new normal,” a period in which budget cutbacks are the norm and local public school districts must learn to do more with less.

At the state level, where the primary responsibility for financing public schools lies, this rhetoric has been particularly bold.

Florida Governor Rick Scott, in justifying his recent cuts to the state's education budget, remarked:

“We're spending a lot of money on education, and when you look at the results, it's not great.”³

In his 2011 “State of the State” address, New York Governor Andrew Cuomo declared:

“Not only do we spend too much, but we get too little in return. We spend more money on education than any state in the nation and we are number 34 in terms of results.”⁴

And in an interview with New Jersey's Governor Chris Christie, the *Wall Street Journal* reported:

“According to Mr. Christie, New Jersey taxpayers are spending \$22,000 per student in the Newark school system, yet less than a third of these students graduate, proving that more money isn't the answer to better performance.”⁵

While political rhetoric is often divorced from empirically rigorous research, the echo chamber regarding the unimportance of funding for improving school quality has amplified, and

Political certainty regarding the unimportance of money for schools and the need for schools to “tighten their belts” is frequently grounded in misrepresentations of total spending growth and test score trends at the national level over the past 30 years.

has migrated to the entirely unsupportable proposition that funding cuts cause no harm. In other words, the political message has gone several steps beyond questioning whether or not a systematic relationship exists between funding and school quality – a classic research framing of the issue – to bold assertions that we now know, with certainty, that money doesn't matter and that the path to school improvement can be accomplished despite – or even because of - reductions in spending.

The growing political consensus stands in sharp contrast to the substantial body of empirical research that has accumulated over time, but which gets virtually no attention in our public discourse.⁶ This policy brief reviews that literature. Specifically, I review three major bodies of evidence, each of which pertains to a specific element of the broad topic of

whether money matters in determining the quality of education. These three literatures are organized by the following guiding questions:

1. **Does money matter?** Are differences in aggregate school funding associated with differences in short- and long term measured outcomes?
2. **Do school resources that cost money matter?** Where “resources” mean the various things that money buys, such as smaller classes, higher salaries, or instructional materials. Are differences in access to specific schooling programs or resources, including teacher attributes, associated with differences in short- and long-term measured outcomes?
3. **Do school finance reforms matter?** Do substantive and sustained reforms to state school finance systems, including raising the level of funding or redistributing money more equitably, lead to improvements in the level or distribution of student outcomes?

I discuss only domestic studies, primarily those which focus on short-term and intermediate-term outcomes, such as achievement (e.g., test scores) and attainment (e.g., graduation). Furthermore, preference is given to studies which appear in peer reviewed academic journals and books (see end note for full selection criteria).⁷ I also discuss the sources of information that have been frequently used to cast doubt on whether money is related to

educational outcomes. Finally, I summarize what we know from the preponderance of evidence, as derived from rigorous empirical analysis, as well as what we do not yet know. In an appendix to this brief, I discuss, in general terms, methodological issues around the study of whether money matters in education.

From The Coleman Report to the Production Function

The saga over whether money matters in American public education can be traced back to the broader question of whether *schools* matter. That is, whether schools and school quality have any influence on student achievement, educational attainment, and future earnings. The first national, large-scale quantitative analysis to explore this question was the widely cited James Coleman report on “Equality of Educational Opportunity,” which came about as part of the Civil Rights Act of 1964.⁸

Among other things, the Coleman report explored the relationship between school resource measures and student outcomes, finding little relationship between the two. Using the (more limited) statistical techniques of the day, Coleman concluded that, on balance, the strongest correlations with student outcome measures were not found in schools, but rather among factors related to parental income and education levels and resources in the home. That said, among school resource measures, Coleman did find that teacher characteristics were positively associated with student outcomes, and more strongly so for minority students compared with white students.⁹ Nonetheless, the implication drawn by many was that schools simply don’t matter. An extension of this implication was that putting more money into schools to try to improve quality was unlikely to matter either.

However, recent re-analyses of the Coleman report data, using up-to-date statistical techniques and computing capacity, found that even Coleman’s data indicate that schooling quality has significant effects on student outcomes. In one recent example, Konstantopolous and Borman (2011) conclude:

“Our results also indicated that schools play meaningful roles in distributing equality or inequality of educational outcomes to females, minorities, and the disadvantaged.”¹⁰

In a related analysis, Borman and Dowling (2010) report:

“Even after statistically taking into account students’ family background, a large proportion of the variation among true school means is related to differences explained by school characteristics.”¹¹

In short, while family background certainly matters most, schools matter as well. Furthermore, there exist substantive differences in school quality that explain a substantial portion of the variation in student outcomes.

Subsequent studies using alternative data sources to explored the relationship between schooling quality and various outcomes, including the economic rate of return to schooling – e.g., future earnings. For example, David Card and Alan Krueger (1992) studied the relationship between school quality measures, including pupil to teacher ratios and relative teacher pay, on the rate of return to education for men born between 1920 and 1949. Card and Krueger found that men educated in states with higher-quality schools have a higher return to additional years of schooling. Rates of return were also higher for individuals from states with better-educated teachers.¹²

Similarly, Julian Betts (1996) provided an extensive review of the literature that attempts to link measures of schooling quality and adult earnings, including Card and Krueger’s study. Betts explains that, while the overall results of such studies were mixed, they were generally positive. More specifically, he pointed to more positive results for studies evaluating the association between district-level spending and earnings, as opposed to those attempting to identify a link between *school*-level resources and earnings, for which results are murkier.¹³

The re-analyses of Coleman’s data, coupled with subsequent credible findings using alternative data sources, served to discredit the original Coleman report findings (or more specifically, common interpretations of Coleman that schools and school quality matter little). It is now clear that schools matter.

Is Aggregate Spending Correlated with Outcome Measures?

After the release of the Coleman report, numerous scholars took advantage of new and richer data sources. They were largely focused on exploring in greater depth whether and why schools don’t seem to matter – the common, and now discredited, interpretation of the Coleman report. Twenty years after Coleman, Eric Hanushek (1986) published the paper that would arguably become the most widely cited source for the claim that money simply doesn’t matter when it comes to improving school quality and student outcomes.¹⁴

The paper, a meta-analysis of the large collection of post-Coleman studies, used data from a variety of contexts, small and large, in the United States and elsewhere. Hanushek tallied the findings of those studies. Some found a positive relationship between spending and student outcomes, while others found no relationship or a negative one. He came to the following conclusion, which was italicized for emphasis in the original publication:

“There appears to be no strong or systematic relationship between school expenditures and student performance.” (p. 1162)¹⁵

For years to follow (and to this day), this finding has become a mantra for many politicians and advocates. It has echoed through the halls of state (and federal) courthouses where school funding is deliberated. It has maintained an impressive air of credibility in many circles, although, as discussed below, the analyses behind it were refuted on numerous occasions by

leading scholars in the decade that followed. Furthermore, as also shown below, many of the studies originally reviewed by Hanushek, which were published in the 1960s and 1970s, no longer pass muster methodologically, given advances in data quality, statistical techniques, and researchers' understanding of educational production and schooling quality.

In assessing Hanushek's conclusion, it is important to distinguish between *inconsistent* findings about the spending/outcomes relationship on the one hand, and bold declarations that money doesn't matter on the other. Within a developed body of research on almost any topic, there is always at least some degree of inconsistency in findings. The key is to adjudicate between studies in terms of their quality and scope, and to assess whether a general conclusion might be drawn from the preponderance of the high-quality evidence.

Accordingly, the most direct rebuttal to Hanushek's characterization of the findings of existing research came in a series of re-analyses by University of Chicago scholars Larry Hedges, Rob Greenwald, and Richard Laine. Hedges and colleagues gathered the studies originally cited by Hanushek in 1986 and conducted meta-analyses of those that met certain quality parameters. They included studies that: a) had appeared in a refereed journal or book; b) used U.S. data; c) had outcome measures that were some form of academic achievement; d) used data at the district- or less aggregate level; e) employed a model that controlled for socioeconomic characteristics, fit with longitudinal data; f) and included data that were independent of other data included in the universe. Notably, these "quality control measures" pruned a significant share of studies¹⁶ used by Hanushek.

Specifically pertaining to aggregate per-pupil spending measures, Greenwald, Hedges, and Laine (1996) found that, among statistically significant findings, the vast majority of study findings were positive (11:1) and that, most of the analyses that did not find a statistically discernible relationship between spending and outcomes still found a positive association (p. 368). They concluded:

"Global resource variables such as PPE [per-pupil expenditures] show strong and consistent relations with achievement. In addition, resource variables that attempt to describe the quality of teachers (teacher ability, teacher education, and teacher experience) show very strong relations with student achievement." (p.384)

Digging deeper, and exploring the relationship between a variety resource and student outcome measures, Greenwald, Hedges, and Laine came to the conclusion that "a broad range of resources were positively related to student outcomes, with 'effect sizes' large enough to suggest that moderate increases in spending may be associated with significant increases in achievement." (p. 361)¹⁷ This finding stands in sharp contrast to Hanushek's statement of uncertainty.

Other researchers, including Harold Wenglinsky (1996), went on to explore with greater precision the measures of financial inputs to schooling that are most strongly associated with

variations in student outcomes. Largely confirming the meta-analyses of Greenwald, Hedges, and Laine, Wenglinsky's analysis found that, "per-pupil expenditures for instruction and the administration of school districts are associated with achievement because both result in reduced class size, which raises achievement." (p. 221)¹⁸

More recent studies (later 1990s & early 2000s) examining the relationship between financial resources and student outcomes made incremental improvements to production function analyses by a) adjusting the value of the education dollar for regional cost variation;¹⁹ b) testing alternative "functional forms" of the relationship between financial inputs and student outcomes; and c) applying other statistical corrections for the measurement of inputs.²⁰ These studies have invariably found a positive, statistically significant (though at times small) relationship between student achievement gains and financial inputs.

They also, however, raised new, important issues about the complexities of attempting to identify a direct link between money and student outcomes. These difficulties include equating the value of the dollar across widely varied geographic and economic contexts, as well as in accurately separating the role of expenditures from that of students' family backgrounds, which also play some role in determining local funding. Most of the studies included in Hanushek's review suffered from serious data and methodological limitations, which have since been addressed in more recent work.²¹

Interest in direct dollar-to-outcomes analysis also stalled due to the imprecision of data on financial resources available to school sites and children. Most existing financial data continue to be reported at the school district level, but resources may vary widely across schools within these districts. As a result, questions about whether money matters are often restricted to linking district-level funding with student-level outcomes, which ignores the manner in which district funds are distributed between schools. School-site spending data are increasingly available, but have not generally been the subject of new production function studies. That is, few studies have as yet evaluated the relationship between school-level spending and student-level outcomes. Instead, researchers have increasingly focused on "within school" factors which are thought to influence student outcomes. This includes schooling resources, such as class sizes or teacher characteristics, that are often more easily linked (in datasets) to schools and classrooms.²²

These studies have invariably found a positive, statistically significant (though at times small) relationship between student achievement gains and financial inputs.

To summarize this discussion above on whether resources matter, it is important to recognize that Hanushek's original conclusion from 1986 was merely a statement of "uncertainty" about whether a *consistent* relationship exists between spending and student

outcomes – one that is big enough to be important. His conclusion was *not* that such a relationship does not exist. Nor was it a statement that schools with fewer resources are better, or that reducing funding can be an effective way to improve schools.

By the early 2000s, the cloud of uncertainty conjured by Hanushek in 1986 had largely lifted in the aftermath of the various, more rigorous studies that followed, with finance scholars using detailed datasets to examine more finely-grained relationships between money and student outcomes.

The uncertainty has been replaced with an empirically-grounded confidence that funding does matter.

Do Resources Matter?

Analyzing the relationship between *overall* spending and outcomes is a limited tool. Some things work and others do not – a high-spending state or district that allocates resources to ineffective policies might not show results, and vice-versa. In short, it’s not just how much you spend, but how you spend it. Accordingly, both parallel with, and emergent from, the literature exploring whether aggregate measures of per-pupil spending are positively associated with student outcomes, there are now numerous studies of how specific schooling resources affect student outcomes. These studies have explored a range of measures, and a full review is beyond the scope of this paper. Instead, I will focus on two particularly important examples:

1. Teacher salaries
2. Pupil to teacher ratios (class sizes)

Both of these resource measures have financial implications. Thus, it is natural, when exploring whether money matters, to explore whether *things that cost money* matter.²³

Teacher wages and teacher quality

The Coleman report looked at a variety of specific schooling resource measures, most notably teacher characteristics, finding positive relationships between these traits and student outcomes. A multitude of studies on the relationship between teacher characteristics and student outcomes have followed, producing mixed messages as to which matter most and by how much.²⁴ Inconsistent findings on the relationship between teacher “effectiveness” and how teachers get paid – by experience and education – added fuel to “money doesn’t matter” fire. Since a large proportion of school spending necessarily goes to teacher compensation, and (according to this argument) since we’re not paying teachers in a manner that reflects or incentivizes their productivity, then spending more money won’t help.²⁵ In other words, the assertion is that money spent on the current system doesn’t matter, but it could if the system was to change.

Of course, in a sense, this is an argument that money *does* matter. But it also misses the important point about the role of experience and education in determining teachers' salaries, and what that means for student outcomes.

While teacher salary schedules may determine pay differentials across teachers *within* districts, the simple fact is that *where* one teaches is also very important in determining how much he or she makes.²⁶ Arguing over attributes that drive the raises in salary schedules also ignores the bigger question of whether paying teachers more in general might improve the quality of the workforce and, ultimately, student outcomes. Teacher pay is increasingly uncompetitive with that offered by other professions, and the “penalty” teachers pay increases the longer they stay on the job.²⁷

In short, it's not just how much you spend, but how you spend it.

A substantial body of literature has accumulated to validate the conclusion that both teachers' overall wages and relative wages affect the quality of those who choose to enter the teaching profession, and whether they stay once they get in. For example, Murnane and Olson (1989) found that salaries affect the decision to enter teaching and the duration of the teaching career,²⁸ while Figlio (1997, 2002) and Ferguson (1991) concluded that higher salaries are associated with more qualified teachers.²⁹ In addition, more recent studies have tackled the specific issues of relative pay noted above. Loeb and Page showed that:

“Once we adjust for labor market factors, we estimate that raising teacher wages by 10 percent reduces high school dropout rates by 3 percent to 4 percent. Our findings suggest that previous studies have failed to produce robust estimates because they lack adequate controls for non-wage aspects of teaching and market differences in alternative occupational opportunities.”³⁰

In short, while salaries are not the only factor involved, they do affect the quality of the teaching workforce, which in turn affects student outcomes.

Research on the flip side of this issue – evaluating spending constraints or reductions – reveals the potential harm to teaching quality that flows from leveling down or reducing spending. For example, David Figlio and Kim Rueben (2001) note that, “Using data from the National Center for Education Statistics we find that tax limits systematically reduce the average quality of education majors, as well as new public school teachers in states that have passed these limits.”³¹

Salaries also play a potentially important role in improving the *equity* of student outcomes. While several studies show that higher salaries relative to labor market norms can draw higher quality candidates into teaching, the evidence also indicates that relative teacher salaries across schools and districts may influence the distribution of teaching quality. For example, Ondrich, Pas and Yinger (2008) “find that teachers in districts with higher salaries

relative to non-teaching salaries in the same county are less likely to leave teaching and that a teacher is less likely to change districts when he or she teaches in a district near the top of the teacher salary distribution in that county.”³²

With regard to teacher quality and school racial composition, Hanushek, Kain, and Rivkin (2004) note: “A school with 10 percent more black students would require about 10 percent higher salaries in order to neutralize the increased probability of leaving.”³³ Others, however, point to the limited capacity of salary differentials to counteract attrition by compensating for working conditions.³⁴

Finally, it bears noting that those who criticize the use of experience and education in determining teachers’ salaries must of course produce a better alternative, and there is even less evidence behind increasingly popular ways to do so than there is to support the policies they intend to replace. In a perfect world, we could tie teacher pay directly to productivity, but contemporary efforts to do so, including the idea of defining productivity based on student test results,³⁵ have thus far failed to produce concrete results in the U.S. More promising efforts to measure teacher quality, such as new teacher evaluations that incorporate test-based teacher productivity measures as one component, are still a work in progress, and there is not yet evidence that they will be any more effective (or cost-effective) in attracting, developing or retaining high-quality teachers.

To summarize, despite all the uproar about paying teachers based on experience and education, and its misinterpretations in the context of the “Does money matter?” debate, this line of argument misses the point. To whatever degree teacher pay matters in attracting good people into the profession and keeping them around, it’s less about *how* they are paid than *how much*. Furthermore, the average salaries of the teaching profession, with respect to other labor market opportunities, can substantively affect the quality of entrants to the teaching profession, applicants to preparation programs, and student outcomes. Diminishing resources for schools can constrain salaries and reduce the quality of the labor supply. Further, salary differentials between schools and districts might help to recruit or retain teachers in high need settings. In other words, resources used for teacher quality matter.

Class size & Teacher Quantity

Class size is often characterized as a particularly expensive use of additional school dollars.³⁶ Reducing class sizes obviously costs money, since you have to hire additional teachers, but the question of whether it’s expensive must rely on detailed comparisons of alternative uses of the same dollars, or the effects on student outcomes of those alternative uses.

Instead, most arguments against class size reduction frequently proceed by noting that there are significant costs to adding more teachers and classrooms (which is, again, an unsurprising revelation)³⁷, followed by a (often vague) statement as to the differences between

the most and least “effective” teachers (as measured by their effects on test scores). The problem here is that one cannot compare the cost-effectiveness of class size reduction with “improving teacher quality,” which is an outcome, not a concrete policy with measurable costs and benefits.

What we do know, however, is that ample research indicates that children in smaller classes achieve better outcomes, both academic and otherwise, and that class size reduction can be an effective strategy for closing racial or socio-economic achievement gaps.³⁸ For example, Alan Krueger, in a re-analysis of data from the large-scale randomized Tennessee class size reduction study (Project STAR), concluded:

“The main conclusions are 1) on average, performance on standardized tests increases by four percentile points the first year students attend small classes; 2) the test score advantage of students in small classes expands by about one percentile point per year in subsequent years; 3) teacher aides and measured teacher characteristics have little effect; 4) class size has a larger effect for minority students and those on free lunch.”³⁹

Among more recent studies on the topic, also re-evaluating the Tennessee STAR data, Konstantopolous and Chun (2009) summarized:

“We used data from Project STAR and the Lasting Benefits Study to examine the long-term effects of small classes on the achievement gap in mathematics, reading, and science scores (Stanford Achievement Test). The results consistently indicated that all types of students benefit more in later grades from being in small classes in early grades. These positive effects are significant through grade 8. Longer periods in small classes produced higher increases in achievement in later grades for all types of students. For certain grades, in reading and science, low achievers seem to benefit more from being in small classes for longer periods. It appears that the lasting benefits of the cumulative effects of small classes may reduce the achievement gap in reading and science in some of the later grades.”⁴⁰

Admittedly, there are some naysayers on whether class size reduction yields cost-effective benefits in terms of student outcomes. But the findings upon which these counterarguments are based often lack the weight of large-scale randomized studies, such as Tennessee’s Project STAR, relying instead on natural variations in class sizes across schools.⁴¹

It’s true that a large body of the literature on the effectiveness of class size reduction relies on data from a relatively small handful of sources, most notably, the Tennessee STAR experiment.⁴² Further, most class size reduction studies finding substantial benefits have focused on class size reduction in early grades (K-3), and most of these programs are pilots implemented on a relatively small scale. (A comprehensive review of the literature on class size reduction is beyond the scope of this brief, but see end note for additional resources.)⁴³

It's also true that reducing class size costs more than not reducing class size. But class size reductions, implemented effectively, have positive effects. As such, one can reasonably infer that using increased resources to reduce class sizes would have positive effects, or that resources matter.

While it's certainly plausible that other uses of the same money might be equally or even more effective, there is little evidence to support this. For example, while we are quite confident that higher teacher salaries may lead to increases in the quality of applicants to the teaching profession and increases in student outcomes, we do not know whether the same money spent toward salary increases would achieve better or worse outcomes if it were spent toward class size reduction. Indeed, some have raised concerns that large scale-class size reductions can lead to unintended labor market consequences that offset some of the gains attributable to class size reduction (such as the inability to recruit enough fully qualified teachers).⁴⁴ And many, over time, have argued the need for more precise cost/benefit analysis.⁴⁵ Still, the preponderance of existing evidence suggests that the additional resources expended on class size reductions do result in positive effects.

Do School Finance Reforms Matter?

A particularly relevant question for informing the current “Does money matter?” debate is whether increased and sustained funding provided through state school finance reforms can improve the level or distribution of student outcomes, including both long-term outcomes and short-term shifts in academic achievement. In other words, does the manner in which states distribute money matter? And how can we tell? Findings regarding these specific questions might, most directly, inform state legislative debates over tax policy and education spending.

Most funding for public education comes from state and local sources, and is under the jurisdiction of state school finance systems. Therefore, states have the greatest control over whether local public schools have access to sufficient levels of resources, and whether those resources are distributed equitably across children and settings. Furthermore, constitutional protections for children's access to adequate and equitable public schooling exist in state constitutions, but not in the U.S. Constitution. Finally, as indicated at the outset of this brief, it is at the state level where the most raucous rhetoric is occurring around these questions of whether money matters in education. State legislatures and governors can make or break public schooling, and they have.⁴⁶

Kevin Welner of the University of Colorado and I recently published an extensive review on this specific topic, which appears in the November 2011 issue of *Teachers College Record*. Among other things, we address the research complexities of answering questions about the efficacy of state school finance reforms. Those complexities can often be reduced to asking the right questions about a) whether substantive reforms were actually implemented; b) when they

were implemented and how long they were sustained; and c) who was most affected by the reforms.

As with other bodies of literature on the effectiveness of schooling resources, the research on state school finance reforms is a mixed bag in terms of analytic rigor. Second-hand references to dreadful failures following massive infusions of new funding can often be traced to methodologically inept, anecdotal tales of desegregation litigation in Kansas City and Missouri, or the court-ordered financing of urban districts in New Jersey.⁴⁷

More recently, Eric Hanushek and a consulting defense attorney for states facing school funding challenges, Alfred Lindseth of Southerland-Asbill & Brennan, produced a book in which one chapter is dedicated to trying to prove that court-ordered school funding reforms in New Jersey, Wyoming, Kentucky, and Massachusetts resulted in few or no measurable improvements.⁴⁸ These conclusions, however, are based on little more than a series of graphs of student achievement on the National Assessment of Educational Progress in 1992 and 2007. The authors show little change in these states' scores, and conclude that the reforms didn't work.

In other words, the authors assume that, during this period, each of the four states infused substantial additional funds into public education in response to judicial orders, and that these funds were targeted at low-income and minority students.^{49,50} They also necessarily assume that, in all other states which serve as a comparison group, similar changes did not occur. Yet they validate neither assertion.

In contrast, Kevin Welner and I review several studies applying more rigorous and appropriate methods for evaluating the influence of state school finance reforms. Among these analyses is one national study by Card and Payne (2002) which evaluates whether changes in spending inequality generally lead to changes in outcome inequality.⁵¹ The authors measure both the extent and timing of changes in each. These analyses, while imperfect, rise to a level far above those conducted by Hanushek and Lindseth. Card and Payne found “evidence that equalization of spending levels leads to a narrowing of test score outcomes across family background groups.”(p. 49)⁵²

Figlio (2004) explains that the influence of state school finance reforms on student outcomes is perhaps better measured *within* states over time, explaining that national studies of the type attempted by Card and Payne confront problems that include: a) the enormous diversity in the nature of state aid reform plans, and b) the paucity of national level student performance data.⁵³ Accordingly, more recent peer reviewed studies of state school finance reforms have applied longitudinal analyses within specific states. And several such studies provide compelling evidence of the potential positive effects of school finance reforms.

For instance, Roy (2011) published an analysis of the effects of Michigan’s 1990s school finance reforms, which led to a significant increase among previously low-spending districts. Roy, whose analyses measure both *whether* the policy resulted in changes in funding and *who* was affected, found that “Proposal A was quite successful in reducing interdistrict spending disparities. There was also a significant positive effect on student performance in the lowest-spending districts as measured in state tests.” (from abstract)⁵⁴

Similarly, Papke (2001), also evaluating Michigan school finance reforms from the 1990s, found that “increases in spending have nontrivial, statistically significant effects on math test pass rates, and the effects are largest for schools with initially poor performance.” (Papke, 2001, p. 821)⁵⁵

A similar peer-reviewed article by Deke (2003) evaluated “leveling up” of funding for very-low-spending districts in Kansas, following a 1992 lower court threat to overturn the funding formula (without formal ruling to that effect). The Deke article found that a 20 percent increase in spending was associated with a 5 percent increase in the likelihood of students going on to postsecondary education. (p. 275)⁵⁶

Elsewhere, two studies of Massachusetts school finance reforms from the 1990s find similar results. The first, a non-peer-reviewed report by Downes, Zabel, and Ansel (2009) explored, in combination, the influence on student outcomes of accountability reforms and changes to school spending. They found that, “Specifically, some of the research findings show how education reform has been successful in raising the achievement of students in the previously low-spending districts.” (p. 5)⁵⁷ The second study, an NBER working paper by Guryan (2001), focused more specifically on the redistribution of spending resulting from changes to the state school finance formula. Guryan found that “increases in per-pupil spending led to significant increases in math, reading, science, and social studies test scores for 4th- and 8th-grade students. The magnitudes imply that a \$1,000 increase in per-pupil spending leads to about a third to a half of a standard-deviation increase in average test scores. It is noted that the state aid driving the estimates is targeted to under-funded school districts, which may have atypical returns to additional expenditures.” (p. 1)⁵⁸

Finally, Downes conducted earlier studies of Vermont school finance reforms of the late 1990s (Act 60). In a 2004 book chapter, he noted:

On balance, it is safe to say that a sizeable and growing body of rigorous empirical literature validates that state school finance reforms can have substantive, positive effects on student outcomes, including reductions in outcome disparities or increases in overall outcome levels.

“All of the evidence cited in this paper supports the conclusion that Act 60 has dramatically reduced dispersion in education spending and has done this by weakening the link between spending and property wealth. Further, the regressions presented in this paper offer some evidence that student performance has become more equal in the post-Act 60 period. And no results support the conclusion that Act 60 has contributed to increased dispersion in performance.” (p. 312)^{59,60}

On balance, it is safe to say that a sizeable and growing body of rigorous empirical literature validates that state school finance reforms can have substantial positive effects on student outcomes, including reductions in both the levels and disparities in these outcomes. It is also safe to say that analyses provided in sources such as the book chapter by Hanushek and Lindseth (2009) and others⁶¹ provide little credible evidence to the contrary, due to significant methodological omissions. In other words, not only does money matter, but reforms that determine how money is distributed matter too, and more equitable funding can improve the level and distribution of outcomes.

Summing up the Evidence

This brings me to a summary of the evidence on whether money matters in education. Despite the relative consistency of empirical findings over time regarding a) whether per-pupil spending itself is related to student outcomes; b) whether spending related resources, such as teacher wages or class sizes, are related to student outcomes; c) whether improving the adequacy and equity of school funding can have positive effects on student outcomes, a persistent cloud of doubt hangs over political deliberations on school funding. Here, I review briefly the sources of that doubt, relative to what we do know with some confidence, as well as what we still have yet to figure out about money and student outcomes.

What are/were the main sources of doubt?

The primary source of doubt to this day remains the above-mentioned Eric Hanushek finding, in 1986, that “*There appears to be no strong or systematic relationship between school expenditures and student performance.*” (p. 1162)⁶²

This single quote, now divorced entirely from the soundly-refuted analyses on which it was based, remains a mantra for those wishing to deny that increased funding for schools is a viable option for improving school quality.

More recent attempts to sever rhetorically the connection between money and educational quality have employed the aforementioned graphs showing increasing spending and flat test scores over the past 3-4 decades. It is difficult to understate the weakness of this evidence.

For one thing, most characterizations of the extent of national average spending increase are grossly oversimplified. For example, adjusting spending growth only for traditional inflation

measures which account for changes in the prices of consumer goods, but do not account for a) changes in competitive wages of non-teachers, which influence the ability of schools to recruit and retain teachers, which have far outpaced the consumer price index, b) changes in the range and level of outcomes desired of our students, which affects costs significantly, and c) changes in the demographics of the student population, which affect the cost of achieving even constant outcome objectives. Average spending also fails to account for the fact that the trends vary by state and district, as well as by the programs (and students) on which money is spent.

Furthermore, on average, overall student achievement on the National Assessment of Educational Progress (NAEP) masks the fact that scores for subgroups, such as African-American students, have actually improved quite dramatically over time, and achievement gaps have narrowed.

Most generally, however, using the simple juxtaposition of two trends – spending and average test scores – to draw causal inferences about how one affects the other is irresponsible and not at all compelling. The “true effect” of funding on educational outcomes is extremely difficult to isolate, which is precisely why the research discussed above is so complex.

Yet these simple graphs, a misinterpreted 25-year old quote and the occasional uninformative and inflammatory anecdote regarding urban district spending and student outcomes in places like Kansas City or New Jersey constitute a rhetorical war against an otherwise overwhelming body of empirical evidence.⁶³

No rigorous empirical study of which I am aware validates that increased funding for schools in general, or targeted to specific populations, has led to any substantive, measured reduction in student outcomes or other “harm.” Arguably, if this were the case, it would open new doors to school finance litigation against states which choose to increase funding to schools. Twenty years ago, Richard Murnane summarized the issue exceptionally well, when he stated:

“In my view, it is simply indefensible to use the results of quantitative studies of the relationship between school resources and student achievement as a basis for concluding that additional funds cannot help public school districts. Equally disturbing is the claim that the removal of funds... typically does no harm.” (p. 457)⁶⁴

Murnane’s quote is as relevant today as it was then. The sources of doubt on the “Does money matter?” question are not credible.

What do we know?

Based on the studies reviewed in this brief, there are a few things we can say with confidence about the relationship between funding, resources, and student outcomes:

First, on average, even in large-scale studies across multiple contexts, aggregate measures of per-pupil spending are positively associated with improved and/or higher student outcomes. In

some studies, the size of this effect is larger than in others. And, in some cases, additional funding appears to matter more for some students than others. Clearly, there are other factors that moderate the influence of funding on student outcomes, such as how that money is spent. But, on balance, in direct tests of the relationship between financial resources and student outcomes, money matters.

Second, schooling resources that cost money, including class size reductions and increased teacher compensation, are positively associated with student outcomes. Again, in some cases and for some populations, these effects are larger than for others. On balance, though, there are ways to spend money that have a solid track record of success. Further, while there may exist alternative uses of financial resources that yield comparable or better returns in student outcomes, no clear evidence identifies what these alternatives might be.

Third, sustained improvements to the level and distribution of funding across local public school districts can lead to improvements in the level and distribution of student outcomes. While money alone may not be the answer, adequate and equitable distributions of financial inputs to schooling provide a necessary underlying condition for improving adequacy and equity of outcomes. That is, if the money isn't there, schools and districts simply don't have a "leverage option" that can support strategies that might improve student outcomes. If the money is there, they can use it productively; if it's not, they can't. But, even if they have the money, there's no guarantee that they will. Evidence from Massachusetts, in particular, suggests that appropriate combinations of more funding with more accountability may be most promising.

What don't we know?

Indeed, there are many unanswered questions about how money matters, and how it can matter most. Specifically, while many talk of more efficient or cost effective options for spending money, information on these options is sorely lacking. Rhetoric abounds regarding current approaches to public schooling – such as spending on class size reduction – being the most inefficient or least cost-effective options. But proposed alternatives, such as restructuring teacher pay around indicators of "effectiveness" rather than seniority or credentials, are not backed by solid research, and include no serious evaluations of cost. Accordingly, they provide no legitimate basis for comparing cost-effectiveness.

While we do have evidence that increased salaries may improve the quality of the teacher workforce and student outcomes, we do not have sufficient evidence to determine whether or not the same dollar spent on salaries to "improve teacher quality" by some (often unstated) means would achieve better or worse outcomes than if that dollar was spent on a more proven intervention, such as class-size reductions. Moreover, even if there were evidence that some new policy was more cost-effective, this would actually represent an argument that money matters, not the opposite.

There is also limited evidence about the connection between funding and *longer-term* outcomes. In an era where educational output and outcomes are increasingly measured in terms of short-term changes in students' performance on standardized tests of reading and math, we have arguably lost sight of broader and/or intermediate- and long-term outcomes. We need to know more about the relationship between access to resources in preschool, elementary, and secondary schools and successful transitions to and completion of undergraduate education (and labor market outcomes). We do have a growing body of evidence that students' access to advanced coursework in mathematics does have a positive relationship to undergraduate success, and that access to a breadth of curricular and co-curricular opportunities increases college access.⁶⁵ And we know that such opportunities are inequitably distributed across children.⁶⁶ This research must expand to include a broader array of both inputs and outputs.

The primary problem is that state data systems provide limited capacity to track students from K-12 systems through college and into the workforce. Moreover, while the precision of financial data are improving in some regards, it remains difficult to tie district-level expenditure data to specific schools, programs, and classrooms, limiting the ability of researchers to explore more closely the relationship between spending patterns, resource allocation choices, and student outcomes. Hopefully, states will improve the quality and scope of their available data in the near future.

Concluding Thoughts

Given the preponderance of evidence that resources do matter and that state school finance reforms can effect changes in student outcomes, it seems somewhat surprising that not only has doubt persisted, but the rhetoric of doubt seems to have escalated. In many cases, there is no longer just doubt, but rather direct assertions that: schools can do more than they are currently doing with less than they presently spend; the suggestion that money is not a necessary underlying condition for school improvement; and, in the most extreme cases, that cuts to funding might actually stimulate improvements that past funding increases have failed to accomplish.

To be blunt, money does matter. Schools and districts with more money clearly have greater ability to provide higher-quality, broader, and deeper educational opportunities to the children they serve. Furthermore, in the absence of money, or in the aftermath of deep cuts to existing funding, schools are unable to do many of the things they need to do in order to maintain quality educational opportunities. Without funding, efficiency tradeoffs and innovations being broadly endorsed are suspect. One cannot tradeoff spending money on class size reductions against increasing teacher salaries to improve teacher quality if funding is not there for either – if class sizes are already large and teacher salaries non-competitive. While these are not the conditions faced by all districts, they are faced by many.

It is certainly reasonable to acknowledge that money, by itself, is not a comprehensive solution for improving school quality. Clearly, money can be spent poorly and have limited influence on school quality. Or, money can be spent well and have substantive positive influence. *But money that's not there can't do either.* The available evidence leaves little doubt: Sufficient financial resources are a necessary underlying condition for providing quality education.

Sufficient financial resources are a necessary underlying condition for providing quality education.

Appendix: Methods and Measures in Money Matters Questions

Measuring the Inputs

In this appendix, in order to help readers better understand the methods used in the studies discussed in the main text of this paper, I provide a more detailed primer on studying the relationship between money and student outcomes.

Broadly, studies of the “Does money matter?” genre seek to determine whether differences or changes in access to *schooling inputs* are associated with or result in differences in or changes to *student outcomes*. Any such studies must therefore include some measures of *schooling inputs* and of *student outcomes*. In studies that might fall into the “Does money matter?” category, input measures can be roughly broken down into a) money itself, and b) things that cost money.

Money itself:

Per-pupil expenditure is a commonly-used measure of the aggregate level of financial resources available in public school districts. The measure typically includes all current operating expenditures of school districts divided by the numbers of children served – that is, the fiscal year spending on salaries and benefits for school employees, classroom materials supplies and equipment, and expenditures on utilities, maintenance and operations of facilities. But this measure is problematic on a number of levels. First, very few studies appropriately adjust the value of per-pupil spending for differences (such as levels of labor competition or other costs) across labor markets within states.⁶⁷ Second, some substantive differences in school district offerings which do cost money don’t show up as per-pupil expenditure variation (such as the addition of pre-kindergarten programs, which adds both spending and students, often at lower per-pupil spending than occurs in upper grades). It is a substantive addition to the educational program which may, in some cases, reduce average per-pupil spending district-wide.

Components of per-pupil spending, such as “instructional spending” or “administrative spending,” are also occasionally explored for their differential effects (if any) on student outcomes.⁶⁸ It is often presumed that “instructional spending” differences will be most related to student outcomes (where instructional spending is often described as “money to the classroom,” consisting of teacher wages, materials, supplies, equipment, and classroom support staff).

Resources that cost money

Differences in school- and district-level instructional spending often boil down to differences in quantities of instructional staff and differences in the characteristics of those staff (most related to differences in salaries related to differences in years of experience and degree

levels). Quantities of instructional staff are most often measured in terms of class sizes or pupil-to-teacher ratios. To the extent that having a greater quantity of teachers affects student outcomes, then so too does having the money available to increase the quantity of teachers.

Teacher experience levels and teacher degree levels are also often studied in the context of the “Does money matter?” debate because, within traditional teacher salary schedules, more experienced teachers are generally paid higher salaries, as are teachers with more advanced degrees. To the extent that these characteristics are associated with differences in student outcomes, expenditures on these characteristics may be assumed to be associated with student outcomes.

One might also look specifically at comprehensive school reform models, some of which are noted for their resource intensiveness, such as Roots and Wings/Success for All,⁶⁹ or the more recently touted Apollo 20 Project in Houston, Texas.⁷⁰ To the extent that these models a) require greater expenditure than current levels, and b) result in better outcomes than current levels, a reasonable argument can be made that money spent on these reforms matters. Many comprehensive reform strategies embed some degree of additional staffing (instructional quantity) with some degrees of professional development (improving instructional quality) and the relative costs of these components may be distilled.

Measuring the Outcomes

Equally pertinent is the measurement of outcomes. Outcome measures in “Does money matter?” or “Does school quality matter?” studies tend to take three forms:

Short-term and concurrent academic achievement measures are most common in the past two decades, because of the increased availability of individual student-level data on academic achievement, largely from state data systems implemented for accountability purposes, but also from large national surveys, including the National Educational Longitudinal Study of the eighth grade class of 1988. Typically, when longitudinal data are available on individual students on measures of academic achievement, the goal is to determine the influence of differential school resources as a treatment, on gains in student achievement outcomes. Most commonly, the measured outcomes are for math and language arts.

Mid-term academic attainment measures include measures of high school graduation rates, transition to higher education, persistence in higher education (and completion of specific coursework and credits) and time to completion of postsecondary education. These intermediate measures of attainment are less common, perhaps due to the relatively limited availability of detailed individual-level data linking K-12 education system parameters and college attendance patterns of graduates of specific K-12 schools and districts.

Long-term economic benefit measures have been the focus of numerous large-scale economic studies of the influence of schooling quality. From an economic perspective, there is great

interest in validating that measurable differences in school quality or investment in schooling can ultimately have measurable effects on both individual wages and on the economy as a whole.

Research Methods for Linking the Two

A handful of research methods and statistical approaches have been used to evaluate the connection between schooling resources, money, and student outcomes. These methods may be broadly classified into those that involve studying the “natural variation” in schooling quality available to individuals, based on where they attend school, and studies that involve random assignment of students to receive specific reforms, strategies, or programs (with fiscal implications). Note that “natural variation” is a research euphemism for the vast systemic inequity of the American public education system. Studies of “natural variation” may explore differences across schooling contexts or changes in schooling quality over time, which are in effect, policy induced variations.

Studies relying on natural variation

Most studies exploring the relationship between existing differences in schooling resources and existing differences in student outcomes attempt to estimate some form of statistical model which relates a) student outcomes to b) financial or other schooling inputs, given c) background characteristics on student populations served, and d) contextual factors of schools and districts in which those students are served. When framed this way, the statistical models are “production function” models, or models of the production of student outcomes.⁷¹ These studies seek to identify whether there exists a statistically significant relationship between the spending measures or other school resource measures and student outcomes, ideally measured at the individual student level and measured in terms of outcome gains. Further, even if statistically significant, it is important to know that a certain amount of differences in inputs is associated with a certain amount of difference in outcomes. That is to say, is the magnitude policy relevant? For example, how many more dollars does it take to improve achievement by a specific amount?

Numerous technical issues complicate these analyses, such as problems with fully accounting for “unobservable” differences in student backgrounds or schooling contexts, and difficulties determining what the right “shape” of the statistical relationship is between inputs and outcomes (for example, to what extent are there diminishing returns and when do they kick in?), each of which may compromise the validity of findings.⁷²

Another type of model, not often discussed as a method for determining whether “money matters” is the education cost function.⁷³ The education cost function essentially turns the education production function around in an attempt to determine the a) costs per pupil of achieving b) desired educational outcome levels c) given the student populations served, and d) contextual factors such as differences in the prices of schooling inputs, economies of scale,

population sparsity and remoteness. In effect, these studies attempt to determine whether it costs more to achieve more, and how much, given the average existing practices of schooling.⁷⁴ In other words, does money matter?

Related studies of existing or historical variation of resources across children have explored the relationship between changes in the distribution or overall level of funding allocated by states to local public schools or districts and resulting changes in the level or distribution of student outcomes. For example, if a state allocates substantially more resources than in the past to low-wealth school districts, do student outcomes in those districts improve? These are policy-induced variations, or changes, but are not experiments. I refer to these studies as “Do school finance reforms matter?” studies, and they are a particularly relevant variation on the broader “does money matter?” question. They are important because state school finance policy is the primary vehicle for changing either the level or distribution of funds available to schools and districts, or altering in substantive ways the “natural variation” (inequity) of the system.

Studies relying on experiments

Finally, there are those studies which rely on what is considered the “gold standard” for research and evaluation of educational programs – experimental design studies. Experimental design studies randomly assign one group of students to receive a specific set of programs and services and another group of students to a control group, or one that does not receive the treatment of interest. Large-scale experimental design studies have been conducted to determine the effects of class size reduction on student outcomes, participation in preschool programs on student outcomes, and implementation of specific comprehensive school reform models⁷⁵ on student outcomes. That is, randomized trials are useful for studying specific reforms or models which may have cost implications. However, to the best of my knowledge, randomized trials have not been conducted to discern the importance of financial inputs to schooling directly, in part because doing so would severely deprive some students of resources, which would likely be objectionable to institutional review boards and the general citizenry. Though, arguably, permitting the persistence of extreme “natural variations” is no less objectionable.

End Notes

¹ http://nces.ed.gov/programs/digest/d06/tables/dt06_061.asp

² For a version of this argument, see: http://www.huffingtonpost.com/bill-gates/bill-gates-school-performance_b_829771.html.

³ http://blogs.orlandosentinel.com/news_politics/2011/10/scott-anthropology-and-journalism-dont-pay-and-neither-do-capes.html

⁴ <http://www.governor.ny.gov/sl2/stateofthestate2011transcript>

⁵ <http://online.wsj.com/article/SB10001424052702303348504575184120546772244.html>

⁶ Baker and Welner explain how the U.S. Department of Education has recently established a web site on improving educational productivity, with specific intent to inform state policy and local practice. But, as Baker and Welner note, the materials on the web site:

“None of the materials listed or recommendations expressed within those materials are backed by substantive analyses of the cost effectiveness or efficiency of public schools, of practices within public schools, of broader policies pertaining to public schools, or of resource allocation strategies. Instead, the sources listed on the site’s “resources” page are speculative think tank reports and related documents that do not include or even cite the types of analyses that would need to be conducted to arrive at their conclusions and policy recommendations.”

Baker, B.D., Welner, K.G. (2011) Evidence and Rigor: A Call for the U.S. Department of Education to Embrace High Quality Research. National Education Policy Center.

⁷ The scope of this review is limited to domestic studies. The emphasis of the review is on major peer reviewed studies in each of the 3 categories listed. Further, the emphasis is on studies that use data aggregated to no higher level than local public school districts. That is, no cross state or cross-national aggregate analyses are emphasized, though some are listed to point out their existence. For the older production function literature, the bulk of the discussion herein focuses on major meta-analyses published in the late 1980s to late 1990s, which reviewed studies from prior years. I do not reinvestigate those prior studies but do refer to some throughout. This review contains only a selected summary of major works on topics such as class size and teacher characteristics which have financial implications. For studies of state school finance reforms to be included, the studies must measure more than the mere presence, or nominal indication that reform happened. Further, studies are addressed if the attempt to measure the relationship between changes in the level of financial resources for students in particular settings (districts, schools) and subsequent changes in the level of outcomes, or changes in the distribution of schooling resources and distributions of student outcomes. Only studies using short term academic outcomes (measured achievement, aptitude, and graduation rates) are included. Preference is given to peer reviewed studies and studies attempting to validate statistically a link between changes in the level or distribution of funding and the level or distribution of outcomes.

⁸ Coleman, James S., Ernest Q. Campbell, Carl F. Hobson, James McPartland, Alexander M. Mood, et al. (1966) Equality of Educational Opportunity. Washington: U. S. Office of Education.

⁹ For an early discussion of the Coleman findings and misinterpretations of those findings with respect to policy implications, see:

Kain, G.C., Watts, H.W. (1970) Problems in Making Policy Inferences from the Coleman Report. *American Sociological Review*, 35 (2) 228-242

Bowles, S., Levin, H.M. (1968) The Determinants of Scholastic Achievement-An Appraisal of Some Recent Evidence. *The Journal of Human Resources*, 3 (1)-24

¹⁰ Konstantopolous, S., Borman, G. (2011) Family Background and School Effects on Student Achievement: A Multilevel Analysis of the Coleman Data. *Teachers College Record*. 113 (1) 97-132

¹¹ Borman, G.D., Dowling, M. (2010) Schools and Inequality: A Multilevel Analysis of Coleman's Equality of Educational Opportunity Data. *Teachers College Record*. 112 (5) 1201-1246

¹² Card, D., Krueger, A. (1992) Does School Quality Matter? Returns to Education and the Characteristics of Schools in the United States. *Journal of Political Economy*. 100 (1) 1-40. In a paper from a few years later, Card and Krueger present a more tentative position on whether schooling resources are clearly linked to earnings and attainment, a more specific question. They note:

“Does the literature on school resources, earnings and educational attainment prove beyond a reasonable doubt that resources matter? We do not believe that the evidence justifies so strong a conclusion. The available evidence is not unambiguous or ubiquitous, and it suffers from all the standard criticisms of drawing causal inferences from observational data.”

See: Card, D., Krueger, A. (1996) School Resources and Student Outcomes: An overview of the literature and new evidence from North and South Carolina. *Journal of Economic Perspectives* 10 (4) 31-50.

¹³ Betts, J. (1996) Is There a Link between School Inputs and Earnings? Fresh Scrutiny of an Old Literature," in Gary Burtless, ed., *Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success*. Washington, D.C.: Brookings Institution, 1996a, pp. 141-91.

¹⁴ A later article by Hanushek, reiterating and updating his earlier findings also shows up as widely cited in the Social Science Citation Index:

Hanushek, E.A. (1997) Assessing the Effects of School Resources on Student Performance: An update. *Educational Evaluation and Policy Analysis* 19 (2) 141-164

¹⁵ Hanushek, E.A. (1986) Economics of Schooling: Production and Efficiency in Public Schools. *Journal of Economic Literature* 24 (3) 1141-1177. A few years later, Hanushek paraphrased this conclusion in another widely cited article as “Variations in school expenditures are not systematically related to variations in student performance”

Hanushek, E.A. (1989) The impact of differential expenditures on school performance. *Educational Researcher*. 18 (4) 45-62

Hanushek describes the collection of studies relating spending and outcomes as follows:

“The studies are almost evenly divided between studies of individual student performance and aggregate performance in schools or districts. Ninety-six of the 147 studies measure output by score on some standardized test. Approximately 40 percent are based upon variations in performance within single districts while the remainder look across districts. Three-fifths look at secondary performance (grades 7-12) with the rest concentrating on elementary student performance.” (fn #25)

¹⁶ Greenwald and colleagues explain:

“studies in the universe Hanushek (1989) constructed were assessed for quality. Of the 38 studies, 9 were discarded due to weaknesses identified in the decision rules for inclusion described below. While the

remaining 29 studies were retained, many equations and coefficients failed to satisfy the decision rules we employed. Thus, while more than three quarters of the studies were retained, the number of coefficients from Hanushek's universe was reduced by two thirds." (p. 363)

Greenwald and colleagues further explain that:

"Hanushek's synthesis method, vote counting, consists of categorizing, by significance and direction, the relationships between school resource inputs and student outcomes (including but not limited to achievement). Unfortunately, vote-counting is known to be a rather insensitive procedure for summarizing results. It is now rarely used in areas of empirical research where sophisticated synthesis of research is expected." (p. 362)

Hanushek (1997) provides his rebuttal to some of these arguments, and Hanushek returns to his "uncertainty position:

"The close to 400 studies of student achievement demonstrate that there is not a strong or consistent relationship between student performance and school resources, at least after variations in family inputs are taken into account." (p. 141)

Hanushek, E.A. (1997) Assessing the Effects of School Resources on Student Performance: An update. *Educational Evaluation and Policy Analysis* 19 (2) 141-164

See also:

Hanushek, Eric A. "Money Might Matter Somewhere: A Response to Hedges, Laine and Greenwald." *Educational Researcher*, May 1994, 23, pp. 5-8.

¹⁷ Greenwald, R., Hedges, L., Laine, R. (1996) The Effect of School Resources on Student Achievement. *Review of Educational Research* 66 (3) 361-396

¹⁸ Wenglinsky, H. (1997) How Money Matters: The effect of school district spending on academic achievement. *Sociology of Education* 70 (3) 221-237

¹⁹ Taylor, C. (1998) Does Money Matter? An Empirical Study Introducing Resource Costs and Student Needs into Educational Production Function Analysis. In U.S. Department of Education. National Center for Education Statistics. *Developments in School Finance, 1997*.

²⁰ Baker, B.D. (2001) Can flexible non-linear modeling tell us anything new about educational productivity? *Economics of Education Review* 20 (1) 81-92.

Figlio, D. N. (1999). Functional form and the estimated effects of school resources. *Economics of Education Review*, 18 (2), 242-252.

Dewey, J., Husted, T., Kenny, L. (2000) The ineffectiveness of school inputs: a product of misspecification. *Economics of Education Review* 19 (1) 27-45

²¹ Specifically, Dewey and colleagues explain that many previous studies attempting to distill school resource effects on student outcomes concurrently correct for economic background of students. But that the economic background measures such as family income are also strong determinants of the demand for schooling resources. Thus, including the two simultaneously in regression models violates both conceptual appropriateness (resource levels are endogenous to family characteristics) and also violates statistical properties associated with those conceptual problems (that the error term is correlated with the school input measures,

requiring a different statistical approach). Dewey and colleagues review the previous studies summarized by Hanushek, identifying that several suffer from this problem and that those which do tend to understate the influence of resources. Then Dewey and colleagues estimate alternative production functions:

We conducted our own empirical analysis using the Project TALENT student-level data set from 1960 and pooled state data for 1987–1992. In regressions from both data sets that were not plagued by misspecification, there is evidence that each school input had an impact on achievement. (p. 42)

Figlio’s study of alternative specifications of the “shape” of the relationship between money and outcomes raises similar issues about previous literature including studies summarized by Hanushek, as does Corrine Taylor’s analysis which applies adjustments for the costs of hiring teachers.

Indeed, many of the same studies considered rigorous enough for inclusion in Greenwald and colleagues analyses also suffer from the problems addressed by Husted and Kenny, and by Taylor (geographic cost adjustment) and Figlio. But, note that in each case, Dewey and colleagues, Taylor and Figlio find that when applying functional form and labor cost corrections, they tend to find stronger effects of schooling resources – specifically money. So, one might then argue that Greenwald and colleagues decisively positive findings are in fact, understated.

In conducting this review, I went back to a handful of the original studies summarized by Hanushek (1986) and listed in the sources note to Table 8 of that article. Several were not easily accessible, having been non-peer reviewed reports and doctoral theses. But among those available, consistent with the findings of Husted and Kenny, none attempted to account for the endogeneity of expenditures, often either evaluating simple correlations between spending and outcome measures (thus suffering significant omitted variables bias) or including a spending measure alongside determinants of spending. Arguably teacher characteristics including teacher salaries are also endogenous to local demand factors.

Original Hanushek studies reviewed:

Boardman, A., Davis, O., Sanday, P. (1977) A simultaneous equations model of the educational process. *Journal of Public Economics* 7 (1) 23-49

This study does not explore expenditures directly, but does include measures of schooling facilities and teacher characteristics, but not salary. Thus regional cost variation is less (or not) for the value of teacher salaries or education spending is less at issue. The authors of this study find that “many educational outputs jointly determine one another. Also, the results suggest that school and teacher variables have important effects on educational outcomes.” (p. 23)

Johnson, G.E., Stafford, F.P. (1973) Social Returns to Quantity and Quality of Schooling. *The Journal of Human Resources* 8(2) 139-155

In this study, the authors find “high but diminishing marginal returns to investment in expenditures per pupil per year.” P. 139 This is among the studies that arguably understates the sensitivity of expenditures to outcomes by inclusion of the spending measure (natural log of expenditures) in the model with determinants of expenditure (family socio-economic status). In addition, the model uses a national sample, but fails to control for regional variation in the value of expenditures.

Link, C.R., Ratledge, E.C. (1975) Social Returns to Quantity and Quality of Education: A Further Statement. *The Journal of Human Resources*, 10 (1) 78-89

Link and Ratledge find “Large but diminishing returns to incremental expenditures are observed.” (p. 78) Link and Ratledge also use national survey data (National Longitudinal Study of the Labor Force). For the expenditure measure, like the above study, they use a measure of the 1968 district level per-pupil expenditures (natural logarithm) and also do not correct for regional variation, though some of the urbanicity variables included may capture a portion of this variation (unintentionally). The endogeneity problems are less clear in this study, because in place of controlling for direct demand determinants (family income, education) the authors control for individual IQ. However, IQ is arguably simultaneously determined with education spending, both IQ and school spending being a function of parental economic status and education level. Sensitive to this point, the authors explore direct and indirect effects of IQ, years of education (ED) and expenditures.

Raymond, R. (1968) Determinants of the Quality of Primary and Secondary Public Education in West Virginia. *The Journal of Human Resources*, 3 (4) 450-470

Raymond studied 5,000 students in West Virginia. Raymond did not explore per-pupil expenditures, but did explore several teacher salary measures, but does not correct for regional variation in the value of those salaries across West Virginia. Raymond finds salaries to be associated with output measures of quality.

Ribich, T.I., Murphy, J.L. (1975) The Economic Returns to Increased Educational Spending. *The Journal of Human Resources*, 10 (1) 56-77

Ribich and Murphy used data from the national Project Talent survey. Ribich and Murphy found “School expenditures are found to influence how many years of schooling an individual eventually receives, and the chief effect of spending differences on lifetime income is found to work through this school continuation link.” (p. 56) Ribich and Murphy partly (though far from completely) correct for regional differences in the value of expenditures by including region variables. But, regression estimates likely suffer endogeneity addressed by Dewey, Husted and Kenny (including both family socioeconomic measures and expenditures alongside one another). Interestingly, the authors instead attribute the insensitivity of their outcome measures to spending (when directly estimated including all regions) to regional differences, specifically racial differences within southern states.

Welch, F. (1966) Measurement of the Quality of Schooling. *The American Economic Review*, 56 (1/2). 379-392

This study explored the return to elementary and secondary schooling of the male rural farm population in 1959, focusing on those who had not attended college in an effort to isolate differences in elementary and secondary schooling quality. This study is problematic on a number of levels when viewed in hind-sight. First, the ultimate analysis of factors associated with the quality of schooling is aggregated to the state level (and noted by the author as a significant limitation). Second, expenditure measures are included in models with a) potential determinants of expenditures (racial composition, labor composition, enrollment per secondary school) and b) schooling resources dependent on expenditures (salaries, staff per 100 pupils) (see regression output in Table 4, p. 390). Further, expenditures are not adjusted for regional differences in value, nor are salaries.

²² In tangentially related work, Hanushek, Rivkin and Taylor (1996) explore the influence of aggregation bias and omitted variables on estimates of the relationship between teacher characteristics and student outcomes, using data from the High School and Beyond survey. They find that at higher levels of aggregation, studies tend to

overstate the strength of the relationship between resources and student outcomes, but raise the most significant concerns about studies using data aggregated to the state level with crude aggregate state level measures of student and population characteristics, far beyond the aggregation of most recent studies.

Hanushek, E.A., Rivkin, S., Taylor, L.L. (1996) Aggregation Bias and the Estimated Effects of School Resources. *Review of Economics and Statistics*. 78 (4) 611-27

Along these lines, there does exist a separate body of literature which endeavors to prove that education spending is not associated with student outcomes by making national aggregate comparisons of spending and outcomes. That is, by showing that on average, countries that spend more per pupil don't perform better on international assessments. See, for example:

Walberg, H.J. (1998) Spending More While Learning Less. *Fordham Report*. Vol. 2 Num. 6. Thomas B. Fordham Institute.

These studies suffer sufficiently from aggregation issues to be of little importance to the discussion herein. While aggregation might lead to overstating the money-outcome relationship in some studies, these studies also suffer from numerous substantial measurement problems regarding both input and outcome measures. For example, education spending data are simply not directly comparable across nations partly because they include vastly different programs and services (athletics, arts, special education) as well as other specific expenses such as health insurance costs for U.S. school employees which may be covered via other government programs in other nations.

²³ Hanushek (1986) explains:

“Thus the basic determinants of instructional expenditures in a district are teacher experience, teacher education and class size, and most studies, regardless of what other descriptors of schools might be included, will analyze the effect of these factors on outcomes.” (p. 1160)

²⁴ Hanushek, E.A. (1971) Teacher Characteristics and Gains in Student Achievement: Estimation Using MicroData. *Econometrica* 61 (2) 280-288

Clotfelter, C.T., Ladd, H.F., Vigdor, J.L. (2007) Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review* 26 (2007) 673–682

Goldhaber, D., Brewer, D. (1997) Why Don't Schools and Teachers Seem to Matter? Assessing the Impact of Unobservables on Educational Productivity. *The Journal of Human Resources*, 332 (3) 505-523

Ehrenberg, R. G., & Brewer, D. J. (1994). Do school and teacher characteristics matter? Evidence from High School and Beyond. *Economics of Education Review*, 13(1), 1-17.

Ehrenberg, R. G., & Brewer, D. J. (1995). Did teachers' verbal ability and race matter in the 1960s? *Economics of Education Review*, 14(1), 1-21.

Jepsen, C. (2005). Teacher characteristics and student achievement: Evidence from teacher surveys. *Journal of Urban Economics*, 57(2), 302-319.

Jacob, B. A., & Lefgren, L. (2004). The impact of teacher training on student achievement: Quasi-experimental evidence from school reform. *Journal of Human Resources*, 39(1),50-79.

Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 471.

Wayne, A. J., & Youngs, P. (2003). Teacher characteristics and student achievement gains. *Review of Educational Research*, 73(1), 89-122.

For a recent review of studies on the returns to teacher experience, see:

Rice, J.K. (2010) *The Impact of Teacher Experience: Examining the Evidence and Policy Implications*. National Center for Analysis of Longitudinal Data in Educational Research.

- ²⁵ Some go so far as to argue that half or more of teacher pay is allocated to “non-productive” teacher attributes, and so it follows that that entire amount of funding could be reallocated toward making schools more productive.

See, for example, a recent presentation to the NY State Board of Regents from September 13, 2011 (page 32), slides by Stephen Frank of Education Resource Strategies:

<http://www.p12.nysed.gov/mgtserv/docs/SchoolFinanceForHighAchievement.pdf>

- ²⁶ Lankford, H., Loeb, S., Wyckoff, J. (2002) Teacher Sorting and the Plight of Urban Schools. *Educational Evaluation and Policy Analysis* 24 (1) 37-62
- ²⁷ Allegretto, S.A., Corcoran, S.P., Mishel, L.R. (2008) *The teaching penalty : teacher pay losing ground*. Washington, D.C. : Economic Policy Institute, ©2008.
- ²⁸ Richard J. Murnane and Randall Olsen (1989) The effects of salaries and opportunity costs on length of state in teaching. Evidence from Michigan. *Review of Economics and Statistics* 71 (2) 347-352
- ²⁹ David N. Figlio (2002) Can Public Schools Buy Better-Qualified Teachers? *Industrial and Labor Relations Review* 55, 686-699. David N. Figlio (1997) Teacher Salaries and Teacher Quality. *Economics Letters* 55 267-271. Ronald Ferguson (1991) Paying for Public Education: New Evidence on How and Why Money Matters. *Harvard Journal on Legislation*. 28 (2) 465-498.
- ³⁰ Loeb, S., Page, M. (2000) Examining the Link Between Teacher Wages and Student Outcomes: The Importance of Alternative Labor Market Opportunities and Non-Pecuniary Variation. *Review of Economics and Statistics* 82 (3) 393-408
- ³¹ Figlio, D.N., Rueben, K. (2001) Tax Limits and the Qualifications of New Teachers. *Journal of Public Economics*. April, 49-71

See also:

Downes, T. A. Figlio, D. N. (1999) Do Tax and Expenditure Limits Provide a Free Lunch? Evidence on the Link Between Limits and Public Sector Service Quality *52* (1) 113-128

- ³² Ondrich, J., Pas, E., Yinger, J. (2008) The Determinants of Teacher Attrition in Upstate New York. *Public Finance Review* 36 (1) 112-144
- ³³ Hanushek, Kain, Rivkin, “Why Public Schools Lose Teachers,” *Journal of Human Resources* 39 (2) p. 350
- ³⁴ Clotfelter, C., Ladd, H.F., Vigdor, J. (2011) Teacher Mobility, School Segregation and Pay Based Policies to Level the Playing Field. *Education Finance and Policy* , Vol.6, No.3, Pages 399–438
- Clotfelter, Charles T., Elizabeth Glennie, Helen F. Ladd, and Jacob L. Vigdor. 2008. Would higher salaries keep teachers in high-poverty schools? Evidence from a policy intervention in North Carolina. *Journal of Public Economics* 92: 1352–70.
- ³⁵ For recent studies specifically on the topic of “merit pay,” each of which generally finds no positive effects of merit pay on student outcomes, see:

Glazerman, S., Seifullah, A. (2010) *An Evaluation of the Teacher Advancement Program in Chicago: Year Two Impact Report*. Mathematica Policy Research Institute. 6319-520

Springer, M.G., Ballou, D., Hamilton, L., Le, V., Lockwood, J.R., McCaffrey, D., Pepper, M., and Stecher, B. (2010). *Teacher Pay for Performance: Experimental Evidence from the Project on Incentives in Teaching*. Nashville, TN: National Center on Performance Incentives at Vanderbilt University.

Marsh, J. A., Springer, M. G., McCaffrey, D. F., Yuan, K., Epstein, S., Koppich, J., Kalra, N., DiMartino, C., & Peng, A. (2011). *A Big Apple for Educators: New York City's Experiment with Schoolwide Performance Bonuses. Final Evaluation Report*. RAND Corporation & Vanderbilt University.

³⁶ http://www.americanprogress.org/issues/2011/04/pdf/class_size.pdf

³⁷ See, for example:

Brewer, D.J., Kropp, C.K, Gill, B.P., Reichardt, R. (1999) Estimating the Cost of National Class Size Reductions Under Different Policy Alternatives. *Educational Evaluation and Policy Analysis*. 21 (2) 171-192

While this article provides insights into the cumulative costs of adding large numbers of teachers, it makes no comparisons to other strategies that might be employed for the same dollar. The article acknowledges the research on positive effects of class size and then estimates large scale implementation costs seemingly implying either that achieving these positive effects is simply too expensive or that there might be more cost effective uses of the same dollar.

³⁸ See <http://www2.ed.gov/rschstat/research/pubs/rigoroussevid/rigoroussevid.pdf>;

Jeremy D. Finn and Charles M. Achilles, "Tennessee's Class Size Study: Findings, Implications, Misconceptions," *Educational Evaluation and Policy Analysis*, 21, no. 2 (Summer 2009): 97-109;

Jeremy Finn et. al, "The Enduring Effects of Small Classes," *Teachers College Record*, 103, no. 2, (April 2001): 145–183; <http://www.tcrecord.org/pdf/10725.pdf>;

Alan Krueger, "Would Smaller Class Sizes Help Close the Black-White Achievement Gap." Working Paper #451 (Princeton, NJ: Industrial Relations Section, Department of Economics, Princeton University, 2001) http://www.irs.princeton.edu/pubs/working_papers.html;

Henry M. Levin, "The Public Returns to Public Educational Investments in African American Males," Dijon Conference, University of Bourgogne, France. May 2006. <http://www.u-bourgogne.fr/colloque-iredu/posterscom/communications/LEVIN.pdf>;

Spyros Konstantopoulos and Vicki Chun, "What Are the Long-Term Effects of Small Classes on the Achievement Gap? Evidence from the Lasting Benefits Study," *American Journal of Education* 116, no. 1 (November 2009): 125-154.

³⁹ Krueger, A. (1999) Experimental Estimates of Education Production Functions. *The Quarterly Journal of Economics* 114 (2) 497-532

⁴⁰ Spyros Konstantopoulos Spyros and Vicki Chun, "What Are the Long-Term Effects of Small Classes on the Achievement Gap? Evidence from the Lasting Benefits Study," *American Journal of Education* 116, no. 1 (November 2009): 125-154.

⁴¹ Another relevant study showing positive effects of pupil to teacher ratio reduction (different from class size) is the Wisconsin SAGE study. See:

Molnar, A., Smith, P., Zahorik, J., Palmer, A., Halbach, A., Ehrle, K. (1999) Evaluating the SAGE Program: A Pilot Program in Targeted Pupil-Teacher Reduction in Wisconsin. *Educational Evaluation and Policy Analysis* 21 (2) 165-177

Unlike STAR which was a true randomized experiment in Tennessee, SAGE in Wisconsin was designed as “a 5-year K–3 pilot project that began in the 1996–97 school year. The program required that participating schools implement 4 interventions including reducing the pupil-teacher ratio within classrooms to 15 students per teacher.” (p. 165) Molnar and colleagues found “. Results of the 1996-97 and 1997-98 first grade data reveal findings consistent with the Tennessee STAR class size experiment.” (p. 165)

For an example of a study based on natural variation, finding no positive effects of smaller class size:

Hoxby, C.M. (2000) The Effects of Class Size on Student Achievement: New Evidence from Population Variation. *Quarterly Journal of Economics*. 115 (4) 1239-1285

Hoxby uses grade level, not student level, data on 649 elementary schools in Connecticut, concluding “class size does not have a statistically significant effect on student achievement” (p. 1239)

⁴² Including recent work linking participation in smaller class sizes with post-secondary degree attainment:

Dynarski, S., Hyman, J.M., Whitmore Schazzenbach, D. (2011) Experimental Evidence on the Effect of Childhood Investments on Postsecondary Attainment and Degree Completion. Cambridge, MA. NBER Working Paper 17533. <http://www.nber.org/papers/w17533>

⁴³ For other relatively recent studies on Class Size Reduction, see:

Chetty, R., Friedman, J.N., Hilger, N., Saez, E., Schazzenbach, D.W., Yagan, D. (2010) How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project STAR. Cambridge, MA: NBER Working Paper 16381 <http://www.nber.org/papers/w16381>

Blatchford, Peter; Bassett, Paul; Brown, Penelope (2005) Teachers' and Pupils' Behavior in Large and Small Classes: A Systematic Observation Study of Pupils Aged 10 and 11 Years. *Journal of Educational Psychology*, Vol 97(3), Aug 2005, 454-467. doi: [10.1037/0022-0663.97.3.454](https://doi.org/10.1037/0022-0663.97.3.454)

Babcock, P., Betts, J. (2009) Reduced Class Size Distinctions: Effort, Ability and the Education Production Function. Cambridge, MA: NBER Working Paper #14777 <http://www.nber.org/papers/w14777>

Lubienski, S.T., Lubienski, C., Crawford-Crane, C. (2008) Achievement Differences and School Type: The Role of School Climate, Teacher Certification, and Instruction. *American Journal of Education* 115. 97-138

⁴⁴ Jepsen, C., Rivkin, S. (2002) What is the Tradeoff Between Smaller Classes and Teacher Quality? NBER Working Paper # 9205, Cambridge, MA. <http://www.nber.org/papers/w9205>

“The results show that, all else equal, smaller classes raise third-grade mathematics and reading achievement, particularly for lower-income students. However, the expansion of the teaching force required to staff the additional classrooms appears to have led to a deterioration in average teacher quality in schools serving a predominantly black student body. This deterioration partially or, in some cases, fully offset the benefits of smaller classes, demonstrating the importance of considering all implications of any policy change.” p. 1

For further discussion of the complexities of evaluating class size reduction in a dynamic policy context, see:

David Sims, “A Strategic Response to Class Size Reduction: Combination Classes and Student Achievement in California,” *Journal of Policy Analysis and Management*, 27(3) (2008): 457–478

David Sims, “Crowding Peter to Educate Paul: Lessons from a Class Size Reduction Externality,” *Economics of Education Review*, 28 (2009): 465–473.

Matthew M. Chingos, “The Impact of a Universal Class-Size Reduction Policy: Evidence from Florida’s Statewide Mandate,” Program on Education Policy and Governance Working Paper 10-03 (2010).

⁴⁵ Ehrenberg, R.G., Brewer, D., Gamoran, A., Willms, J.D. (2001) Class Size and Student Achievement. *Psychological Science in the Public Interest* 2 (1) 1-30

⁴⁶ See Baker, B.D., Farrie, D., Sciarra, D., Coley, R., (2010) Is School Funding Fair. www.schoolfundingfairness.org

⁴⁷ Two reports from Cato are illustrative:

Ciotti, P. (1998). *Money and School Performance: Lessons from the Kansas City Desegregations Experience*. Cato Policy Analysis #298.

Coate, D. & VanDerHoff, J. (1999). Public School Spending and Student Achievement: The Case of New Jersey. *Cato Journal*, 19(1), 85-99.

Edspresso (2006, October 31). *New Jersey learns Kansas City's lessons the hard way*. Retrieved October 23, 2009, from <http://www.edspresso.com/index.php/2006/10/new-jersey-learns-kansas-citys-lessons-the-hard-way-2/>

⁴⁸ Hanushek, E. A., and Lindseth, A. (2009). *Schoolhouses, Courthouses and Statehouses*. Princeton, N.J.: Princeton University Press., See also: http://edpro.stanford.edu/Hanushek/admin/pages/files/uploads/06_EduO_Hanushek_g.pdf

⁴⁹ Kevin Welner and I explain that Hanushek and Lindseth failed to even measure whether substantive changes had occurred to the level or distribution of school funding as well as when and for how long. We point out that in New Jersey, for example, infusion of funding occurred from 1998 to 2003 (or 2005), thus Hanushek and Lindseth's window includes 6 years on the front end where little change occurred (When?). Kentucky reforms had largely faded by the mid to late 1990s, yet Hanushek and Lindseth measure post reform effects in 2007 (When?). Further, in New Jersey, funding was infused into approximately 30 specific districts, but Hanushek and Lindseth explore overall changes to outcomes among low-income children and minorities using NAEP data, where some of these children attend the districts receiving additional support but many did not (Who?). In short the slipshod comparisons made by Hanushek and Lindseth provide no reasonable basis for asserting either the success or failures of state school finance reforms.

We also discuss other studies which involve similar flaws of reasoning. For example, Greene and Trivitt present a study in which they claim to show that court ordered school finance reforms led to no substantive improvements in student outcomes. However, the authors test only whether the presence of a court order is associated with changes in outcomes, and never once measure whether substantive school finance reforms followed the court order. See:

Greene, J. P. & Trivitt, (2008). Can Judges Improve Academic Achievement? *Peabody Journal of Education*, 83(2), 224-237.

In equally problematic analysis, Florence Neymotin set out to show that massive court ordered infusions of funding in Kansas following *Montoy v. Kansas* led to no substantive improvements in student outcomes. However, Kevin Welner and I explain that Neymotin evaluated changes in school funding from 1997 to 2006, but the first additional funding infused following the January 2005 supreme court decision occurred in the 2005-06 school year, the end point of Neymotin's outcome data.

Neymotin, F. (2010) The Relationship between School Funding and Student Achievement in Kansas Public Schools. *Journal of Education Finance* 36 (1) 88-108

⁵⁰ In an earlier, edited volume, Hanushek goes so far as to title the book "How School Finance Lawsuits Exploit Judges' Good Intentions and **Harm Our Children.**" (emphasis added) The premise that additional funding for schools often leveraged toward class size reduction, additional course offerings or increased teacher salaries, causes harm to children is, on its face, absurd. And the book which implies as much in its title never once validates that such reforms ever do cause harm. Rather, the title is little more than a manipulative attempt to

convince the non-critical spectator who never gets past the book's cover to fear that school finance reforms might somehow harm children. That is, adding an element of fear to the cloud of doubt.

See, for example: E.A. Hanushek (2006) *Courting Failure: How School Finance Lawsuits Exploit Judges' Good Intentions and Harm Our Children*. Hoover Institution Press.

A review of the book is available here: <http://www.tcrecord.org/Content.asp?ContentId=13382>

This book also includes two examples of a type of analysis that occurred with some frequency in the mid-2000s which also had the intent of showing that school funding doesn't matter. These studies would cherry pick anecdotal information on either or both a) poorly funded schools that have high outcomes or b) well funded schools that have low outcomes. The implication would be that if such schools exist, money must not matter. See:

Evers, W. M., and Clopton, P. (2006). "High-Spending, Low-Performing School Districts," in *Courting Failure: How School Finance Lawsuits Exploit Judges' Good Intentions and Harm our Children* (Eric A. Hanushek, ed.) (pp. 103-194). Palo Alto, CA: Hoover Press.

Walberg, H. (2006) High Poverty, High Performance Schools, Districts and States. in *Courting Failure: How School Finance Lawsuits Exploit Judges' Good Intentions and Harm our Children* (Eric A. Hanushek, ed.) (pp. 79-102). Palo Alto, CA: Hoover Press.

⁵¹ For additional discussion of the strengths and weakness of this particular study see Baker & Welner (2011).

⁵² Card, D., and Payne, A. A. (2002). School Finance Reform, the Distribution of School Spending, and the Distribution of Student Test Scores. *Journal of Public Economics*, 83(1), 49-82.

See Baker and Welner (2011) for a more thorough discussion of the Card and Payne analysis, its strengths and weaknesses.

⁵³ Figlio, D.N. (2004) Funding and Accountability: Some Conceptual and Technical Issues in State Aid Reform. In Yinger, J. (ed) p. 87-111 *Helping Children Left Behind: State Aid and the Pursuit of Educational Equity*. MIT Press.

This synopsis of Figlio's main points actually comes from an earlier chapter in the same volume, by volume editor John Yinger:

Yinger, J. (2004) State Aid and the Pursuit of Educational Equity: An Overview. In J. Yinger (ed) p. 3-58 *Helping Children Left Behind: State Aid and the Pursuit of Educational Equity*. MIT Press. (p. 39)

⁵⁴ Roy, J. (2003). Impact of School Finance Reform on Resource Equalization and Academic Performance: Evidence from Michigan. Princeton University, Education Research Section Working Paper No. 8. Retrieved October 23, 2009 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=630121 (Forthcoming in *Education Finance and Policy*.)

⁵⁵ Papke, L. (2005). The effects of spending on test pass rates: evidence from Michigan. *Journal of Public Economics*, 89(5-6). 821-839.

In a separate study, Leuven and colleagues attempted to isolate specific effects of increases to at-risk funding on at risk pupil outcomes, but did not find any positive effects.

Leuven, E., Lindahl, M., Oosterbeek, H., and Webbink, D. (2007). The Effect of Extra Funding for Disadvantaged Pupils on Achievement. *The Review of Economics and Statistics*, 89(4), 721-736.

⁵⁶ Deke, J. (2003). A study of the impact of public school spending on postsecondary educational attainment using statewide school district refinancing in Kansas, *Economics of Education Review*, 22(3), 275-284.

⁵⁷ Downes, T. A., Zabel, J., and Ansel, D. (2009). *Incomplete Grade: Massachusetts Education Reform at 15*. Boston, MA: MassINC.

⁵⁸ Guryan, J. (2001). *Does Money Matter? Estimates from Education Finance Reform in Massachusetts*. Working Paper No. 8269. Cambridge, MA: National Bureau of Economic Research.

While this paper remains an unpublished working paper, the advantage of Guryan's analysis is that he models the expected changes in funding at the local level as a function of changes to the school finance formula itself, through what is called an instrumental variables or two stage least squares approach. Then, Guryan evaluates the extent to which these policy induced variations in local funding are associated with changes in student outcomes. Across several model specifications, Guryan finds increased outcomes for students at Grade 4 but not grade 8.

A counter study by the Beacon Hill Institute suggest that reduced class size and/or increased instructional spending either has no effect on or actually worsens student outcomes.

Jaggia, S., Vachharajani, V. (2004) *Money for Nothing: The Failures of Education Reform in Massachusetts*
http://www.beaconhill.org/BHISTudies/EdStudy5_2004/BHIEdStudy52004.pdf

⁵⁹ Downes, T. A. (2004). *School Finance Reform and School Quality: Lessons from Vermont*. In Yinger, J. (ed), *Helping Children Left Behind: State Aid and the Pursuit of Educational Equity*. Cambridge, MA: MIT Press.

⁶⁰ Two studies of school finance reforms in New Jersey also merit some attention in part because they directly refute findings of Hanushek and Lindseth and of the earlier Cato study and do so with more rigorous and detailed methods. The first, by Alex Resch of the University of Michigan (doctoral dissertation in economics), explored in detail the resource allocation changes during the scaling up period of school finance reform in New Jersey. Resch found evidence suggesting that New Jersey *Abbott* districts "directed the added resources largely to instructional personnel" (p. 1) such as additional teachers and support staff. She also concluded that this increase in funding and spending improved the achievement of students in the affected school districts. Looking at the statewide 11th grade assessment ("the only test that spans the policy change"), she found: "that the policy improves test scores for minority students in the affected districts by one-fifth to one-quarter of a standard deviation" (p. 1). Goertz and Weiss (2009) also evaluated the effects of New Jersey school finance reforms, but did not attempt a specific empirical test of the relationship between funding level and distributional changes and outcome changes. Thus, their findings are primarily descriptive. Goertz and Weiss explain that on state assessments achievement gaps closed substantially between 1999 and 2007, the period over which Abbott funding was most significantly scaled up.

Resch, A. M. (2008). *Three Essays on Resources in Education* (dissertation). Ann Arbor: University of Michigan, Department of Economics. Retrieved October 28, 2009, from http://deepblue.lib.umich.edu/bitstream/2027.42/61592/1/aresch_1.pdf

Goertz, M., and Weiss, M. (2009). *Assessing Success in School Finance Litigation: The Case of New Jersey*. New York City: The Campaign for Educational Equity, Teachers College, Columbia University.

The authors explain: "State Assessments: In 1999 the gap between the Abbott districts and all other districts in the state was over 30 points. By 2007 the gap was down to 19 points, a reduction of 11 points or 0.39 standard deviation units. The gap between the Abbott districts and the high-wealth districts fell from 35 to 22 points. Meanwhile performance in the low-, middle-, and high-wealth districts essentially remained parallel during this eight-year period" (Figure 3, p. 23).

⁶¹ Neymotin, F. (2010) *The Relationship between School Funding and Student Achievement in Kansas Public Schools*
Journal of Education Finance – 36 (1) 88-108

Greene, J.P., Trivitt, J. R. (2008) Can Judges Improve Academic Achievement? Peabody Journal of Education.
83 (2) 224-237

See our critique of these studies in:

Baker, B.D., Welner, K.G. (2011) Do School Finance Reforms Matter and How Can We Tell? Teachers
College Record. Nov. 2011.

⁶² Hanushek, E.A. (1986) Economics of Schooling: Production and Efficiency in Public Schools. Journal of
Economic Literature 24 (3) 1141-1177. A few years later, Hanushek paraphrased this conclusion in another
widely cited article as “Variations in school expenditures are not systematically related to variations in student
performance”

Hanushek, E.A. (1989) The impact of differential expenditures on school performance. Educational Researcher.
18 (4) 45-62

⁶³ Kevin Welner and I discuss at length Hanushek and Lindseth’s strange heavy reliance on these two Cato reports
from the late 1990s on Kansas City and New Jersey, as if these reports are the seminal works of the field. Yet,
amazingly, Hanushek and Lindseth ignore outright most of the major peer reviewed articles on school finance
reform by credible researchers using credible methods, addressed herein and addressed in my article with Kevin
Welner.

Baker, B.D., Welner, K.G. (2011) Do School Finance Reforms Matter and How Can We Tell? Teachers
College Record. Nov. 2011.

For example, in a Hoover Institution commentary regarding school funding litigation in New York State,
Hanushek (2002) noted:

One need only look at the results in Kansas City. A school desegregation ruling in the 1980s began a period of
more than a decade when the schools had access to virtually unlimited state funds. The dreams of school
personnel did not translate into any measurable gains in student performance, even as their schools moved
to the very top of national spending.

PDF of this Op-Ed available on Eric Hanushek’s website, at:
http://edpro.stanford.edu/hanushek/admin/pages/files/uploads/hanushek_0302.pdf .

Baker and Green explain the various mythologies embedded in this particular statement. See:

Green, P.C., Baker, B.D. (2006) Urban Legends, Desegregation and School Finance: Did Kansas City really
prove that money doesn’t matter? *Michigan Journal of Race and Law* 12 (1) 57-105

For more on the simple spending/NAEP graphs, see:

http://www.epi.org/publication/fact-challenged_policy/

<http://www.ets.org/Media/Research/pdf/PICBWGAP.pdf>

http://junkcharts.typepad.com/junk_charts/2011/04/bill-gates-should-hire-a-statistical-advisor.html

⁶⁴ Murnane, R. (1991) Interpreting the Evidence on Does Money Matter? Harvard Journal of Legislation. 28 p. 457-
464

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- ⁶⁵ Heather Rose and Julian R. Betts, "The Effect of High School Courses on Earnings," *Review of Economics and Statistics* 86, no. 2 (Month, 2004): 497–513, p. 510.
- Adam Gamoran and Eileen C Hannigan, "Algebra for Everyone? Benefits of College-Preparatory Mathematics for Students With Diverse Abilities in Early Secondary School," *Educational Evaluation and Policy Analysis* 22, no. 3 (Fall, 2000): 241-254.
- Mark C. Long, Patrice Iatarola, and Dylan Conger, "Explaining Gaps in Readiness for College-Level Math: The Role of High School Courses" *Education Finance and Policy* 4, no. 1 (Winter 2009): 1-33.
- Leslie Killgore, "Merit and Competition in Selective College Admissions," *The Review of Higher Education* 32, no. 4 (Summer 2009): 469–488, p. 471.
- ⁶⁶ Bruce D. Baker, "Cheerleading, Ceramics and the Non-Productive Use of Educational Resources in High Need Districts: Really?" Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, 2011 http://schoolfinance101.files.wordpress.com/2010/01/b-baker-mo_il-resourcealloc-ara2011.pdf
- ⁶⁷ Taylor, C. (1998) Does Money Matter? An Empirical Study Introducing Resource Costs and Student Needs into Educational Production Function Analysis. In U.S. Department of Education. National Center for Education Statistics. *Developments in School Finance, 1997*.
- NCES 98-212. Ed. Fowler, William J. Jr. Washington, D.C.: 1998.
<http://nces.ed.gov/pubs98/98212.pdf#page=83>
- ⁶⁸ Wenglinsky, H. (1997) How Money Matters: The effect of school district spending on academic achievement. *Sociology of Education* 70 (3) 221-237
- ⁶⁹ Borman, G., Hewes, G. (2002) The Long Term Effects and Cost-Effectiveness of Success for All. *Educational Evaluation and Policy Analysis*. 24 (4) 243-266
- ⁷⁰ Fryer, R. (2011) Creating No Excuses Traditional Public Schools: Preliminary Evidence from an Experiment in Houston. Cambridge, MA: NBER Working Paper # 17494 <http://www.nber.org/papers/w17494>
- ⁷¹ Hanushek, E.A. (1979) Empirical and Conceptual Issues in the Estimation of Educational Production Functions. *Journal of Human Resources* 14 (3) 351-388
- ⁷² Baker, B.D. (2001) Can flexible non-linear modeling tell us anything new about educational productivity? *Economics of Education Review* 20 (1) 81-92.
- Figlio, D. N. (1999). Functional form and the estimated effects of school resources. *Economics of Education Review*, 18 (2), 242–252.
- ⁷³ Baker, B.D. (2011) Exploring the Sensitivity of Education Costs to Racial Composition of Missouri School Districts. *Peabody Journal of Education* 86 (1) 58-83
- Duncombe, W., Yinger, J. (2005) How Much more Does a Disadvantaged Student Cost? *Economics of Education Review* 24 (5) 513-532
- Duncombe, W. and Yinger, J.M. (2000). Financing Higher Performance Standards: The Case of New York State. *Economics of Education Review*, 19 (3), 363-86.
- Duncombe, W., Lukemeyer, A., Yinger, J. (2008) The No Child Left Behind Act: Have Federal Funds Been Left Behind? *Public Finance Review* 36 (4) 381-407

Duncombe, W. and Yinger, J.M. (1999). Performance Standards and Education Cost Indexes: You Can't Have One Without the Other. In H.F. Ladd, R. Chalk, and J.S. Hansen (Eds.), *Equity and Adequacy in Education Finance: Issues and Perspectives* (pp.260-97). Washington, DC: National Academy Press.

Duncombe, W. and Yinger, J.M. (1998) "School Finance Reforms: Aid Formulas and Equity Objectives." *National Tax Journal* 51, (2): 239-63

Duncombe, W. and Yinger, J.M. (1997). Why Is It So Hard to Help Central City Schools? *Journal of Policy Analysis and Management*, 16, (1), 85-113.

Gronberg, T., Jansen, D., Taylor, L., Booker, K. (2004) *School Outcomes and Schools Costs: The Cost Function Approach*. (College Station, TX: Busch School of Government and Public Service, Texas A&M University). Retrieved March 1, 2006 from http://bush.tamu.edu/research/faculty_projects/txschoolfinance/papers/SchoolOutcomesAndSchoolCosts.pdf

Imazeki, J., Reschovsky, A. (2004) Is No Child Left Beyond an Un (or under)funded Federal Mandate? Evidence from Texas. *National Tax Journal* 57 (3) 571-588.

Downes, T., Pogue, T. (1994). *Adjusting School Aid Formulas for the Higher Cost of Educating Disadvantaged Students*. *National Tax Journal XLVII* , 89-110.

⁷⁴ These studies have some significant empirical advantages over production function studies in that they allow for corrections to be made for differences in the level of efficiency in producing outcomes across districts. This is possible in a cost function framework because the spending variable is the dependent variable rather than being one of the independent variables. When spending is the dependent variable, one can include in the model characteristics of school districts theoretically assumed to be related to greater inefficiency, such as less constrained fiscal capacity.

⁷⁵ See for example:

Borman, G.D., Hewes, G., Overman, L.T., Brown, S. (2003) Comprehensive School Reform and Achievement: A Meta-Analysis. *Review of Educational Research* 73 (2) 125-230

Borman, G., Hewes, G. (2002) The Long Term Effects and Cost-Effectiveness of Success for All. *Educational Evaluation and Policy Analysis*. 24 (4) 243-266



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Inequality on Trial: Does Money Make a Difference?

There is no evidence that the added resources [devoted to education in the United States over the 20th century] have improved student performance. . . .

—Eric Hanushek, expert for the defense in *Williams v. California*¹

[My ideal school] would be a classroom with enough tables, enough chairs, enough books, enough materials and a teacher who cares, not just someone who got a GED or whatever. . . . Like I said, enough supplies, enough security, and just enough everything. . . . Just because we're smaller, we are still human beings.

—A high school student, testifying for plaintiffs in *Williams v. California*



High-stakes testing reforms requiring students to achieve specific standards in order to progress or graduate from school have been introduced in many states while educational experiences for students of color continue to be substantially separate and unequal. The unintended negative effects of these reforms for the most vulnerable students in the least supported schools have been deeply problematic. At the same time, an important aspect of the standards movement is that it has provided a new basis for confronting educational inequalities.

A new spate of equity litigation has been stimulated by state efforts to set standards for all students without fully ensuring opportunities to learn. These lawsuits—which may be said to constitute the next generation of efforts begun by *Brown v. Board of Education*—argue that if states require all students to meet the same educational standards, they must assume a responsibility to provide adequate resources to allow students a reasonable opportunity to achieve those standards, including a curriculum that fully reflects the standards; teachers well qualified to teach the curriculum; and the materials, texts, supplies, and equipment needed to support this teaching.

The logic is straightforward. Yet, the path to educational opportunity through the courts is torturous, both because of differing interpretations regarding what courts should take on and because our nation's comfort level with inequality often makes the current situation seem tolerable—even appropriate—to both the public and its justices. Opponents of school finance reform have argued that states have no business meddling with the unequal funding that results from local property taxation because of traditions of local control of schools. Yet, states now prescribe even more of the processes and outcomes of education than they did when the Texas Supreme Court took on the myth of local control in its 1988 decision to require reform:

The only element of local control that remains undiminished is the power of wealthy districts to fund education at virtually any level they choose, as contrasted with property-poor districts who enjoy no such local control. . . . Most of the incidents in the education process are determined and controlled by state statute and/or State Board of Education rule, including such matters as curriculum, course content, textbooks, hours of instruction, pupil-teacher ratios, training of teachers, administrators and board members, teacher testing, and review of personnel decisions and policies.²

Although parent and community involvement in public schools remains an important way to focus resources and decisions on local needs, and to maintain accountability to parents and students, such participation does not depend on the local production of dollars for education. In many other countries that fund schools centrally and equally, local schools have extensive flexibility to design programs and interventions and decide how funds are used. Finland, Switzerland, Canada, Australia, and even highly centralized Singapore are all places where local communities and school-based educators are actively involved in deciding what goes on in their centrally funded schools. Indeed, one could argue that a level playing field of resources might be a precondition for genuine local control of educational decisions that matter.

Another recurring argument against school finance reform is that “money doesn’t make a difference.” Proponents of the status quo argue that low-cost attitudinal and administrative changes contribute more to educational quality within districts than financial resources, and that no definitive correlation has been shown between money spent and educational quality. Sometimes, they point to districts like Washington, D.C., which—with constant meddling from Congress—spends far more than the national average and produces very low achievement. It is certainly true that money can be spent unwisely, and dollars spent on patronage, bloated bureaucracies, football fields, and swimming pools are less likely to translate into learning than dollars spent on sound instruction. Furthermore, the higher costs of living in many urban areas and the greater educational and noneducational needs of students who live in poverty—

for meals, health care, before- and afterschool care, and more—mean that there is not a one-to-one correspondence between dollars and the resources they buy or the net benefits they can produce. More money is needed to achieve equivalent outcomes in high-cost locations with high-need students.³ While this complicates analyses of funding and resources, there is no logic under which it provides a justification for spending less on the education of children in poverty.

However, opponents of school finance equalization often look to the strong measured relationships between race, parent education, income, and outcomes, and argue that these are the major predictors of learning; hence, greater investments would be wasted on those who (implicitly) cannot take advantage of them. This has been a continuing refrain since 1966, when the Coleman report concluded that “schools bring little influence to bear on a child’s achievement that is independent of his background and general social context.”⁴ Although the report pointed to many inequalities that it argued should be remedied, the statement became widely viewed as a claim that school funding does not affect school achievement. As later analyses pointed out, the high correlation between students’ backgrounds and their schools’ resources makes it difficult to identify the independent effects of schooling on achievement because, in the United States, race, class, and educational opportunity are so fully entangled.⁵

Although the Coleman report did not say so, the conventional wisdom became the belief that additional resources play no role in producing better-educated students. Many studies have debunked this view and have documented how specific resources—including better qualified teachers, smaller class sizes, and smaller, redesigned schools (relying on resources such as advisors, planning time for teaching teams, and support systems for students) contribute to student achievement gains.⁶ Yet newspapers have often reveled in reporting the counterintuitive conclusion, as the *Wall Street Journal* put it, that “money doesn’t buy better education. . . . The evidence can scarcely be clearer.”⁷

These debates about whether resources make a difference for the schooling of low-income and minority students have been reprised in recent school finance cases. In *Williams v. California*, defendants argued that, despite large, documented differences in dollars, as well as in children’s access to qualified teachers, textbooks, course offerings, and facilities, such resources are largely unrelated to student achievement, and that the effects of poverty—not unequal resources—drive disparities in achievement. In a sweeping indictment of educational investments over the last half-century, defense expert Eric Hanushek claimed that “there is no evidence that the added resources [devoted to education in the United States over the 20th century] have improved student performance, at least for the most recent three decades,”⁸ ignoring studies finding effects of additional resources on improved student performance.

The body of research arguing that money makes no difference has been critiqued for its methodology and interpretations by other economists, statisticians, and the

courts.⁹ In his statement that investments have had no effect on student performance in the United States, Hanushek ignored the enormous expansion of schooling over the last half-century and more. For example, since the 1960s, the education system has added kindergarten and pre-kindergarten and expanded access to high school. As late as 1965, only 10% of 3- and 4-year-olds attended any kind of nursery school or pre-kindergarten, and three-fourths of 5- and 6-year-olds were in school. By 1998, 52% of 3- and 4-year-olds were in school, as were 96% of 5- and 6-year-olds.¹⁰ Even more dramatic, until the 1960s, many communities did not even have high schools for Black students, Mexican American students, or American Indian students, and when they did, these were often segregated and severely underfunded. Students with disabilities were not expected to attend school, and schools did not have to serve them. By 1970, only 57% of White adults and 36% of Black adults finished high school. By 1998, the proportions had leaped to 94% and 88%, respectively.¹¹

Even with the great expansion of high schools to include more low-income, minority, poor, new immigrant, and students with special education needs, average test scores continued to rise on measures such as the National Assessment of Educational Progress and on the SAT. Because of the large addition of previously excluded (and less advantaged) students to the pool of test-takers, these average scores underestimate the actual increase in knowledge acquired by high school-age students. Meanwhile, SAT scores rose steeply for students of color between 1970 and 1990, and the fact that they have continued to rise while more test-takers have been added is, arguably, a result of educational investments that dramatically extended educational opportunities in the country, boosting literacy rates and attainment all the way through college.

The evidence that increased investments have been accompanied by measurable gains does not mean that all investments have equivalent payoff. The efficiency argument has merit. Dollars can be wasted or used in counterproductive ways, and bad managerial decisions can create administrative burdens that deflect scarce resources and attention from productive teaching and learning either to less productive strategies or overmanagement of bureaucratic procedures—what Arthur Wise once called the “hyper-rationalization of education.”¹² Thus, an effective system must create both a means for determining and funding adequacy and incentives to increase the likelihood of funds being wisely spent. At a minimum, states should not force schools to waste scarce resources through ill-conceived requirements.

Smart policy will be based on investments that produce strong yields in terms of children’s well-being and learning. And while there will always be some uncertainties about the wisest marginal uses of dollars—and these may differ depending on the circumstances and the students—an important role of the state is to evaluate the outcomes of programs and strategies to inform the decisions of localities about where to invest most wisely. Given the enormous social costs of school failure,

however, it is clear that it is *not* efficient to leave large segments of the population undereducated and unable to contribute positively to the society as a whole.

THE LEGALITY OF UNEQUAL SCHOOL FUNDING

Despite the primary state role in education—expressed in state constitutional provisions that require the provision of public education that is “free and appropriate” or “thorough and efficient” or “sound and basic,” among other descriptors—courts have only gradually recognized a state obligation to fund education to any particular standard. Although concern about unequal school funding was expressed as early as the early 1900s, it was not until the mid-1960s that the legality of long-standing school finance inequities was subjected to judicial review.

The Progress of Litigation

In 1965, Arthur Wise published an article challenging the constitutionality of school finance schemes that produce radically disparate per pupil expenditures within states.¹³ Arguing that such unequal spending leads to unequal educational opportunities, he suggested that this might constitute a denial by the state of equal protection under the law. A number of lawsuits were filed on these grounds, and the first major success occurred in 1973, when the New Jersey Supreme Court declared, in *Robinson v. Cahill*, that the state’s school financing system was in violation of the New Jersey Constitution’s Education Clause, which called for a “thorough and efficient system of free public schools” for all children between the ages of 5 and 18. In that same year, however, the U.S. Supreme Court rejected an argument in a Texas case, *San Antonio Independent School District v. Rodriguez*,¹⁴ that education constitutes a fundamental right under the federal Constitution. This cut off further federal court challenges of educational funding inequities.

Although hopes for a sweeping indictment of school funding disparities on federal grounds were dashed by the *San Antonio* decision, state-level challenges continued in several dozen state courts during the 1970s. In 1976, in *Serrano v. Priest*, California’s Supreme Court ended nearly a decade of debate by ruling that the state’s system of school finance violated both the federal Constitution’s 14th Amendment and California’s own equal protection clause. Other victories were achieved in West Virginia and Connecticut. However, most of the challenges were unsuccessful. Civil rights lawyers Bill Taylor and Dianne Piche noted the differences in how state courts approached similar problems:

In each case, the state court was confronted with significant fiscal disparities, but the opinions reflect that they each engaged in their own unique legal reasoning.

applying different standards, and ultimately drawing different conclusions. The indisputable impact then of the “Federalist” approach, forged by the Supreme Court in *Rodriguez*, is that children in the poor districts of states like Connecticut and West Virginia are guaranteed some measure of equity, while those who live in the property-poor and urban districts of states like New York and Maryland are condemned to inferior educations.¹⁵

Ratios in funding disparities of 3 to 1 between high- and low-spending districts are common within states in which challenges have been both successful and unsuccessful. These disparities create differences among students’ educational opportunities as a function of race and socioeconomic status as well as geography. As Taylor and Piche demonstrate:

Inequitable systems of school finance inflict disproportionate harm on minority and economically disadvantaged students. On an *inter*-state basis, such students are concentrated in states, primarily in the South, that have the lowest capacities to finance public education. On an *intra*-state basis, many of the states with the widest disparities in educational expenditures are large industrial states. In these states, many minorities and economically disadvantaged students are located in property-poor urban districts which fare the worst in educational expenditures. In addition, in several states economically disadvantaged students, white and black, are concentrated in rural districts which suffer from fiscal inequity.¹⁶

Roadblocks to Equalizing Funding

In total, courts in 10 of the 31 states where suits were filed during the 1970s and early 1980s found their state’s school finance scheme to be unconstitutional.¹⁷ This series of state challenges was followed by a decade of little activity. One reason for this was the dismantling of federal and state data bases that had been used to document disparities. During the Reagan administration, some federal data collection and reporting that allowed analysis of inequalities was discontinued, and the federal funding that had supported data collection by state departments of education was also ended.

The federal conversation was turned to educational “outcomes,” which were to be monitored and managed without regard to inputs. “Mere inputs” were dismissed as irrelevant to the real question of educational attainment. One historical account of the argument, as it was advanced by Education Secretary William Bennett, notes:

Bennett . . . cited countless education evaluation studies to show that twenty years of “dumping money” on public schools had done little to boost academic results. . . . Bennett’s famous “wall charts” ranked states in order of per-pupil spending (as

well as test scores, poverty rates, teacher salaries, and dropout rates) to show that expenditures had little correlation with academic achievement. Bennett's critics, however, accused him of hiding behind a flurry of statistics that bore no connection to actual reforms in curriculum or instruction.¹⁸

Bennett pressed for greater use of tests to evaluate school performance, while seeking large cuts in the federal education budget. When criticized by both Republican and Democratic Congressmen for the size of his proposed cuts, he argued that "We are not underinvesting in education. We are inefficient."¹⁹ Although Congress would not approve the full extent of cuts requested, the federal education budget ultimately dropped from 9.6% to 6.2% during his years in office, having dropped from 12% to 9% in the preceding years of the Reagan administration. Most of these cuts came from poor urban and rural schools. With other federal budget cuts during the Reagan years, states had to pick up greater costs not only for education, but also for health care, welfare, employment training, housing supports, and other functions. Consequently, they focused on managing their increasingly rocky economies, and raising or equalizing education funding was far from the top of the agenda.

Thus, for a time, educational opportunity was magically transported out of sight and out of mind. This sleight of hand worked to a remarkable extent. It was not until the late 1980s, when the federal Schools and Staffing Surveys were initiated, that a new data set was created allowing tracking of disparities in instructional resources—teachers, support staff, curriculum, facilities, and professional development—across states, districts, and types of schools and students. These data—and similar data sets developed on the state level—which allowed researchers to document inputs to education later allowed analyses of disparities in access to qualified teachers and other conditions for learning that informed a new wave of lawsuits.

HOW MONEY MAKES A DIFFERENCE

The argument that money makes no difference is supported by the obvious fact that not all kinds of spending improve student learning. However, recent studies have begun to demonstrate how money makes a difference. For example, based on an analysis of a data set even larger than that available to Coleman and his team of researchers, Ronald Ferguson demonstrated that expenditure levels make a difference in increasing student performance and that the strength of effects on achievement increases as funding moves closest to direct instruction of students.²⁰ He found that the single most important measurable cause of increased student learning was teacher expertise, measured by teacher performance on a statewide certification exam measuring academic skills and teaching knowledge, along with teacher experience, and master's degrees. The effects were so strong, and the variations in teacher expertise so great,

that after controlling for socioeconomic status, the large disparities in achievement between Black and White students were almost entirely accounted for by differences in the qualifications of their teachers. Ferguson concluded, "What the evidence here suggests most strongly is that teacher quality matters and should be a major focus of efforts to upgrade the quality of schooling. Skilled teachers are the most critical of all schooling inputs."²¹

Ferguson found that, when regional cost differentials are accounted for, school district operating expenditures exert a significant positive effect on student achievement—an effect that operates primarily through the influence of funding levels on salaries that attract and retain more qualified teachers. He found that investments in teachers' salaries produce higher marginal gains in student performance than equivalent investments in other budget areas more remote from instruction.

Ferguson also found that class size, at a critical point of 18 students per teacher, was a statistically significant determinant of student outcomes, though smaller in magnitude than the teacher effect. This finding has been replicated in a number of other studies, usually below a threshold in the upper teens or lower 20s, and especially in the early grades and for lower-achieving students.²² Most often cited is the evidence from a randomized experiment, called Tennessee STAR, which found significant gains in achievement as a result of reducing class sizes from 22 to 15 in kindergarten through third grade.²³ Although the costs of reducing class size can be large, and the effects of reducing class size are generally smaller per unit of spending than those of improving teacher quality,²⁴ economist Alan Krueger estimates a benefit-cost ratio of reducing class sizes of nearly 3 to 1 as a function of the earnings expectations of higher achievement.

This work suggests that the effect of funding on achievement increases as it is spent on instructionally crucial resources, such as the capacity to buy higher-quality teachers and to provide personalized class settings. These findings about the influences and relative contributions of teacher training and experience were reinforced by a review of 60 production function studies by scholars at the University of Chicago, which found that teacher education, ability, and experience, along with small schools and lower teacher-pupil ratios, are associated with increases in student achievement.²⁵ In their estimate of the achievement gains associated with expenditure increments on various resources, spending on teacher education was found to be the most productive investment for schools, outstripping the effect of teacher experience and reduced pupil-teacher ratios.

Reinforcing the findings on teacher investments, a study by economists Robert Strauss and Elizabeth Sawyer found that North Carolina's teachers' average scores on a teacher licensing test measuring subject-matter and teaching knowledge had a strong influence on students' average test performance. Taking into account income levels, student race, district capital assets, student plans to attend college, and

pupil–teacher ratios, teacher quality had a strikingly large effect on students' failure rates on the state competency examinations: A 1% increase in teacher quality was associated with a 3% to 5% decline in the percentage of students failing the exam. The authors' conclusion was similar to Ferguson's:

Of the inputs which are potentially policy-controllable (teacher quality, teacher numbers via the pupil–teacher ratio and capital stock), our analysis indicates quite clearly that improving the quality of teachers in the classroom will do more for students who are most educationally at risk, those prone to fail, than reducing the class size or improving the capital stock by any reasonable margin which would be available to policy makers.²⁶

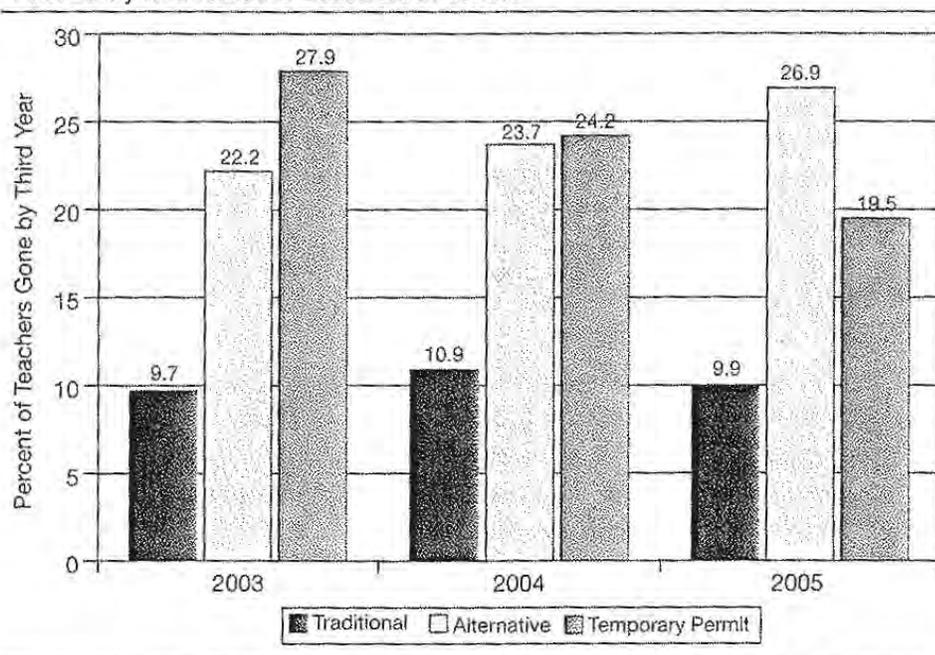
The Opportunity Costs of Teacher Turnover and Low Quality

Conversely, there are substantial costs associated with ineffective teachers and instability in the teaching force. The costs of poor teachers are represented not only in the costs of low achievement borne by their students, but also the costs to schools of remediation, grade retention, special education, and disciplinary problems that are often tied to school failure. Furthermore, society bears the later costs of drop-outs, incarceration, and low productivity in the workforce, currently amounting to nearly \$300 billion annually, according to recent estimates.²⁷

Teacher turnover also costs districts much more than they typically recognize, both for replacing teachers and remediating student achievement. The replacement costs of early departures from teaching are estimated at about \$15,000 to \$20,000 for each teacher who leaves. These figures include costs for separation, recruitment and hiring, and training. Adding the costs of reduced learning for students when more experienced teachers are replaced with novices drives the costs up further, with estimates ranging from \$33,000 to \$48,000 per teacher who leaves.²⁸ This is partly because education productivity declines when beginners are hired, since teacher effectiveness rises sharply after the first 2 to 3 years in the classroom.²⁹ As we have seen, this drop in productivity is greater when those hired are less well prepared and more likely to leave early in their careers. A study of Texas, which has higher-than-average annual attrition rates, especially for its many alternate route teachers, estimated in 2000 that teacher losses cost the state between \$329 million and \$2.1 billion per year, depending on the cost model used (see Figure 4.1).³⁰

Failure to maintain a stable teaching force can also undo other school improvement efforts. For example, an evaluation of one urban district's effort to create a large number of new small, innovative schools found that the new school models significantly increased schools' ability to add value to student learning beyond the effects of student background. At the high school level, the districts' new schools—and specific features of the reforms, such as advisory systems, project-based learning, interdisciplinary

Figure 4.1. Three-Year Attrition Rates for Cohorts of Differently Certified Secondary Mathematics Teachers in Texas.



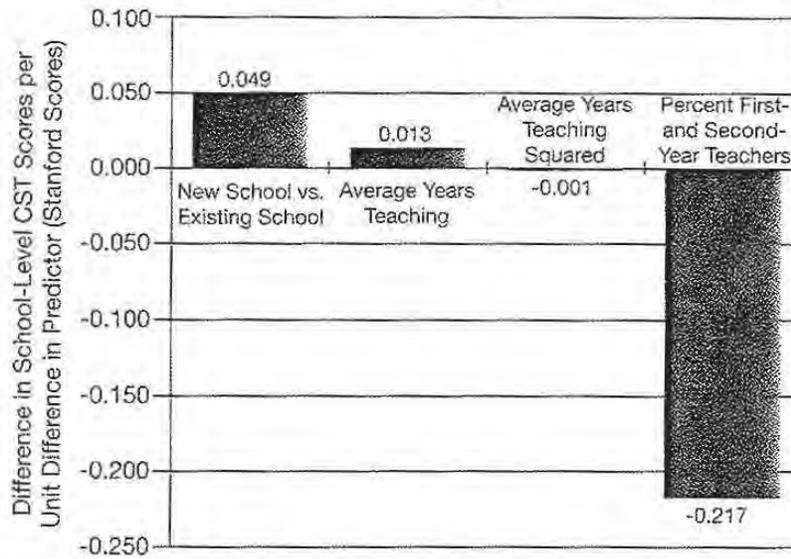
Source: Fuller (2008).

courses, and student internships—raised student achievement, controlling for student characteristics, by 5 to 13 percentile points above those of other schools.³¹ (I discuss the benefits of these kinds of new school models further in Chapter 8).

However, the district's staffing problems, which resulted in a large and growing share of new, alternate route teachers, exerted a much more sizable negative influence on student achievement, overwhelming the effects of these school reforms. Controlling for student characteristics, schools with the greatest proportions of these novice teachers lost more than 20 percentile points in achievement relative to those with a more senior teaching force. As is usually the case, the most segregated minority schools had the largest shares of these novice teachers. (See Figures 4.2 and 4.3).

In this underresourced district, the hiring of these novice teachers was an advance over the previous policy of balancing the budget by hiring low-cost substitute teachers rather than regular staff. However, with the struggles of learning to teach (many of them having had little prior training), poor working conditions, and average salaries about 20% lower than districts nearby, it was hard to keep them. Among these beginners, more than 40% of the traditionally trained teachers and two-thirds of those from alternate routes were gone within 4 years, contributing to continual churn in the highest-need schools and suboptimal results in both the schools that were staffed in this way.

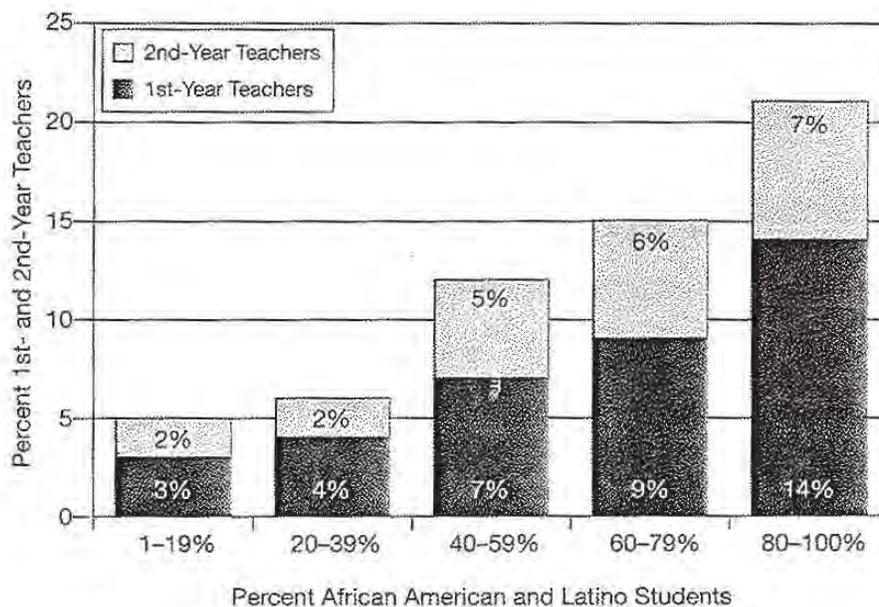
Figure 4.2. Contributions to School Value-Added Productivity of School Features and Staffing Patterns.



Source: Vasudeva, Darling-Hammond, Newton, & Montgomery (2009).

Note: Achievement versus expectation, holding constant prior test scores and student demographic characteristics.

Figure 4.3. Proportions of 1st- and 2nd-Year Teachers by School Population (2002–2003 to 2007–2008).



Source: Vasudeva, Darling-Hammond, Newton, & Montgomery (2009).

The most successful new school models—those that were beating the odds—had recruited and retained a more balanced teaching force led by a stable cadre of skilled, experienced teachers who carefully mentored the few beginners they hired. These schools were able to implement the new school designs effectively and to benefit over time from the extensive professional development and collaborative planning in which the teachers engaged. High-turnover schools were unable to realize the investments that had been made in the school reforms.

The Requirements for Educational Improvement

Indeed, study after study of educational reforms—whether of school design, instructional programs, curriculum, assessment, or parent involvement—has discovered that the success of the innovation depends on the capacity of teachers to carry it out, and on the capacity of organizations to implement and continually improve on the reform strategy. Implementing new practices well takes at least 3 to 5 years of steady effort: Successful change requires high-quality initial efforts, a process of learning effectively from experience—including collective analysis of data and reflection on change strategies—and the capacity to grow new knowledge and skills schoolwide.³² Schools without an ongoing group of competent, committed teachers and a capable leader simply cannot get traction on educational improvement.

The investments needed to produce a more stable, balanced teaching force are of several kinds. As noted earlier, teachers with stronger initial preparation typically stay in teaching significantly longer, as do those who receive high-quality mentoring in their first year on the job.³³ Thus, these investments in teachers' effectiveness also have payoffs for their longevity in teaching. In addition, there is evidence that salaries and working conditions influence teacher attrition. Teachers are more likely to quit when they work in districts with noncompetitive wages,³⁴ especially if they work in high-demand fields such as math and science.³⁵ A study of California teachers found that both salaries and working conditions—ranging from large class sizes and facilities problems to multi-track, year-round schedules and poor teaching conditions—were strong predictors of high turnover.³⁶

Finally, the quality of school leaders is critical to recruiting and retaining teachers, as the principal's ability to organize a productive environment, access resources, buffer the school from outside distractions, motivate adults, and support their learning is critical to teachers' satisfaction and efficacy.³⁷ All of these factors are amenable to policies, and, as I show in the next chapter, some states and districts have made strong gains by putting such policies in place, while others have avoided addressing these concerns and have failed to improve.

LITIGATING FOR ADEQUACY

The question should not be whether money spent on education can make a difference, but *how* strategic educational investments can influence school outcomes. This question has increasingly been considered as the standards-based reform movement has taken hold, and “adequacy” cases have been brought in more than 20 states. These have relied heavily on data about the disparities in concrete resources related to learning in ways that are needed to meet the standards. By one count, these lawsuits have succeeded in establishing the state’s liability for educational investments about 70% of the time.³⁸

Success, however, is often a relative concept. In many states, plaintiffs have had to return to court repeatedly over many decades, as even successful decisions do not always produce resources. Courts often have trouble fashioning useful remedies, and have little authority to ensure implementation when they do call for change. Legislatures often resist raising taxes or revising funding formulas, and may try to wait out the court, rather than acting on judicial requirements. So, even when school funding schemes are declared unconstitutional, it can take decades of ongoing litigation to get to a major reallocation of resources. Nonetheless, these cases have begun to make progress in establishing the foundations of a right to learn.

Furthermore, a growing body of evidence illustrates that when states finally act, their interventions can pay off for children. For example, a 2002 study in the *Journal of Public Economics* measured the impact on student achievement of court-ordered school finance reform targeted to underperforming lower-income districts in 12 states during the 1980s, comparing them to other states not subject to such court orders. Using SAT scores as the common measure of achievement, the study found that not only did more lower-income students take the SAT, but the greater funding “closed the gap in average SAT scores between children of highly-educated and poorly-educated parents by . . . roughly 5 percent.”³⁹ Economists have confirmed increases in student achievement and reductions in achievement gaps in Massachusetts and New Jersey as the result of school funding investments following equity-oriented lawsuits,⁴⁰ and a study in Kansas found gains in college-going for districts aided by court-ordered spending increases.⁴¹

The Tortuous Process of Arguing for Equity

Despite common sense and evidence, state defendants have increasingly urged courts not to redress inadequate resources without “proof” that investments will change outcomes. In a growing number of school funding lawsuits, plaintiffs and defendants wrestle over the state’s obligation to provide equivalent supports to students, including teachers who meet the state’s own requirements for training.

These wrangles can go on for years, even decades. In South Carolina, for example, the descendants of African American plaintiffs who brought *Briggs v. Elliot*, one of the first cases later consolidated into *Brown v. Board of Education*, returned to court exactly 50 years later, in the same courthouse in Clarendon County, to continue to litigate the lack of educational opportunity.

The original petition that led to *Briggs*, brought by Black parents and children against the Board of Education of School District #22 in Clarendon County in November 1949 noted that the

facilities, physical condition, sanitation and protection from the elements in . . . the only three schools which Negro pupils are permitted to attend, are inadequate and unhealthy, the buildings and schools are old and over-crowded and in a dilapidated condition . . . [with] no appropriate and necessary central heating system, running water or adequate lights, . . . and [with] an insufficient number of teachers and insufficient class room space.

Meanwhile those in the White schools were “modern, safe, sanitary, well equipped, . . . uncrowded and maintained in first class condition; [with] . . . adequate complement of teachers and adequate class room space for the students.” At the close of a much longer list of complaints, the petitioners requested that the Board of Trustees “immediately stop discriminating against Negro children . . . and make available similarly situated educational advantages and facilities equal in all respects to that which is being provided to whites.”⁴²

Fifty years later, in 1999, after decades of failed litigation over major disparities in funding between low- and high-wealth districts, the South Carolina Supreme Court remanded a case to trial based on gross differences in resources between the same still-segregated Clarendon County schools—now serving the grandchildren of the original plaintiffs—and predominantly White and wealthier districts.⁴³ In 2005, when *Abbeville v. State of South Carolina* was heard, 88% of students in the plaintiff districts were minority, 86% lived in poverty, and 75% of the schools were rated by the state as “unsatisfactory” or below on the state rating system. Graduation rates ranged between only 33 and 56% across the districts.

The testimony was eerily similar to that heard in the same courthouse a half-century earlier, with plaintiffs describing crumbling and overcrowded facilities, lack of equipment, large numbers of uncertified teachers, and teacher turnover caused by salaries and benefits much lower than those in other districts. A film made about conditions in the plaintiff districts was entitled *Corridor of Shame*. The producer and director Bud Ferillo reflected on the stark conditions he saw in some of the state’s oldest school buildings, such as J.V. Martin High School in Dillon School District Two. Built in 1896, it was barely heated on the morning of the first shoot when it was 18 degrees outside and nearly as cold inside. Ferillo exclaimed, “You cannot

imagine how cold, bare and ill-equipped many of these rural schools are.” Along with showing inadequately equipped classrooms, science labs, and media centers, the film reported recent ceiling collapses in two schools, raw sewage backing up into school hallways and closets on rainy days in two separate districts, and a cafeteria where poisonous snakes had recently crawled inside from a nearby swamp.⁴⁴

This testimony was heard only because the state Supreme Court finally held that the education clause “requires the General Assembly to provide the opportunity for each child to receive a minimally adequate education” and defined that education to include providing students adequate and safe facilities in which they have the opportunity to acquire the skills outlined in the state standards:

1. The ability to read, write, and speak the English language, and knowledge of mathematics and physical science
2. A fundamental knowledge of economic, social, and political systems, and of history and governmental processes
3. Academic and vocational skills

The defense argued that, although the state has set academic goals for students, those goals exceed what the state is required to fund, which is only a “minimally adequate” education.⁴⁵ Interestingly, the same argument was made, ultimately unsuccessfully, by defendants in New York’s *Campaign for Fiscal Equity* lawsuit, who argued that only an 8th-grade education was needed to meet the state standard for education, rather than the learning opportunities articulated in the state’s own standards for issuing a high school diploma.

Demonstrating the Connection between Resources and Outcomes

One might wish that, in this day and time, a showing of such inadequacy would be sufficient to require a state remedy, but the arguments about whether money makes a difference are still hotly contested. Experts are called upon to show how sizable the effects of key school resources can be, both in relation to race and income and independently from these factors.

Interestingly, these relationships are as obvious in high-achieving but increasingly inequitable Massachusetts as they are in low-achieving and historically inequitable South Carolina. Serving as an expert witness in adequacy lawsuits in both of these states, I conducted analyses examining the effects of race, poverty, and school resources on student achievement. In both cases, plaintiff school districts—which serve many more minority and low-income students than the state as a whole—have had lower levels of overall resources, lower teachers’ salaries, and lower levels of educator qualifications than other districts, as well as lower student performance. Both states have accountability systems based on the results of high-stakes testing,

PROOF OF SERVICE

Vergara, et al. v. State of California, et al./California Teachers Association and California Federation of Teachers (Intervenors),
Second Appellate District, Division Two, No. B258589,
Los Angeles Superior Court No. BC484642

I am a resident of the State of California, over the age of eighteen years, and not a party to the within action. My business address is REED SMITH LLP, 101 Second Street, Suite 1800, San Francisco, CA 94105-3659. On September 16, 2015, I served the following document(s) by the method indicated below:

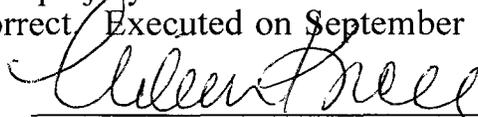
**APPENDIX OF SECONDARY SOURCES CITED IN BRIEF OF
AMICI CURIAE LAWYERS’ COMMITTEE FOR CIVIL
RIGHTS OF THE SAN FRANCISCO BAY AREA, ET AL. (6 VOLUMES)**

<input checked="" type="checkbox"/>	by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, in the United States mail at San Francisco, California addressed as set forth below. I am readily familiar with the firm’s practice of collection and processing of correspondence for mailing. Under that practice, it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if the postal cancellation date or postage meter date is more than one day after the date of deposit for mailing in this Declaration.
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I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on September 16, 2015, at San Francisco, California.



Eileen Kroll