Center for American Progress

American Enterprise Institute for Public Policy Research

Tightening Up Title I

Evidence of the Effects of the Title I Comparability Loophole

Shining a Light on Fiscal Inequity Within Florida's Public School Districts

Jennifer S. Cohen New America Foundation
Raegen T. Miller Center for American Progress

March 2012

Contents

Introduction and summary

Identifying the culprit of unequal school funding in U.S. public schools used to be simple. When public schools derived nearly all of their revenues from local property taxes, the math was straightforward—schools in poor areas were poorly funded while schools in wealthy areas were well funded. Today, with federal and state governments kicking in nearly half of funding for public schools, in part to address previous inequities, understanding why schools with large concentrations of poor students are still being financially shortchanged is much more complex.

To date, legislative and judicial attention to inequity in elementary and secondary education finance has mainly focused on variation in resources available to school districts. This focus makes sense because districts have the authority to raise revenue and distribute aid flowing from state and federal sources. Yet focusing on inequities within school districts also merits attention. Budgeting and reporting practices within districts can undermine the intent of even the most equitable state and federal funding streams. The fiscal requirements of Title I of the Elementary and Secondary Education Act seek to prevent this possibility.

The comparability requirement, one of three fiscal requirements, holds that districts that receive funds under Title I must use state and local funds to offer services in Title I schools that are comparable to those offered in schools that do not receive Title I funds.[1] This ensures Title I funds are used to provide supplementary services for low-income students rather than make up for inequitable distributions of state and local funds. Districts may use one of two main approaches to demonstrate compliance with the comparability provision, but both approaches fail to distill actual levels of financial resources.[2] Instead they focus on the distribution of staff and supplies, remaining indifferent to quality issues and explicitly ignorant of the strong relationship between teacher compensation and experience.[3] Together these shortcomings represent a "loophole" in the requirement, as highlighted in a recent Government Accountability Office report.[4]

The extent to which the comparability loophole undermines the supplementary purpose of Title I funds is not terribly clear. There is good reason to suspect that Title I schools often receive substantially fewer resources from state and local sources, as measured in actual dollars, than non-Title I schools in the same districts. Teacher salaries, the largest single expenditure category and sometimes the majority of spending at the school level, are closely pegged to years of experience in the majority of school districts.[5] And inexperienced teachers are overrepresented in Title I schools serving, by definition, high concentrations of low-income children. Together these patterns create "hidden salary gaps," as documented by The Education Trust using data from California, Ohio, and Texas, and corroborated by the Center for American Progress using data from California with a more comprehensive approach.[6]

Title I schools do not necessarily need highly experienced teachers who, despite receiving much higher salaries than teachers with a few years of experience, may prove to be no more effective in the classroom.[7] What Title I schools need is their fair share of state and local funds. Money, not experience, is the issue, and the empirical literature that examines whether districts distribute Title I funds on a level playing field is very thin. The data necessary to reveal actual expenditures at the school level have been hard to come by historically but this is beginning to change. The American Recovery and Reinvestment Act of 2009, also known as the stimulus bill, included a one-time school-level expenditure reporting requirement, and this requirement in turn inspired the inclusion of new school-level expenditure items in the Office of Civil Rights biennial survey.[8] These data sources should enable researchers and advocates to assess the damage done by the comparability loophole in all states and the District of Columbia.

But Florida's rather advanced data and reporting environment allows us to get a jumpstart on this endeavor. This paper exploits a unique dataset containing information on 2,579 unique Florida public schools from the 2001-02 school year through the 2007-08 school year. The data were drawn from web-accessible files maintained by the Florida Department of Education and the National Center for Education Statistics. Florida is ahead of its peers in reporting actual school expenditures, including measures of actual average teacher salaries and per pupil expenditures, in total and by clusters of programs (regular, exceptional, vocational education). Regular expenditures include those funded by Title I.

We use straightforward analytic techniques to address questions about the relationship between student poverty rates and expenditure measures at the school level. Specifically, we employ multilevel regression analysis that allows us to account for the clustering of schools within districts and control statistically for district and school characteristics, providing a clearer picture of hidden salary gaps and expenditure patterns expected under the comparability loophole.

We find that, holding all else equal, a 10 percentage point increase in the student poverty rate corresponds to a $213 decrease in average teacher salary. This means teachers in a school with a 70 percent student poverty rate make, on average, $1,067 less than teachers in an otherwise identical school with a 20 percent student poverty rate. This relationship is wiped out, however, when we account for schools' average level of teacher experience. A one-year increase in average teacher experience translates to a $523 increase in average teacher salary. This pattern conforms to expectations and corroborates prior research on hidden salary gaps.

Because teacher salary is the predominant driver of regular per pupil expenditures, one would expect any relationship between student poverty rates and average teacher salary to carry through to regular per pupil expenditures. One would also expect to find a positive relationship between student poverty rates and regular per pupil expenditures because regular per pupil expenditures include Title I funds, which districts distribute to schools based on student poverty rates.[9] Indeed, we found that a 10 percentage point increase in the student poverty rate corresponds with a $56 increase in regular per pupil expenditures on average, controlling for a host of school and district characteristics.

Yet this overall estimate is not too reassuring. The comparability requirement pertains to districts, so we exploit the richness of the data to estimate simultaneously a separate relationship between student poverty rate and regular per pupil expenditure for each district. The distribution of these estimates suggests that at least some Florida districts cannot possibly provide truly comparable state and local resources to their Title I and non-Title I schools.

The U.S. Department of Education cited Florida in 2009 for several failures around the existing comparability requirement, so it stands to reason that expenditure patterns rendered in actual dollars are unlikely to demonstrate a comparable distribution of resources in Florida during the years studied.[10] Policymakers should consider the following recommendations:

- Close the comparability loophole by requiring school districts to demonstrate that Title I and non-Title I schools receive reasonably similar levels of resources, in actual dollar terms, from state and local sources. In particular, this means that salary increments related to teacher experience cannot be excluded from calculations.

- Require ongoing reporting of actual school expenditures in a manner similar to that required by the one-time American Recovery and Reinvestment Act of 2009 and the biennial Office of Civil Rights survey.

Background

Characterizing equity in U.S. public school finance was once a simple matter—wealthy communities had well-funded schools and poor communities did not. Virtually all revenues were derived from local property taxes. The situation today is vastly more complex in two ways. First, the role of state and federal funding for public education has increased dramatically. The overall proportion of all school revenues from local sources, still 80 percent in 1930, now hovers from year to year around 44 percent.[11] This proportion was 43.5 percent in the 2007-08 school year, with state and federal revenues accounting for 48.3 percent and 8.2 percent of the total, respectively.[12] Second, urbanization and administrative consolidation in the late 19th and early 20th centuries made the school district, not the school, the focal point of revenue policies and the agent responsible for distributing resources to schools.

Whether schools are funded equitably depends not only on the distribution of local, state, and federal funds but also on resource allocation practices within school districts. Federal funds flow almost exclusively according to the need-based formulas of large programs, most importantly Title I, Part A of the Elementary and Secondary Education Act. Commonly called Title I, this program channels funds to school districts to provide additional services for students living in areas of concentrated poverty. While there are legitimate concerns about equity in the allocation of these funds, the great majority of school finance reform efforts aim to improve equity in the distribution of nonfederal funds between districts within states.[13]

Between-district equity

State funding formulas can be progressive, regressive, or something in between. These formulas were sculpted by two generations of litigation and legislation seeking equitable or adequate funding for property-poor school districts.[14] In some states, notably New Jersey, state allocations to school districts overcome disparities in local wealth to create a strong positive relationship between combined state and

local revenues available to a school district and the percentage of its students living in poverty.[15] New Jersey, however, is currently under scrutiny for cuts to its state funding for public education which claimants believe disproportionately affect low-income districts.[16]

In other states, the relationship between school districts' nonfederal revenues and their poverty rates is negative. The legal status of these states' funding formulas remains in flux accordingly. The Connecticut Supreme Court, for example, recently paved the way for a challenge to Connecticut's school finance system by reversing a 2007 lower court decision that dismissed the constitutional basis for a suit brought by a consortium of low-income districts, cities, and parents.[17]

Within-district equity

Inequity in the distribution of resources within school districts has plagued U.S. education for more than 100 years despite decades of efforts to address the underlying problems. Equitable resource distribution was a central interest, for example, of numerous court-monitored desegregation plans.[18] Similarly, districts receiving federal funds under Title I are required to provide "comparable" state and local resources, on average, to both their schools serving concentrations of low-income students and their other schools.[19]

School districts, however, have managed to appear equitable in the eyes of court monitors or U.S. Department of Education auditors without necessarily being so. Current compliance regimes focus on abstract quantities such as the ratio of books to students or the ratio of students to staff, rather than actual expenditures.[20] Such quantities can be reasonably similar across schools even when actual per pupil expenditures vary enormously.

Funds follow experience

Teacher experience is the driving force behind the distribution of actual financial resources within school districts. Teacher salaries constitute the largest category of school expenditures in a school district's budget.[21] Typically, teacher salaries also increase in real terms with additional years of experience. Finally, traditional transfer policies within school districts privilege seniority, allowing more experienced teachers to transfer between schools as desired.

These rules have clear implications for financial equity. Teachers, not unlike other kinds of workers, prefer to work at sites where their jobs are perceptibly easier, holding all else equal. This preference typically does not favor schools serving concentrations of low-income children.[22] Research shows that experienced teachers often move away from high-poverty schools, either by securing a transfer within district, or changing districts.[23] At any given time, teachers in low-poverty schools have more experience, on average, than teachers in high-poverty schools. This finding is true across and within districts.[24]

There is a limited body of evidence, however, showing that teachers in low-poverty schools earn higher salaries than teachers in high-poverty schools within school districts. Neither the federal government nor most state governments collect or make this information available.

The reason for the dearth of school-level information on actual teacher salaries is that school districts typically allocate teaching "slots" to schools instead of funds. School districts pay teachers' salaries and report the district average as though it pertains to individual schools, thus concealing differences in actual school-level average salary driven by teacher experience.[25]

Hidden salary gaps

Advocates have begun to assess the magnitude and pervasiveness of inequity in actual expenditures on teachers' salaries by painstakingly matching school-level information on teacher experience to district-level salary scales. The Education Trust, a nonprofit research and advocacy firm, assessed the hidden salary gap within the 50 largest school districts in Texas and the 14 largest in Ohio by estimating the average teacher salary in schools serving the highest and lowest concentrations of low-income students. The Education Trust—West assessed the hidden salary gap within the 50 largest school districts in California.[26]

These studies yielded two findings. First, the overwhelming majority of districts examined had substantially lower average teacher salaries in their high-poverty schools than in their low-poverty schools. Second, these hidden differences in average salary were significant—commonly more than $1,000 and as high as $6,000 per teacher. The studies provide strong evidence that large districts in California, Ohio, and Texas spend less, on average, to pay teachers in schools serving concentrations of low-income children than they do to pay teachers in schools serving more affluent students.

The Center for American Progress took this line of research a step further using actual school-level average teacher salary data from a sample of schools in school districts in California. The report, titled "Comparable, Schmomparable," found that a 10 percentage point increase in the student poverty rate translates to a $411 drop in teacher salary, on average, controlling for a number of factors that are known to influence school and district spending. Once teacher experience was included in the analysis, however, the effect of student poverty was completely wiped out. The finding corroborated the studies conducted by The Education Trust and Education Trust—West: Teachers in high-poverty schools tend have less experience and earn correspondingly lower salaries than their colleagues in low-poverty schools.

This small body of research suggests both state and federal provisions intended to ensure equitable funding among schools within districts allow gaps in teacher salaries to persist. And since 95 percent of school districts across the country receive Title I funds, federal policymakers would benefit from more research on the extent and magnitude of hidden spending gaps. In particular, hidden salary gaps represent evidence that a known loophole in the Title I fiscal requirements allows districts to inequitably fund their low-income schools, undermining the supplementary purpose of Title I funds.[27]

New era of responsibility

There will soon be a radical uptick in the availability of school-level data on average teacher salary and other expenditure measures. The American Recovery and Reinvestment Act of 2009, also known as the stimulus bill, required each state education agency to furnish the U.S. Department of Education with school-level expenditure data for the 2008-09 school year. U.S. Department of Education guidance specifies that expenditures be reported in several categories including expenditures on personnel salaries for teachers only.[28]

On the heels of the stimulus bill, the Office of Civil Rights at the U.S. Department of Education also decided to require school-level funding information in its biennial survey. These data were collected in 2009-10 from schools in a sample of 7,000 school districts across the nation. The sample includes all districts with more than 3,000 students. The U.S. Department of Education expects to release these data in May 2011.

Research using these data will round out the otherwise sparse body of work on intradistrict funding equity. Specifically, these data will reveal the extent to which a loophole in the comparability requirement of Title I allows school districts to continue to inequitably fund their Title I schools, robbing low-income students of the additional services Title I funds are intended to provide. There is a state, however, that already makes available data that facilitate an examination of such questions.

Florida, the "Sunshine State"

Florida is ahead of the game in publicly reporting actual school expenditures, including measures of average teacher salary and per pupil expenditures. As a result, we are able to provide a groundbreaking examination of the relationship between student poverty rates and average teacher salary or per pupil expenditures using data from every school in Florida over seven years.

Florida makes available for public consumption a wide variety of education-related data including actual average teacher salaries and per pupil expenditures at the school level. Florida is widely considered to be one of the most advanced states in terms of the availability of education data. In 1968 the Florida legislature passed a law instructing the Florida Department of Education to implement a system to ensure the state's educational programs were effective and well managed.[29] This led to the creation of state academic goals and a statewide assessment program that was originally piloted in 1971. Today the state annually assesses academic achievement in math and reading of every student in grades 3 through 10 via the Florida Comprehensive Assessment Test, or FCAT. The outcomes of these tests are used to assign each school and school district in the state with a grade, which can determine school funding.

Florida also has a relatively sophisticated school funding formula. The state determines the distribution of state and local funding to school districts using a weighted student funding formula that was first set in law in 1973.[30] The weighted funding formula assigns a weight to students based on their participation in special programs, which then is used to determine how much funding a school district will receive to educate that student. School districts receive additional funding in proportion to the number of students they serve that participate in certain education programs like special education or English Language Learner programs. The per pupil funding allocation also accounts for variation in the cost of living and providing educational services in different districts. Notably, there is no additional weight for students eligible for free and reduced-price lunch, or any other measure of poverty.

Florida also provides for several supplemental sources of funding based on different school district needs and participation in special programs. Additionally, school districts receive funding from the state lottery and school recognition program and from a class-size reduction categorical program.

Minimum local funding for K-12 school districts is also determined annually by the state legislature. The state determines how much each county must contribute toward its education funding based on their most recent tax valuations.

In light of its funding formula's indifference to poverty, it is not surprising that Florida has been cited for improperly implementing the comparability requirement of Title I. According to a review conducted by the U.S. Department of Education's Student Achievement and School Accountability Programs, or SASA, in November 2009, Florida had been improperly implementing the written assurance option for demonstrating comparability and had been conducting comparability reviews less frequently than required.[31] Specifically, Florida had allowed districts to demonstrate comparability with written assurance that they had districtwide salary schedules; policies to ensure equivalence among schools in teachers, administrators and other staff; *or* policies to ensure equivalence among schools in materials and supplies. Federal regulations require that districts provide a written assurance of *all three* of these items, not one of the three. Additionally, Florida's Department of Education had been conducting comparability reviews every five years, rather than every two years as required by law.

These audit findings suggest that during the period we studied, it is possible that many districts were in violation of even the existing loophole-ridden comparability requirement. Thus, it would not be surprising if our analysis revealed patterns suggesting that, at least in some districts, Title I schools receive lower levels of state and local resources, measured in actual dollar terms, than non-Title I schools.

Data analysis

The data used in this study were drawn from two sources. First, we downloaded publicly available school-level data from the 2001-02 school year through the 2007-08 school year from the Florida Department of Education's website. These data include average teacher salary, average per pupil expenditure in each of three programmatic bins (regular, exceptional, and vocational), school type, charter school status, and other special school identifiers. Second, data on student participation in special programs like free and reduced-price lunch (a proxy for student poverty) and special education were drawn from the U.S. Department of Education's Common Core of Data.[32] These two data sources were merged together to create a seven-year longitudinal dataset on every public school in Florida.

The final analytic sample includes 2,579 schools in Florida's 67 traditional school districts. The sample includes up to seven years of data for each school. Schools with fewer than two years of data have been dropped from the sample. Additionally, schools with particularly low or high per pupil expenditures, average teacher salaries, or pupil-teacher ratios were dropped from the sample.[33] Missing values for free and reduced-price lunch eligibility, special education, gifted, and English language learners were imputed with school-level averages. Atypical schools were also dropped from the sample. This includes charter schools, schools that serve fewer than three grades, early education schools, schools that do not occur in traditional settings, special schools for specific populations, and schools for neglected or delinquent students.

Each Florida district covers an entire county and serves students in kindergarten through 12th grade, and in some cases pre-kindergarten. Districts in Florida are economically and ethnically diverse and range widely in size. Districts on the southern coast of Florida, for example, tend to be large and have large concentrations of Hispanic students, while districts in the panhandle tend to be smaller and have larger concentrations of African-American students. Some districts have fewer than 10 schools while others have more than 200 schools. During the period from 2001-02 through 2007-08, the average school in Florida had an average teacher salary of $41,766 and an average regular per pupil expenditure of $5,537.

In this paper, we address two research questions:

- What is the gap in average teacher salary between one school and another otherwise identical school that serves students that are 10 percentage points more likely to be from a low-income family, controlling statistically for a number of characteristics of schools and districts?

- What is the relationship between regular per pupil expenditures and the student poverty rate in a school, controlling statistically for a number of characteristics of schools and districts? Does this relationship vary by district?

These questions are best addressed using multiple regression techniques. Specifically, we employ regression analysis that allows us to account for the clustering of schools within districts, statewide time trends, and school characteristics such as grade span and enrollment. These characteristics, in particular, inform districts' decisions concerning the allocation of Title I funds to schools. The longitudinal nature of the dataset allows us to control statistically for all time-invariant characteristics of districts. A technical appendix offers a thorough description of our analytic approach.

Findings

Average teacher salary

The findings addressing the first research question conform to expectations arising from theory and prior empirical work: The higher the proportion of low-income students served by a school, the lower the average salary of that school's teachers. Controlling statistically for secular trends and key school characteristics, we find that a 10 percentage point increase in the student poverty rate corresponds to a $213 decrease in the average salary of a school's teachers. This means teachers in a school with a 70 percent student poverty rate make, on average, $1,067 less than teachers in an otherwise identical school in the same district with a 20 percent student poverty rate. With an average of 56 teachers per school in Florida, this salary gap represents enough resources to enable a school to hire an additional teacher.

The estimated relationship between student poverty and teacher salary changed when we included indicators of the percentage of students identifying as African American or Hispanic in the model. This is not surprising given the well-documented differences in rates of student poverty by ethnicity. When we controlled statistically for all time-invariant district characteristics, observed and unobserved, we were unable to detect a statistically significant relationship between a school's student poverty rate and its average teacher salary. The proportions of Hispanic and African-American students in a school seem to serve as proxies for student poverty within a district.

Finally, it is important to point out that the relationship between a school's student poverty rate and its average teacher salary vanishes when we account for teacher experience. In this model, a one-year increase in a school's average teacher experience translates to a $523 increase in average teacher salary. The magnitude of this relationship confirms Florida is utterly unexceptional among states because teacher salary is closely tied to experience. Moreover, our other estimates suggest teachers in Florida take advantage of opportunities to move from high-poverty to low-poverty schools within or between districts. We do not observe this mobility

because our data are aggregated to the level of the school year but it seems reasonable to conclude that experience-based compensation policies and teacher-sorting behavior results in a distribution of resources that favors low-poverty schools.

Regular per pupil expenditures

Not all resources are tied up in teacher salary and it is conceivable that high-poverty schools eventually receive their fair share of state and local resources despite teacher salary and sorting. At first blush, our analyses lend support to this hypothesis. We found that a 10 percentage point increase in a school's student poverty rate corresponds to a $56 increase in the school's regular per pupil expenditure, on average, controlling statistically for school years, school grade span, percentages of students in special programs (special education, English language learners, gifted and talented), enrollment, and all time-invariant district characteristics.

Yet this finding is no reason to celebrate. Regular expenditures include funds districts receive as Title I allocations and distribute to schools based on numbers and concentrations of students from low-income families and grade span. Title I funds are meant to provide additional funds for services for low-income students, so one would expect to find a positive relationship between student poverty rates and regular per pupil expenditures. Thus, the question becomes whether the estimated relationship is large enough such that schools receiving Title I funds also receive state and local funds that are comparable to those of schools not receiving Title I funds.

We cannot assess this question directly because our data do not indicate which schools receive Title I funds, just which schools are eligible. Nor do the data parse regular per pupil expenditures by revenue source. We can, however, specify a model that affords each district a unique relationship between a school's student poverty rate and regular per pupil expenditures. Fitting such a model to our data allows us to construct Figure 1 where each line segment represents a unique district. The endpoints of each segment represent the lowest and highest poverty rates among schools in that district, along with statistically adjusted regular per pupil expenditures for those schools. The slope of a segment represents a crude but meaningful measure of the extent to which Title I funds do indeed provide additional funding for services for low-income students. The figure includes segments for the 12 districts with the highest slopes and the 12 districts with the lowest slopes.

FIGURE 1

Adjusted spending as a function of student poverty, by district

Lines shown for 24 districts, 12 with seemingly most progressive regular per pupil expenditures (lines going up to the right), 12 with the least

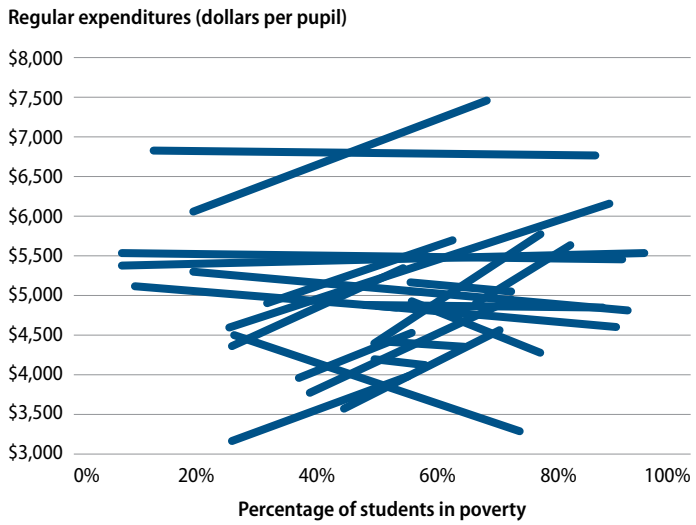


FIGURE 2

Distribution of estimated relationships between poverty rates and spending within districts

Florida's 67 traditional districts grouped by similarity in estimated slope relating regular per pupil expenditures and student poverty rates at the school level

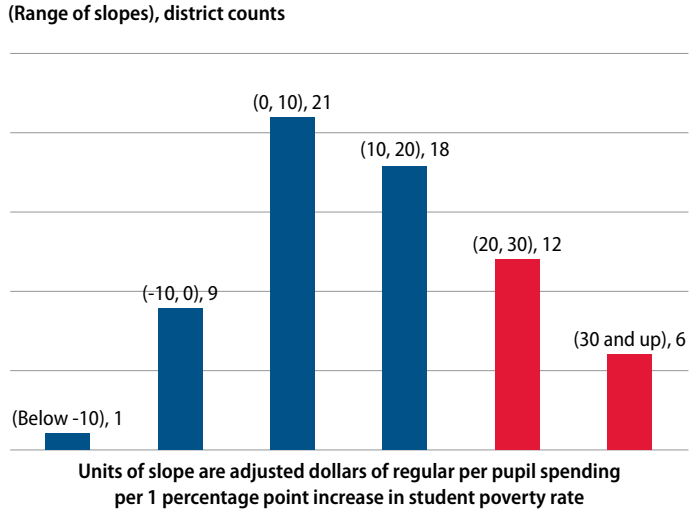


Figure 1 suggests student poverty rates at the school level vary widely within many Florida districts. High levels of such variation, of course, highlight the need for formal mechanisms that guarantee comparable distributions of funds among schools. The positive relationship between student poverty rates and regular per pupil expenditures in some districts suggests it is possible that Title I and non-Title I schools in these districts receive comparable levels of state and local resources, and that Title I funds supplement those resources. In those districts exhibiting a negative relationship, however, it is unlikely that Title I funds arrive in schools that already receive their fair share of state and local resources.

Figure 2 shows the distribution of the slopes of the prototypical plots relating adjusted regular per pupil expenditures and student poverty rates at schools for all 67 Florida districts. This frequency plot suggests that in 10 districts in Florida, schools with higher poverty rates receive fewer funds per pupil than schools with lower poverty rates. One of those districts even has a slope lower than -10. In contrast, the estimated slopes are positive in the remaining 57 districts. Schools with higher poverty rates exhibit larger regular per pupil expenditures than schools with lower poverty rates. This indicates that resource allocation practices in these districts are at least progressive, overall, but the range of positive slopes suggests Title I funds may not be used solely to provide additional services to low-income students in many of these districts. Rather, it appears that Title I funds in many districts predominantly serve to restore parity in regular per pupil expenditures.

Discussion

This paper adds to the small literature exploiting school-level measures of expenditures. The finding that average teacher salary is negatively related to their student poverty rate, controlling statistically for a host of school and district characteristics, is consistent with "salary gap" patterns observed in other states. The consistency of this pattern across jurisdictions and research methods builds support for the underlying theory that teachers tend to exercise transfer privileges or choose to switch districts to obtain positions in schools with lower rates of student poverty.

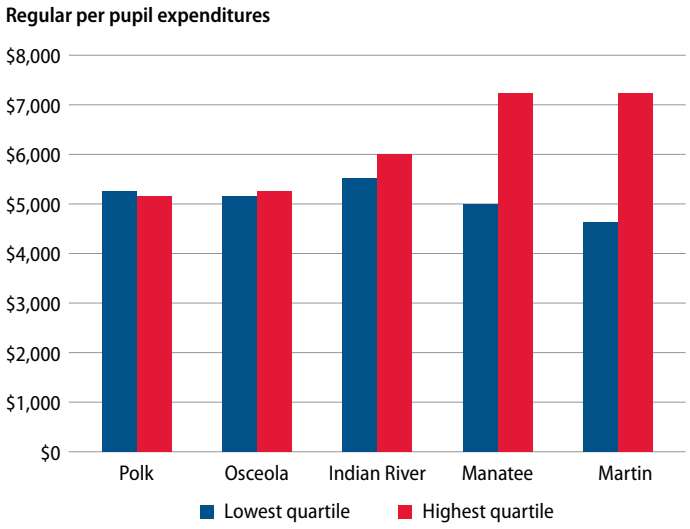
This paper also provides a basis for comparisons between states. In particular, we find that 53 percent of the variation in school-level average teacher salary occurs between Florida districts. In comparison, estimates from "Comparable, Schmomparable," which performed a similar analysis using California data, found that 70 percent of the variation in average teacher salaries in California lies between districts. This means most variation in teacher compensation occurs between districts in California, while schools within districts compensate teachers similarly. One explanation for these findings is that California has more than 10 times as many school districts as Florida, including many small ones. Another potential explanation is that California has a number of districts, including some sizeable ones, with skewed distributions of teacher experience and credentials.

The within-district salary gaps we observe in Florida reflect troubling patterns in regular per pupil expenditures. These findings suggest there are some districts in Florida where regular per pupil expenditures in Title I schools are lower than those in non-Title I schools. Conclusive evidence on this pattern requires knowledge of which schools actually receive Title I funds. Our data lack this crucial information but a closer descriptive look at a few districts reinforces the troubling regression results.

Figure 3 presents the average regular per pupil expenditures for subsets of schools in five districts illustrating the range of concern about comparability problems in Florida. High schools are omitted from this analysis because high-poverty high

FIGURE 3

Average spending among elementary and middle schools, by district and student poverty rates



schools often do not receive Title I funds. For each district, the blue bars represent the average regular per pupil expenditures among elementary and middle schools with student poverty rates in the lowest quartile. Few of these schools are likely to receive Title I funds. The red bars indicate average spending in schools in the highest quartile of poverty, which are practically guaranteed to receive Title I funds (see Figure 3).

Polk County presents the gravest concern. Its lowest-poverty schools, which generally did not receive Title I funds, outspent the county's highest-poverty schools, which did receive Title I funds. This pattern strongly suggests Title I funds did not play a supplemental role in Polk County's Title I schools. The situation in Osceola County is scarcely better. The average regular per pupil expenditure among the highest-poverty schools in Osceola was just $101 more than among the lowest-poverty schools. This difference corresponds to about a quarter of the approximately $380 per student Title I allocation the county's highest-poverty schools received during the period studied, so it is also dubious to conclude that Title I funds played a supplemental role in Osceola's Title I schools.[34]

The story is progressively less questionable in Indian River, Manatee, and Martin counties but it is important to keep in mind that aggregate figures may obscure underlying comparability problems, an observation that informs our recommendations.

Recommendations

Close the comparability loophole

Widespread hidden salary gaps between teachers in low- and higher-income schools suggest the current Title I comparability requirement condones inequity. The provision explicitly excludes from comparability determinations salary differentials based on teacher experience. As a result, most districts just report base salaries from set salary schedules to demonstrate comparability, obscuring inequities in teacher distribution across low- and higher-income schools. Removing this exclusion from the law would go a long way toward ensuring high-poverty schools receive a fair share of resources.[35] Ideally, the provision would be amended to require that districts demonstrate comparability using expenditures measured in actual dollars, including those dollars tied up in teacher salary.

A stronger accountability requirement, however, would be counterproductive if districts engaged in involuntary transfers of teachers among schools in order to comply with the requirement. The potential for such behavior would be tempered by a strong system of accountability for student achievement. Accountability gives officials an incentive to ensure Title I schools have effective teachers and extra resources to support their work. Simply moving teachers with relatively high salaries to Title I schools would not serve this goal well because high salaries do not necessarily imply higher teacher effectiveness. Similarly, students in low-income schools may be better served by additional services or interventions rather than by more expensive teachers. As a result, the reauthorized version of comparability should forbid involuntary teacher transfers as a means of complying with the comparability requirement. This would encourage districts and schools to look to other methods of providing resources to their low-income schools to improve achievement.

ESEA reporting requirement in the manner of OCR/ARRA

Opacity in the distribution of financial resources to schools is unacceptable in a new era of responsibility marked by fiscal constraints. Furthermore, school districts wishing to allocate resources in ways that improve student achievement and narrow achievement gaps would do well to first understand how and where they actually spend their funds.[36] Although Florida is a leader in this area, many states are far behind in making data on school-level spending publicly available. As a result, the reauthorization of ESEA should include a provision that requires districts to report annually to the U.S. Department of Education their actual school-level expenditures, broken out several ways as in the Office of Civil Rights biennial survey, for each of their schools.

These data are necessary for monitoring comparability but there is also a strategic argument for such a reporting requirement. Greater transparency around how actual dollars are allocated to schools and expended by them could eventually lead to shifting a greater share of discretion over expenditures from districts' central offices to school leaders. Such discretion is not a panacea, of course, but it is difficult to promote strategic managerial behavior in an environment where the most important lines in school budgets reflect district-level averages.

Conclusion

This paper has modeled an analytic approach to summarizing one state's hidden teacher salary and per pupil spending gaps. Florida can take distinct pride as a leader in promoting transparency around the distribution of actual resources to schools. This paper has exploited this transparency to shed light on the extent of inequity created by policies in which funds follow teacher experience and currently condoned by the very federal law meant to enhance the educational experiences afforded children in areas of concentrated poverty. There is reason to believe within-district expenditure patterns in most states and the District of Columbia do not favor high-poverty schools.

Federal policymakers should heed these findings as they consider the reauthorization of the Elementary and Secondary Education Act. It is clear, at least in Florida, that the comparability requirement of Title I is not robust enough to ensure schools receive their fair shares of state and local resources, irrespective of their Title I status.

Beyond implications for reauthorization of ESEA, this paper should provide civil rights activists with new motivation to take advantage of the countrywide school-level expenditure data that the U.S. Department of Education plans to release in May 2011. These data will undoubtedly shed more light on persistent inequity in the way districts allocate resources to their schools.

Florida background appendix

Public K-12 education in Florida is primarily funded through the Florida Education Finance Program, or FEFP, which was passed in 1973.[37] The FEFP determines how much local and state funding each school district in the state receives for each school year. State funding comes almost entirely from sales taxes and lottery revenues. Local funding comes from property tax revenues.

State funding is determined using a weighted count of full-time equivalent students participating in educational programs in each district. Each district conducts a survey of its student participation in different programs at least four times during the year. The state collects this information and multiplies the number of students in each program by a program cost factor determined by district reports on the cost of implementing each program. This produces a weighted full-time equivalent, or FTE, student count. The baseline cost, weighted at 1.000, is that associated with basic education for fourth- through eighth-graders. Students in kindergarten through third grade; ninth through 12th grade; or those enrolled in "Exceptional Student Education" programs (special education and gifted students), English for speakers of other languages, or career education programs are assigned a weight above 1.000. Districts also can add additional weights if they qualify for the Small District supplement; the Small, Isolated High School Supplement; or one of the bonus FTE programs associated with achievement on Advanced Placement, International Baccalaureate, or Advanced International Certificate of Education tests. There is not an additional weight for students eligible for free and reduced-price lunch or any other measure of poverty.

The weighted FTE student count is multiplied by the state base student allocation—a minimum per pupil funding amount that is determined annually by the state legislature. In 2002, the first year of data included in this study, the base student allocation was $3,298.48. In 2008, the last year of the study, the base student allocation was $4,079.74.[38] This amount is then multiplied by a District Cost Differential to provide a base funding amount for each district. The District

Cost Differential is based on the three-year average of each district's Florida Price Level Index. This accounts for variation in cost of living and providing educational services in different districts.

After the base funding amount is determined, Florida provides for several supplemental sources of funding. Districts are provided additional funding based on several factors including the number of students enrolled in Juvenile Justice Programs, whether enrollment is declining in the district, and whether the district is considered "sparse." Appropriations are also distributed to districts for safe schools programs, reading programs, instructional materials, student transportation, and a merit award program. School districts are also provided with funding for supplemental academic instruction for students that score poorly on the state's standardized tests and a guaranteed allocation for students participating in "Exceptional Student Education." Finally, school districts receive funding from the state lottery and school recognition program and from a class-size reduction categorical program. This supplemental funding, combined with the base funding amount, is the total state contribution for district funding.

Minimum local funding for K-12 school districts is also determined annually by the state legislature. Each year the legislature sets a total required level of local effort for all counties in the state, each of which houses a school district. In 2002 the required local effort was $4.37 billion and in 2008 the required local effort was $7.9 billion.[39] The state determines how much each county must contribute toward this total based on their most recent tax valuations. This information is used to determine each county's local effort millage rate (property tax rate) that when combined add up to the total required local effort amount. Counties, however, typically allocate more funding to their K-12 school districts than specified in the minimum set by the state.

In 2008 K-12 school district funding in Florida was comprised of 38.8 percent from state sources, 52.5 percent from local sources, and 8.6 percent from federal sources.[40]

Technical appendix

Table A1 provides a breakdown of the analytic sample by the number of schools serving each grade level. This information has some bearing on our analysis of average teacher salaries and per pupil expenditures in schools across Florida because school type typically affects the amount of resources schools receive. All school districts in Florida are K-12 districts delineated by county. Note: Charter schools, early learning schools, and schools that serve fewer than three grade levels have been eliminated from the analytic sample.

TABLE A1

Counts of the unique schools included in the final analytic sample, by grade configuration

School type	Count
Elementary school	1,621
Middle school	477
High school	397
Combination elementary-secondary school	84
Total	**2,579**

Table A2 offers descriptive statistics on various indicators for the 2,579 schools in 67 school districts included in the analytic sample. The sample includes up to seven years of data for each school. Schools with fewer than two years of data were omitted from the sample. Additionally, schools with particularly low or high values of per pupil expenditures, average teacher salaries, or pupil-teacher ratios were omitted from the sample.[41] Missing values for free and reduced-price lunch eligibility, special education, gifted, and English language learners were imputed with school-level averages over years without missing values.

TABLE A2

Descriptive statistics for variables representing school characteristics as well as student and teacher characteristics aggregated to the school level for 2,579 unique schools over as many as seven years

Variable	Mean	Std. Dev.
Average teacher salary	41,766.11	3,710.14
Total per pupil expenditure	6,426.51	1,197.48
Regular per pupil expenditure	5,537.19	1,052.02
Average years of teacher experience	12.20	3.01
Enrollment	968.93	581.08
Pupil-teacher ratio	16.71	2.25
Full-time equivalent teachers	56.47	27.31
Proportion American Indian*	0.00	0.00
Proportion Asian	0.02	0.02
Proportion African American	0.25	0.25
Proportion Hispanic	0.21	0.22
Proportion white	0.50	0.29
Proportion minority	0.49	0.29
Proportion of students eligible for free and reduced-price lunch	0.51	0.24
Proportion special education	0.15	0.05
Proportion gifted	0.04	0.05
Proportion English language learners	0.09	0.11
Proportion of teachers with advanced degrees	0.32	0.09

*Actual mean value is .003 with a standard deviation of .004

This paper discusses two sets of analyses using the hypothesized regression model represented by Equation 1,

$$Y_{ijt} = \alpha + \beta D_{jt} + \gamma S_{ijt} + \tau + \varepsilon$$

where Y_{ijt} represents average teacher salary or regular per pupil expenditures in school i in district j in school year t, S_{ijt} represents a vector of school characteristics, D_{jt} represents a vector of district characteristics, τ represents a set of school-year indicators, and ε represents a complex error term. This approach ignores random variation within a school across the school years but fitted models, including the additional stochastic components, yielded similar point estimates.

TABLE A3

Estimated coefficients, p-values, and goodness-of-fit statistics for a set of regression models fitted to data in which the unit of observation is a school year and the outcome is average teacher salary

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Student poverty rate		-623.9	-2,026***	-1,776***	-2,133***	152.5	79.28
Year 2003		1,165***	1,155***	1,150***	1,137***	1,156***	1,044***
Year 2004		1,479***	1,431***	1,425***	1,403***	1,488***	1,459***
Year 2005		2,562***	2,475***	2,468***	2,442***	2,598***	2,636***
Year 2006		3,708***	3,569***	3,564***	3,524***	3,768***	3,717***
Year 2007		6,271***	6,117***	6,112***	6,049***	6,292***	6,548***
Year 2008		8,028***	7,857***	7,850***	7,766***	8,044***	8,424***
Proportion Hispanic			4,876**	4,866**	5,431***	-3,544***	-2,077***
Proportion African American			1,443	1,347	1,403	-3,571***	-1,309***
Elementary school				716.9	702.0	687.4***	228.2
Middle school				488.3	879.6	1,026***	461.4**
High school				1,800***	2,595***	3,278***	1,686***
Natural log of enrollment					-993.2***	-1,257***	-375.2***
Average years of teacher experience							522.5***
Constant	41,762***	38,566***	37,977***	37,064***	43,647***	41,863***	28,412***
Observations	17,123	17,123	17,123	17,123	17,123	17,123	17,123
Schools	2,579	2,579	2,579	2,579	2,579	2,579	2,579
Districts	67	67	67	67	67	67	67
Between-district variance	12,054,784	13,162,384	10,387,729	10,355,524	10,368,400	3,900,625	825,554
Within-district variance	10,666,756	2,295,225	2,289,169	2,289,169	2,250,000	2,250,000	1,985,281
Intraclass correlation	0.531	0.851	0.819	0.819	0.822	0.634	0.294
R^2 between districts	0	0.00172	0.0986	0.109	0.0870	0.664	0.898
R^2 within districts	0	0.785	0.783	0.783	0.786	0.788	0.806
R^2 overall	0	0.306	0.385	0.391	0.377	0.725	0.864

***p<0.01, **p<0.05, *p<0.1

Table A3 presents the results of fitting various model specifications to the data. Column (1) represents the null model because it includes only error terms. These results are valuable because there is very little research available on school-level average teacher salary, particularly on how these salaries vary within and between districts. In Florida, it appears that 46.9 percent of the variation in average teacher salary occurs within districts. This means variation in average teacher salaries comes almost equally from within and between districts.

Column (2) corresponds to a baseline control model that includes student poverty rate and a dummy indicator for each year. The addition of these indicators explains 78.5 percent of the between-district variation in average teacher salary. Although the coefficient on student poverty is negative, as would be expected, it is not statistically significant. Column (3) corresponds to this baseline model with the addition of covariates for the percent of Hispanic students and the percent of African-American students in each school. The addition of these ethnicity variables explains 13.8 percent of the between-district variation in average teacher salaries from the null model. Additionally, the coefficient on student poverty becomes more negative and statistically significant.

Column (4) presents the model in column (3) with the addition of dummy indicators for school type—elementary, middle, and high school. Combination elementary-secondary schools are used as the baseline. The coefficient on high school is both statistically significant and positive, indicating that high school teachers make significantly more than elementary-secondary combination school teachers.

Column (5) adds the natural log of school enrollment to the model, rounding out the full specification. The estimated coefficient on student poverty in this model is -2,133 with a p-value of less than .01, indicating statistical significance. This suggests that, holding everything else in the model equal, a school with a 100 percent poverty rate has an average teacher salary $2,133 below that in a school with no low-income students. Similarly, this means that a 10 percentage point increase in poverty rate corresponds to a $213.30 drop in average teacher salary.

Column (6), however, includes dummy indicators for each school district. These indicators are equivalent to including district-level fixed effects in the model because they account for both observable and unobservable district characteristics. The addition of these district indicators explains 53.7 percentage points more of the between-district variation in average teacher salary than the preceding model. When district dummies are included, the coefficient on student poverty rate is no longer statistically significant, suggesting that observable and unobservable district characteristics wipe out the predictive power of student poverty.

Finally, column (7) adds average years of teacher experience to the model with district dummy indicators. Despite the inclusion of the district dummies, average teacher experience is statistically significant and indicates that a one-year increase in average teacher experience will translate to a $522.50 increase in average teacher salary while holding all other variables equal. This is unsurprising because

teacher salaries are primarily driven by years of teacher experience due to teacher salary schedules. This final model explains 93.2 percent of between-district variation and 81.4 percent of within-district variation in average teacher salaries.

Table A4 is analogous to Table A3 but with the outcome variable being regular per pupil expenditures. Column (1) presents the null model as it only includes error terms and no independent variables. This model suggests 57.5 percent of the variation in regular per pupil expenditures lies within school districts.

TABLE A4

Estimated coefficients, p-values, and goodness-of-fit statistics for a set of regression models fitted to data in which the unit of observation is a school year and the outcome is regular per pupil expenditure

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Student poverty rate		1,218***	1,294***	741.4***	474.0**	555.7***	79.28
Year 2003		111.3***	109.6***	94.64***	117.8***	104.4***	1,044***
Year 2004		448.5***	446.6***	423.5***	414.9***	412.0***	1,459***
Year 2005		875.6***	873.5***	852.0***	844.2***	841.5***	2,636***
Year 2006		1,331***	1,329***	1,293***	1,274***	1,273***	3,717***
Year 2007		2,054***	2,052***	1,979***	1,949***	1,951***	6,548***
Year 2008		2,419***	2,417***	2,311***	2,159***	2,209***	8,424***
Proportion Hispanic			-443.0**	-511.3***	-534.2***	-513.2***	-2,077***
Proportion African American			-863.6***	-242.3	-169.8	-69.48	-1,309***
Elementary school			-267.6*	1,022***	1,169***	1,351***	228.2
Middle school				-1,695***	-1,772***	-1,900***	461.4**
High school					91.59	721.4**	1,686***
Natural log of enrollment					1,800	470.7	-375.2***
Average years of teacher experience					2,772***	1,703***	522.5***
Constant	5,531***	3,818***	4,260***	15,717***	16,044***	16,509***	28,412***
Observations	17,123	17,123	17,123	17,123	17,123	17,123	17,123
Schools	2,579	2,579	2,579	2,579	2,579	2,579	2,579
Districts	67	67	67	67	67	67	67
Between-district variance	909544	781102	728633	602021	541254	294958	825,554
Within-district variance	1232100	340706	340706	271649	265225	265225	1,985,281
Intraclass correlation	0.425	0.696	0.681	0.689	0.671	0.527	0.294
R^2 between districts	0	0.186	0.231	0.325	0.387	0.648	0.898
R^2 within districts	0	0.718	0.718	0.772	0.778	0.779	0.806
R^2 overall	0	0.454	0.478	0.528	0.572	0.717	0.864

***p<0.01, **p<0.05, *p<0.1

Column (2) represents a baseline control model that includes student poverty rate and dummy indicators for each year of data. This model accounts for 72.3 percent of the within-district variation in regular per pupil expenditures. Unexpectedly, the coefficient on student poverty rate is positive and statistically significant. Column (3) builds upon the model specified in column (2) by adding dummy indicators for school type—elementary, middle, and high school—using combination elementary-secondary schools as the baseline. Column (4) adds the natural log of enrollment to the model specified in column (3). The negative sign on the coefficient on the natural log of enrollment suggests schools with higher enrollment numbers spend less per pupil.

Column (5) adds covariates on the percent of special education, gifted, and English language learner students, rounding out the fully specified model. This model explains 40.5 percent of the between-district variation and 78.5 percent of the within-district variation in per pupil expenditures. The estimated coefficient on student poverty rate is 474.0 with a p value smaller than .01, indicating statistical significance. This means, holding everything else equal, a school with a 100 percent poverty rate will spend $474.00 more per pupil than a school with no low-income students. Similarly, a 10 percentage point increase in student poverty would translate into a $47.40 increase in per pupil spending.

Column (6) presents the fully specified model with the addition of dummy indicators for each district, accounting for both observable and unobservable district characteristics. The addition of these dummies accounts for 27.1 percentage points more of the between-district variation than the model specified in column (5). Unlike the hypothesized model for average teacher salaries, the coefficient on student poverty rate remains statistically significant even with the addition of the district dummy indicators. This suggests student poverty plays a significant role in determining per pupil expenditures even after accounting for observable and unobservable district characteristics. In this model, the coefficient on student poverty rate is 555.7 with a p value less than .01. This indicates that a 10 percentage point increase in poverty rate, while holding all else equal, is associated with a $55.70 increase in per pupil expenditure.

For brevity we do not present results of a final set of fitted regression model. The specification for these models resembles that in column (6) but with the addition of a set of terms representing the interaction of districts' fixed effects and their schools' student poverty rates. In this specification, each district is allowed a different intercept and slope on the poverty covariate. These results suggest the relationship between the student poverty rate in a school and its regular per pupil expenditures varies systematically by district.

For example, the coefficient on the interaction term between district and poverty for one district is -4,595. Taken together with the estimated coefficient on student poverty of 1,695, this means that a school with 100 percent poverty in this district would have a regular per pupil expenditure that is $2,900 less than a school with no low-income students. Compare this district with another district with an estimated coefficient of 1,816 on the interaction term. Taken together with the estimated coefficient on student poverty, a school with 100 percent poverty in this district would have per pupil expenditure that is $3,511 *more* than a school in that district without any low-income students. Results for individual districts should not be overinterpreted but, taken as a whole, they present strong evidence that the relationship between student poverty rates and regular per pupil expenditures is not of sufficient magnitude or even lacks the appropriate sign, were Title I funds arriving to schools receiving a fair share of state and local resources.

Endnotes

1 Raegen T. Miller, "Comparable, Schmomparable" (Washington: Center for American Progress, 2010), available at http://www.americanprogress.org/issues/2010/05/comparable_schmomparable.html.

2 *Non-Regulatory Guidance: Title I Fiscal Issues* (Department of Education, 2008), available at http://ed.gov/programs/titleiparta/fiscalguid.pdf.

3 *Elementary and Secondary Education Act*, Section 1120A(c) (1) (A). 20 U.S.C. 6321 (Government Printing Office, 2004) available at http://www2.ed.gov/policy/elsec/leg/esea02/pg2.html#sec1120A.

4 Government Accountability Office, "Elementary and Secondary Education Act: Potential Effects of Changing Comparability Requirements," GAO-11-258, Report to the Chairman, Committee on Health, Education, Labor, and Pensions, U.S. Senate, January 2011, Appendix I, p. 14.

5 To date, educational expenditures are not widely reported at the school level. Education Resource Strategies, a consultancy, provided the authors with estimates for the percentage of school-level expenditures due to teacher salary in a handful of client districts. Estimates vary significantly across districts and across analytical approaches. The most nuanced estimates range from 42 percent to 55 percent. This evidence seems reasonable considering that, according to district-level data collected by the National Center for Education Statistics, 40 percent of expenditures are directed to salaries of instructional personnel (60 percent of expenditures are dedicated to instruction, and 67 percent of that spending goes toward salaries). See: "Education Finance Statistics Center," available at http://nces.ed.gov/EDFIN/graph_index.asp.

6 The Education Trust, "Their Fair Share: How Teacher Salary Gaps Shortchange Poor Children in Texas" (2006), available at http://www.edtrust.org/sites/edtrust.org/files/publications/files/Texas%20(Poor).pdf; The Education Trust—West, "California's Hidden Teacher Spending Gap: How State and District Budgeting Practices Shortchange Poor and Minority Students and Their Schools" (2005), available at http://www.hiddengap.org/resources/report031105; Ross Wiener, "No Accounting for Fairness: Equitable Education Funding Remains Elusive in Ohio" (Washington: The Education Trust, 2008), available at http://www.edtrust.org/sites/edtrust.org/files/publications/files/NoAcctgforFairnessOH.pdf.

7 Jennifer King Rice, "The Impact of Teacher Experience: Examining the Evidence and Policy Implications" (Washington: National Center for Analysis of Longitudinal Data in Education Research, 2010), available at http://www.urban.org/publications/1001455.html.

8 These data should be publicly available in May 2011. See: "American Recovery and Reinvestment Act of 2009: Title I, Part A Funds for Grants to Local Education Agencies," available at http://ed.gov/policy/gen/leg/recovery/factsheet/title-i.html; "2009-10 Civil Rights Data Collection" (OMB # 1875-0240), available at http://www2.ed.gov/about/offices/list/ocr/docs/crdc-2009-10-p1-p2.doc.

9 Districts allocate Title I funds to schools based on complicated rules involving grade bands, poverty rates, and threshold levels of poverty.

10 Charles Edwards and Andrew Brownstein, "ED's Recent Title I Monitoring Reflects Risk-Based Analysis," *Title I Monitor* 16 (1) (2011).

11 The fractions of school funds from local, state, and federal sources vary across states. For a concise explanation, see chapter 3, note 59 in: Eric A. Hanushek and Alfred A. Lindseth, *Schoolhouses, Courthouses, and Statehouses: Solving the Funding-Achievement Puzzle in America's Public Schools* (Princeton, NJ: Princeton University Press, 2009).

12 Lei Zhou, *Revenues and Expenditures for Public Elementary and Secondary Education: School Year 2007–08 (Fiscal Year 2008)* (Department of Education, 2010), available at http://nces.ed.gov/pubs2010/2010326.pdf.

13 Raegen T. Miller, "Secret Recipes Revealed: Demystifying the Title I, Part A Funding Formulas" (Washington: Center for American Progress, 2009), available at http://www.americanprogress.org/issues/2009/08/title_one.html.

14 For a concise treatment of the two strains of school finance litigation, see: Hanushek and Lindseth, *Schoolhouses, Courthouses, and Statehouses*.

15 Gordon MacInnes, *In Plain Sight: Simple, Difficult Lessons from New Jersey's Expensive Effort to Close the Achievement Gap* (New York: The Century Foundation Press, 2009).

16 Geoff Mulvihill, "School aid cuts argued in court," *The Philadelphia Inquirer*, January 6, 2011, available at http://www.philly.com/philly/education/20110106_School_aid_cuts_argued_in_court.html.

17 Arielle Levin Becker, "State High Court Ruling Cites Need for Quantifying Education Quality." *Hartford Courant*, March 23, 2010, available at http://articles.courant.com/2010-03-23/news/hc-school-funding-lawsuit-0323.artmar23_1_higher-education-adequate-education-public-education.

18 More than 200 districts remain under the supervision of the Department of Justice with regards to compliance with court-ordered desegregation plans. For an interesting current example, see: Stephanie McCrummen, "Ruling on racial isolation in Miss. Schools reflects troubling broader trend," *The Washington Post*, April 20, 2010.

19 *Elementary and Secondary Education Act*, Section 1120A(c) (1) (A).

20 *Non-Regulatory Guidance*.

21 To date, educational expenditures are not widely reported at the school level. Education Resource Strategies, a consultancy, provided the authors with estimates for the percentage of school-level expenditures due to teacher salary in a handful of client districts. Estimates vary significantly across districts and across analytical approaches. The most nuanced estimates range from 42 percent to 55 percent. This evidence seems reasonable considering that, according to district-level data collected by the National Center for Education Statistics, 40 percent of expenditures are directed to salaries of instructional personnel (60 percent of expenditures are dedicated to instruction, and 67 percent of that spending goes towards salaries). See: "Education Finance Statistics Center."

22 Eric Hirsch and others, "North Carolina Teacher Working Conditions Survey Interim Report" (Carrboro, NC: Center for Teaching Quality, 2006), available at http://www.teachingquality.org/pdfs/2006nctwcinterim.pdf.

23 Benjamin Scafidi, David L. Sjoquist, and Todd R. Stinebrickner, "Do Teachers Really Leave for Higher Paying Jobs in Alternative Occupations?", *Advances in Economic Analysis & Policy* 6 (1) (2006).

24 Charles Clotfelter and others, "High-Poverty Schools and the Distribution of Teachers and Principals." Working Paper 1 (National Center for the Analysis of Longitudinal Data in Education Research, 2007), available at http://www.caldercenter.org/PDF/1001057_High_Poverty.pdf.

25 Marguerite Roza, Larry Miller, and Paul Hill, "Strengthening Title I to Help High-Poverty Schools: How Title I Funds Fit Into District Allocation Patterns" (Seattle: Center on Reinventing Public Education, 2005); Marguerite Roza, "What if We Closed the Title I Comparability Loophole?" In *Ensuring Equal Opportunity in Public Education* (Washington: Center for American Progress, 2008); Karen Hawley Miles and Marguerite Roza, "Understanding Student-Weighted Allocation as a Means to Greater School Resource Equity," *Peabody Journal of Education* 81 (3) (2006): 36–62.

26 The Education Trust, "Their Fair Share"; The Education Trust—West, "California's Hidden Teacher Spending Gap"; Wiener, "No Accounting for Fairness."

27 Saba Bireda and Raegen Miller, "Walking the Talk: Closing the Comparability Requirement Loophole in Title I of the Elementary and Secondary Education Act" (Washington: Center for American Progress, 2010), available at http://www.americanprogress.org/issues/2010/03/comparability_brief.html.

28 The novelty of this reporting requirement may represent a real obstacle to successful reporting in some states. For an example of guidance offered by a state educational agency to school districts, see: "School Based Reporting," available at http://www.k12.wa.us/safs/bldg_lvl/sbr.asp.

29 "History of Statewide Assessment Program (HSAP)," available at http://www.fldoe.org/asp/hsap/hsap6878.asp.

30 For a complete explanation of the FEFP, see: Florida Department of Education, "Funding for Florida School Districts" (2010), available at http://www.fldoe.org/fefp/pdf/fefpdist.pdf.

31 "Florida Title I Monitoring Report," available at http://www2.ed.gov/admins/lead/account/monitoring/reports10/flrpt.doc (last accessed December 21, 2010).

32 "Common Core of Data," available at http://nces.ed.gov/ccd/.

33 Schools with per pupil expenditures, average teacher salaries, and pupil-teacher ratios in the .1 percentile and 99.9 percentile were dropped from the sample. For example, schools with a per pupil expenditure below or equal to $2,416.692 and equal to or above $15,679.52 were eliminated from the sample. For average teacher salary, schools with values at or below $29,891.22 and at or above $61,758.91 were dropped.

34 During the interval studied, Florida received $487 in Title I funds per student receiving free or reduced-price lunch. Counties received funding at different rates due to complicated formulas, and counties distribute funds to schools in such a way that not all Title I-eligible schools receive funds. Osceola County's high-poverty schools average 78 percent low-income students, so $380 per student is a reasonable estimate of what these schools received in Title I funds during the years studied, on average. Historical Title I allocations available from: "U.S. Department of Education Budget History," available at http://www2.ed.gov/about/overview/budget/history/index.html; numbers of students participating in special programs such as free or reduced-price lunch come from: "Common Core of Data."

35 Bireda and Miller, "Walking the Talk."

36 Karen Hawley Miles and Stephen Frank, *The Strategic School: Making the Most of People, Time, and Money* (Thousand Oaks, CA: Corwin Press, 2008).

37 For a complete explanation of the FEFP, see: Florida Department of Education, "Funding for Florida School Districts" (2010), available at http://www.fldoe.org/fefp/pdf/fefpdist.pdf.

38 Data collected from: "Office of Funding and Financial Reporting," available at http://www.fldoe.org/fefp/offrfefp.asp.

39 Ibid.

40 Lei Zhou, *Revenues and Expenditures for Public Elementary and Secondary Education*.

41 Schools with per pupil expenditures, average teacher salaries, and pupil-teacher ratios in the .1 percentile and 99.9 percentile were dropped from the sample. Schools, for example, with a per pupil expenditure below or equal to $2,416.692 and equal to or above $15,679.52 were eliminated from the sample. For average teacher salary, schools with values at or below $29,891.22 and at or above $61,758.91 were dropped.

About the authors

Jennifer S. Cohen is a senior policy analyst with the Education Policy Program at the New America Foundation. She manages the program's Federal Education Budget Project website, analyzes school finance data, and writes policy papers on a range of education policy topics. She is also the principal contributor for the project's Ed Money Watch blog. Her work includes research and publications on the American Recovery and Reinvestment Act of 2009, federal Title I grants for disadvantaged students, teacher distribution and compensation issues, and federally funded school reform efforts. Before joining New America, Ms. Cohen worked for the Education Policy Center at the Urban Institute in Washington, D.C., where she performed quantitative and qualitative research on such issues as high school reform, teacher pensions, school funding, and the need for career-relevant courses in today's public schools. She serves on the board of the AppleTree Early Learning Public Charter School, a school for 3- and 4-year-olds in the District of Columbia. She earned her bachelor's degree in public policy from Stanford University and holds a master's degree in policy, organization, and leadership studies from the Stanford University School of Education.

Raegen T. Miller is the Associate Director for Education Research at American Progress. His work focuses on fiscal equity and teacher quality. Prior to joining American Progress, Raegen was a National Academy of Education/Spencer Postdoctoral Fellow affiliated with the Center on Reinventing Public Education at the University of Washington. He holds a doctorate in Administration, Planning, and Social Policy from the Harvard Graduate School of Education, where he taught courses on applied data analysis and the foundations of schooling and teaching. Raegen's work in education policy is grounded in many years of practice and service. He taught mathematics in the United States and abroad, in traditional public schools and in charter schools, and in urban and suburban settings. Raegen completed his teacher training at Stanford University, and he holds an M.S. in mathematics from Cal Poly, San Luis Obispo. He was a trustee of Prospect Hill Academy Charter School in Somerville, Massachusetts, and he served as president of his local teachers' union in Palo Alto, California.

About the Center for American Progress

The Center for American Progress is a nonpartisan research and educational institute dedicated to promoting a strong, just and free America that ensures opportunity for all. We believe that Americans are bound together by a common commitment to these values and we aspire to ensure that our national policies reflect these values. We work to find progressive and pragmatic solutions to significant domestic and international problems and develop policy proposals that foster a government that is "of the people, by the people, and for the people."

About the American Enterprise Institute

The American Enterprise Institute is a community of scholars and supporters committed to expanding liberty, increasing individual opportunity, and strengthening free enterprise. AEI pursues these unchanging ideals through independent thinking, open debate, reasoned argument, facts, and the highest standards of research and exposition. Without regard for politics or prevailing fashion, we dedicate our work to a more prosperous, safer, and more democratic nation and world.

Center for American Progress

Center for American Progress
1333 H Street, NW, 10th Floor
Washington, DC 20005
Tel: 202.682.1611 • Fax: 202.682.1867
www.americanprogress.org

AEI
American Enterprise Institute
for Public Policy Research

The American Enterprise Institute
1150 Seventeenth Street, N.W.
Washington, DC 20036
Tel: 202.862.5800 • Fax: 202.862.7177
www.aei.org