Center for American Progress

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The Stealth Inequities of School Funding

How State and Local School Finance Systems Perpetuate Inequitable Student Spending

Bruce D. Baker and Sean P. Corcoran September 2012

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Introduction and summary

Education has been called the passport to the future. It has been defined as the great equalizer and lauded as being a key to unlocking the American Dream. Yet too many children—often low-income and minority children—are denied access to high-quality education because they attend schools that are underfunded and under-resourced. The sad reality is that gross funding inequities continue to exist in this country, and too often the schools serving students with the greatest needs receive the fewest resources.

In the education world, the existence of funding inequities has long been a known fact, but the sources of these inequities have not always been obvious. Typically, we have blamed local property tax variation as the sole, or at least primary, cause of inequalities and called for greater state funding as the solution. In practice, however, we see that states providing a large share of state aid are not necessarily more equitable in their distribution of school funding.[1]

There must therefore be more to the story behind funding inequities. This report tries to provide a fuller picture of the problem so that we know more about what stands in the way of equity. The two chapters that follow explore stealth inequities in school finance, which are defined as often-overlooked features of school funding systems that tend to exacerbate inequities in per-pupil spending rather than reduce them, and that do so in a way that favors communities with the least need.

This report begins by identifying those states where combined state and local revenues are systematically lower in higher-poverty districts—that is, states with "regressive" school funding distributions. Based on this analysis, the authors focus on six states—Illinois, Texas, New York, Pennsylvania, Missouri, and North Carolina—where children attending school in higher-poverty districts still have substantially less access to state and local revenue than children attending school in lower-poverty districts. With these states in mind, the authors then go beyond recent reports on school funding inequities to uncover some nontraditional causes of these imbalances.

The first chapter, "How State Aid Formulas Undermine Educational Equity in States," written by Rutgers University professor Bruce Baker, explores how state aid formulas—often designed to promote equity and adequacy—can work against their own stated objectives.

What makes these patterns more offensive is that each of these states is taking billions of statewide taxpayer dollars and channeling them back to lower-poverty districts, which are much less in need of state funding support. Baker points out that each of these states could achieve far more equitable distribution of resources and far more adequate educational opportunities in high-poverty settings if these resources were allocated based on student need.

In the second chapter, "The Role of Local Revenues in Funding Disparities Across School Districts," written by New York University associate professor Sean P. Corcoran, takes a closer look at the role local revenues play in resource disparities across low- and high-poverty school districts. The main storyline is not a new one: Local revenues are primarily determined by a district's ability and willingness to raise tax dollars for its schools. To the extent that taxable wealth—for example, property or income—is lower in high-poverty districts, poor districts will tend to raise fewer education dollars than wealthier ones for any given level of tax effort. But that is far from the complete story, as Corcoran points out.

For example, nonproperty sources of revenues—such as income taxes, fees, and revenues from intermediate sources—are typically higher in low-poverty districts than high-poverty ones and are rarely equalized through the state aid formula. Additionally, newly legislated restrictions on the growth of local property taxes are likely to constrain poorer districts more than wealthier ones if these districts are less able to obtain the political support needed to obtain an override. At a time when state budget woes have placed more of the burden on local districts, these new constraints on local finance are particularly worrisome.

Suffice it to say, there are a number of ways in which school finance programs can create opportunities for stealth inequities in state and local revenues—inequities not solely due to differences in available resources. The origins of these inequities are not always obvious to lawmakers or education advocates. In order to understand how stealth inequities undermine the intentions of school finance systems, however, you must first understand the systems themselves. Let's explore the system of funding public education in greater detail.

A primer on state school finance systems

A "state school finance system" is the set of rules, regulations, and policies, which combine state aid with local resources to fund schools so they can meet a given educational goal—usually having at least something to do with improving equity and adequacy of resources for the children of the state. Within that system are various streams of state aid, as well as policies regulating local property taxation. Further, there may be additional local income taxes or county-level tax revenues distributed to school systems. State aid formulas are typically very complex, with many moving parts, each the product of political deliberation and a determinant of who wins or loses when it comes to state aid. The authors refer to each of these formula elements as a "policy lever." Similarly, local and intermediate tax policies include their own policy levers such as tax limits, definitions of property types, valuation methods, and exemptions. In short, there are a multitude of policy levers that influence both the distribution of state aid, county-level intermediate resources, and the raising of revenues from local taxes and fees.

In general, modern state school finance formulas—aid distribution formulas—strive to achieve two simultaneous objectives:

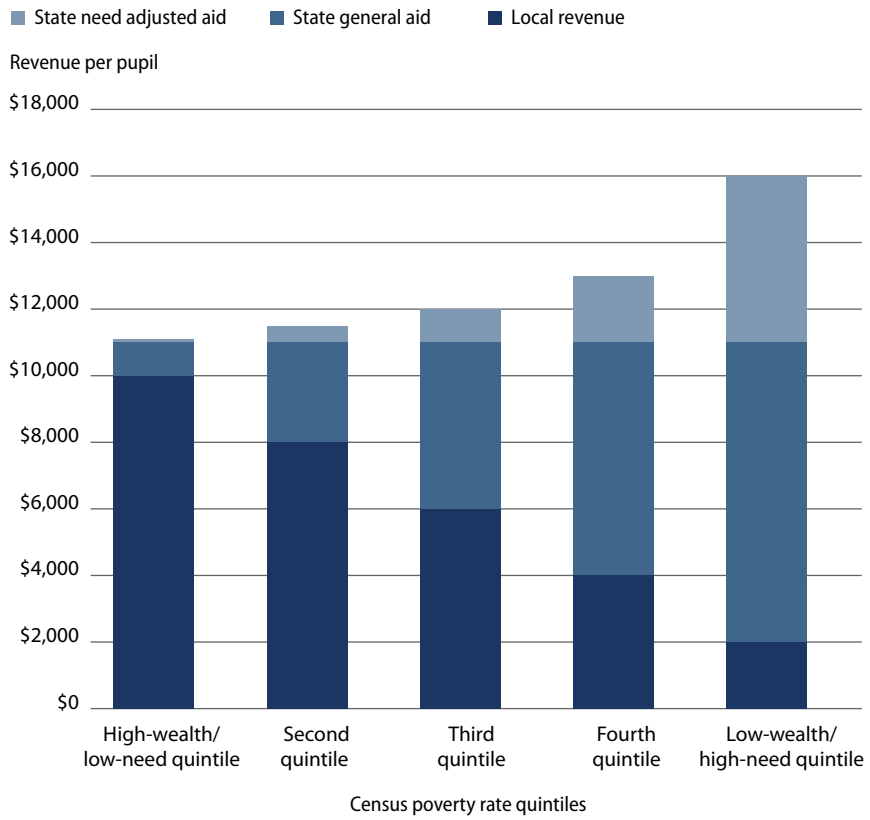
- Accounting for differences in the costs of achieving equal educational opportunity across schools and districts
- Accounting for differences in the ability of local public school districts to cover those costs

A local district's ability to raise revenues often is a function of local taxable property wealth and sometimes of the incomes of local residents.

Figure 1 provides an illustration of how state and local revenues combine in an "ideal" finance system to fund per-pupil spending. In this system, state aid compensates for differences in local capacity to raise revenues and provides more revenues to districts with greater educational needs, which may be directly and indirectly related to poverty. Thus revenues differ by poverty concentration in predictable ways, with high-poverty districts typically raising less in local revenues and receiving more state aid, and low-poverty districts raising more in local revenues and relying less on state assistance. In this example, the typical low-poverty district raises most of its revenues from local taxes. To the extent that state aid depends on local fiscal capacity, this illustration makes the simplified assumption that districts with weaker revenue-raising capacity also tend to be higher-poverty

FIGURE1

Hypothetical need-based, wealth-equalized state aid formula



Sources: U.S. Census Bureau, Public School Finance Survey: Fiscal Survey of Local Governments (2007–09), available at **http://www.census.gov/govs/school/**; U.S. Census Bureau, Public Elementary and Secondary School Finances; U.S. Census Bureau, Small Area Income and Poverty Estimates (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

districts. While this is not uniformly true—consider a high-poverty urban district with a large commercial property tax base, for example—there is generally a correlation between the two. Districts may receive a small share of general state aid if the total cost of providing equal educational opportunity exceeds the local resources raised with a fair tax rate.

Overall, the balance of state and local revenue in this hypothetical case is progressive. In Figure 1, general state aid is used to achieve equality of dollar inputs across districts with varying fiscal capacity, and need-based aid is used to adjust for varying costs of achieving equal educational opportunity. In practice, the ways that general and need-based aid are integrated into school funding systems vary. Many states use multipliers or weights in their general aid formula in order to target more aid to children with greater needs. Other states use separate categorical allocations for specific programs, services, or student populations, while still others use a combination of weights and categorical funding. Yet despite the progressive aspirations or intentions of many funding formulas, things don't always turn out as one might expect or how the state aid formulas intend.

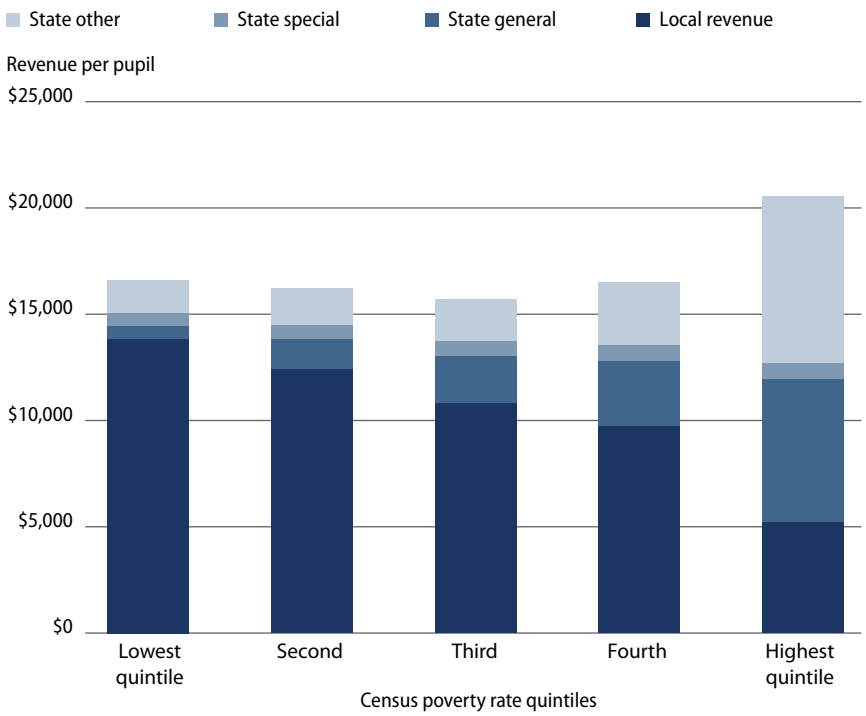
States that get it mostly right

The hypothetical case presented in Figure 1 represents how school funding systems are supposed to look. These state systems provide state aid to offset differences in local capacity to raise revenues, while also providing more support to those districts with greater educational needs. Of course, no state funding system looks exactly the same as Figure 1. But two states—New Jersey and Ohio—come closer than most.

New Jersey is pictured in Figure 2, with revenue components based on a three-year average from the Census Fiscal Survey data (F–33). For New Jersey this three-year average bridges a formula change that moved some funding, which was previously outside of the general aid formula, into a weighting system that is part of the general aid formula—going from the lightest blue into the third lightest. New Jersey's combination of general and special state aid driven to high-poverty districts creates a significant progressive tilt. Even in New Jersey, however, the lowest-poverty districts continue to receive substantial aid outside of the general formula—the lightest two blue regions. Notably, this additional aid to the lowest-poverty districts keeps those districts ahead of moderately high-poverty districts and thus undermines the formula's progressive tilt toward equity. As states such as New Jersey make a greater effort to drive resources into higher-poverty districts, districts in the middle are often "squeezed out"—a pattern observed in a number of other states.

FIGURE 2

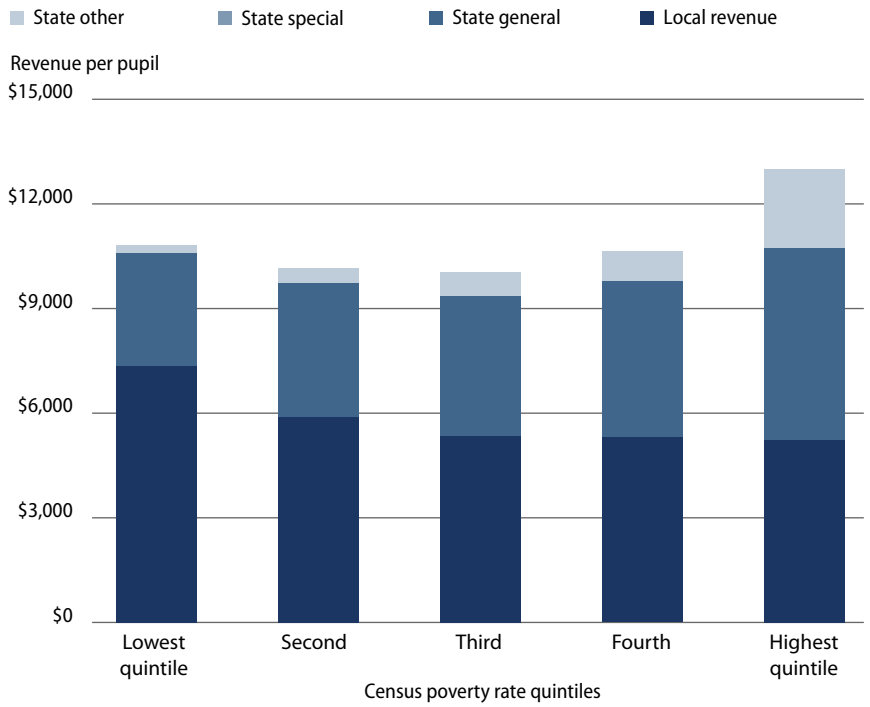
New Jersey averages, 2007–2009



Sources: U.S. Census Bureau, Public School Finance Survey: Fiscal Survey of Local Governments (2007–09), available at http://www.census.gov/govs/school/. This includes total state revenue from all sources, state general formula assistances, state special-education programs, and all other state revenue (state transportation programs are excluded). U.S. Census Bureau, Public Elementary and Secondary School Finances; U.S. Census Bureau, Small Area Income and Poverty Estimates (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

FIGURE3

Ohio averages, 2007–2009



Sources: U.S. Census Bureau, Public School Finance Survey: Fiscal Survey of Local Governments (2007–09), available at http://www.census.gov/govs/school/; U.S. Census Bureau, Public Elementary and Secondary School Finances; U.S. Census Bureau, Small Area Income and Poverty Estimates (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

Figure 3 shows Ohio over the same three-year period. Similar to New Jersey, Ohio succeeds at driving resources to the highest-poverty districts. At the same time, Ohio also drives significant portions of general aid into low-poverty districts. Similar to New Jersey, districts caught in the middle in Ohio remain somewhat left out.

Again, New Jersey and Ohio are among the states that do the best job of achieving a progressive distribution of resources across districts in accordance with local fiscal capacity and student needs. Let's now turn to states that do much worse than New Jersey and Ohio.

Identifying the least equitable states

To identify the least equitable states in the country, the authors adopt a version of the School Funding Fairness model used in an annual report produced by the Education Law Center of New Jersey.[2] This model enables identification of the states that generally have more regressive state school finance systems—or systems where higher-poverty districts have systematically lower state and local revenues per pupil than lower-poverty districts. The first step is to identify the most regressive state school finance systems—that is, states with the greatest imbalance in revenues available to both low- and high-need school districts. The model uses data from the years 2006–07, 2007–08, and 2008–09, and determines the relationship between state and local revenues available to districts and their enrollment (size), population density (which is also interacted with size), teacher-wage cost, and the percent of children in poverty.[3] In other words, variation in state and local revenues is first examined with respect to basic measures of educational

cost. Then the states where, holding constant other cost factors, revenues have the weakest relationship to poverty are identified.

Table 1 summarizes the bottom 15 states by this measure: those states which have the largest gaps in funding between the highest-poverty districts and lowest-poverty districts after correcting for the other cost factors in our model. In New Hampshire, for example, a district with 30 percent of children in poverty receives only 64 percent of the state and local revenue per pupil of a district with no—0 percent—children in poverty, after adjusting for cost factors. New Hampshire, however, is a relatively small state that maintains a very high local share of school funding (63 percent), making it a less interesting case in a study of stealth inequities. Likewise, Nevada fares poorly in terms of progressivity, but it too is an unusual case, with only 17 school districts and the majority of children situated in a single district (Clark County). The remaining candidates in Table 1 include a number of large and geographically diverse states.

Table 1 relies on a statistical model to adjust for differences in district cost characteristics such as size, population density, and average wage costs, but, as it turns out, a simple unadjusted comparison of mean revenues between districts in the lowest and highest quintiles of poverty produces a very similar list of inequitable states (see Table 1a).[4] To put it another way, the selection of inequitable states does not strongly hinge on the methods adopted from the School Funding Fairness report. State and local revenues are sufficiently unequal in these cases that many of the same states—including the six selected as focus states—appear on this list.

TABLE 1

Cost-adjusted (predicted) local and state revenues per pupil in the 15 least equitable states by child poverty rate

State	0% Poverty	10% Poverty	20% Poverty	30% Poverty	Ratio	State aid share*
New Hampshire	$14,801	$12,746	$10,977	$9,454	0.64	37
Nevada	$11,646	$10,214	$8,958	$7,856	0.67	55
North Carolina	$11,422	$10,302	$9,291	$8,379	0.73	58
Illinois	$11,082	$10,348	$9,662	$9,021	0.81	34
North Dakota	$10,637	$9,917	$9,245	$8,618	0.81	37
Alabama	$9,698	$9,240	$8,804	$8,388	0.86	59
Texas	$9,526	$9,134	$8,758	$8,397	0.88	41
New York	$18,629	$17,907	$17,213	$16,546	0.89	46

State	0% Poverty	10% Poverty	20% Poverty	30% Poverty	Ratio	State aid share*
Maine	$12,880	$12,373	$11,886	$11,418	0.89	45
Pennsylvania	$13,675	$13,226	$12,792	$12,373	0.90	37
Missouri	$9,509	$9,251	$9,000	$8,756	0.92	42
Idaho	$7,783	$7,591	$7,404	$7,221	0.93	68
Nebraska	$10,542	$10,337	$10,136	$9,939	0.94	33
Florida	$9,230	$9,036	$8,847	$8,661	0.94	39
Colorado	$9,478	$9,303	$9,130	$8,961	0.95	44

Source: U.S. Census Bureau Fiscal Survey of Local Governments (2007-09),[21] Public Elementary and Secondary School Finances & U.S. Census Bureau Small Area Income and Poverty Estimates (2007-09)[22]

* Based on 3-year average of district level data, weighted by district enrollment. National mean = 48%

TABLE 1A

Cost-adjusted (predicted) local and state revenues per pupil in the 15 least equitable states by child poverty rate

State	State and local revenues	Rank	Local revenues	Rank
United States	0.956	-	0.579	-
Nevada	0.636	1	0.271	2
Illinois	**0.773**	**2**	**0.392**	**5**
New York	**0.794**	**3**	**0.371**	**4**
Wyoming	0.853	4	0.238	1
Texas	**0.854**	**5**	**0.519**	**12**
Arizona	0.875	6	0.728	35
Missouri	**0.875**	**7**	**0.656**	**26**
Alabama	0.881	8	0.558	17
Virginia	0.897	9	0.565	22
Pennsylvania	**0.898**	**10**	**0.441**	**7**
Michigan	0.900	11	0.824	40
Delaware	0.902	12	0.64	24
Florida	0.904	13	0.556	16
Maine	0.923	14	0.697	29
Mississippi	0.926	15	0.706	31

Source: Author's calculations using data from the U.S. Census Bureau, Annual Surveys of School System Finances, 2006–07, 2007–08, and 2008–09. Focus states are shown in bold.

A comment on the role of federal revenues is in order at this point. The largest share of federal revenues to local public school districts are Title I revenues, which are targeted on the basis of poverty. But the influence of these revenues on the overall progressive or regressive nature of state school finance systems is small. Federal Title I revenues, for example, when included in the funding fairness model, tend to raise the revenue estimates for the highest-poverty districts (more than 30 percent, based on U.S. Census poverty data) by about 5 percentage points.[5]

As noted earlier, the goal of this report is to uncover stealth inequities to explain why these states exhibit such regressive patterns in school spending. Is it the case that in the most regressive states, there is simply not sufficient state revenue in the system to target low-wealth districts in order to improve equity? Or are other factors at play?

Choosing our focus states

This report does not explore the causes of disparities for every state in Table 1. Rather, it starts from the most regressive and chooses a number of states that are:

- Geographically dispersed across regions
- Sufficiently large and diverse
- Exemplars of the variation in state education systems in the United States

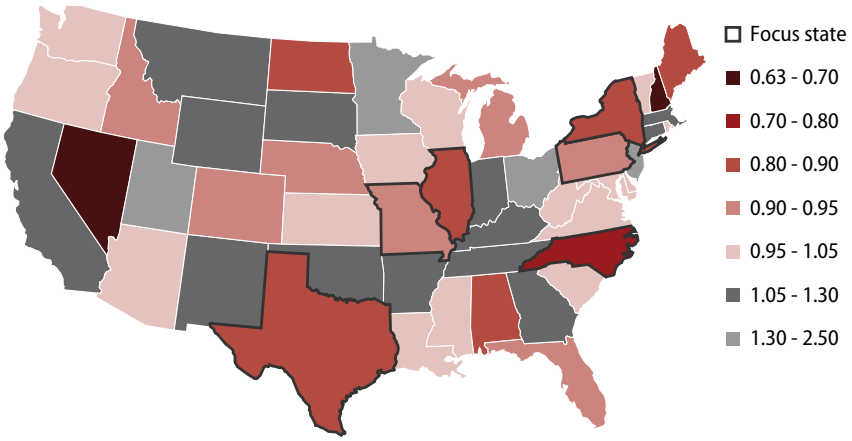
Notably, there are few states from the West and Southwest regions in our analyses. While these states may have their own set of school finance problems—such as low overall spending on public education—with the exception of Nevada, they are not systematically regressive as defined here.[6]

This report focuses on six states with regressive distributions of state and local revenues in Table 1—Illinois, Texas, New York, Pennsylvania, Missouri, and North Carolina. (Note: North Carolina, Florida, and Alabama operate in county-level systems, with state aid flowing to counties. Because North Carolina is the least equitable among these, the authors chose to explore the causes of inequities there.) These six states are geographically and demographically diverse and round out the sample for the exploration of stealth inequities.

States must scrutinize regressive funding systems and implement progressive funding formulas and approaches that use financial resources in ways that will most effectively level the educational playing fields between their districts.

FIGURE 4

Map of United States based on fairness ratios



Source: Fairness ratios from Bruce D. Baker, Danielle Farrie, and David Sciarra, "Is School Funding Fair? A National Report Card" (2012).

Nationwide, school finance disparities continue to seriously undermine the mission of this country's public schools. Eliminating these disparities must be a priority if our goal is to successfully educate this generation of children to compete and win in the global marketplace.

Let's turn now to the chapters on state aid and local revenue and more closely examine these hidden inequities through the lens of our six focus states: Illinois, Texas, New York, Pennsylvania, Missouri, and North Carolina.

Chapter One: How State Aid Formulas Undermine Educational Equity in States

Bruce D. Baker

Introduction and summary

School funding equity has been of significant interest to policymakers since the early 20th century. Scholars began articulating goals for state aid programs and designing formulas to account for differences in the wealth of local communities as early as the 1920s.[7] In the late 1960s and early 1970s, legal activists brought their arguments for improving school funding equity to federal and state courts.[8]

Early writings articulating school funding equity frameworks describe two primary goals of school funding systems—horizontal and vertical equity, where horizontal equity demands the equal treatment of equals and vertical equity, the unequal treatment of unequals.[9] In practical applied terms, these concepts would argue that where all else is equal, schools should receive equal funding (horizontal equity), and where different needs exist—such as higher concentrations of students from low-income families and greater numbers of children with disabilities—those with greater needs and higher costs associated with meeting those needs should receive greater funding (vertical equity).[10] More recent writings argue that horizontal and vertical equity can effectively be folded into a single concept of equal educational opportunity, where the equity object of interest is the desired student outcome goal.[11] Following this concept, different financial inputs, programming strategies, and more are required for achieving common educational outcomes in different settings and for different children. That is to say, common educational outcomes, not raw dollar inputs, are the equity object of interest.

A body of research in the 1990s and 2000s took this goal of equal educational opportunity and sought to identify factors associated with the costs of achieving common outcomes and the additional costs associated with each.[12] These factors can be divided as follows:

- Factors associated with student needs
- Factors associated with regional geographic and other uncontrollable organizational costs[13]

The student-need category can be further divided into individual educational needs—such as special education or English language instruction—and collective needs tied to the social context of schooling. Concentrated poverty is an example of a social context factor that can affect the overall programs and services a school or district may need to provide for its children. These costs may be over and above those required to provide individual students with targeted educational programs. Regarding geographic and other costs, the two most common are those associated with district size (economies of scale) and wage costs (teachers and other school staff).

The equity frameworks and related empirical work discussed earlier have increasingly informed the design of state school finance systems in recent decades. As a consequence, numerous scholars now argue that a primary objective of state school finance systems is to provide sufficient resources to all public schools such that students have equal opportunity to achieve desired educational outcomes.[14] Several state courts, in reference to state constitutional language, have acknowledged that state school finance systems should strive to improve equity and adequacy of student outcomes.[15] But the extent to which these systems accomplish this goal varies widely.

As explained in the introductory chapter, "The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending," most modern school funding formulas aim, at least in part, to decrease inequalities in school funding. Yet the significant differences in per-pupil spending, displayed in Table 1 of "The Stealth Inequities of School Funding," show that in many states the funding systems fail to achieve this goal. This chapter explores how the designs of state aid formulas result in stealth inequities—lesser known sources of inequity that play a significant role in producing those differences in per-pupil spending. It, in doing so, closely examines the specifics of the state aid formulas in six focus states: Illinois, Missouri, North Carolina, New York, Pennsylvania, and Texas.

While several of these states made substantive changes to their school funding systems during the period of study, the aims of these reforms have in many cases not been realized. Further, while our national data analyses extend only through 2009, the state-level critiques that follow include more recent years (through 2011), accounting for these changes.

State aid formulas and stealth inequities

This section explores how state aid formulas result in stealth inequities. To do so it closely examines state aid formulas in the six focus states: Illinois, Missouri, North Carolina, New York, Pennsylvania, and Texas.

- **Illinois** is a state with about 846 school districts and a relatively large number of nonunified districts (371 elementary schools with 528,000 children; 99 high schools with 254,000 children; and 376 unified school districts with 1.23 million children, including Chicago), most of which are clustered in the Chicago metropolitan area. Illinois maintains a relatively heavy reliance on local property taxes to fund schools. It has made no substantive changes to its general state aid formula in recent years.

- **Missouri** is a state with about 422 school districts (865,000 students), most of which are unified but include about 75 K–8 districts with slightly more than 10,000 students scattered throughout rural portions of the state. Missouri provides less (about 41 percent) than the national average in state aid share, which averaged about 45 percent in 2009–10. It transitioned to a new school finance formula beginning in 2006, moving from a formula driven by tax rates and matching aid (S.B.380) to a formula driven by setting a foundation target with student-need adjustments (S.B. 287).

- **North Carolina** is a state that consists largely of county-level school districts and a handful of city districts—115 in total. North Carolina is significantly above the national average in the share of school funding that comes from state aid. That aid is allocated through a personnel allotment formula discussed later in this chapter.

- **New York** is a state with approximately 676 school districts, which include a handful of nonunified K–8 districts. New York is slightly below average in the total percent of school funding that comes from state aid. In response to a court order in 2003—Campaign for Fiscal Equity v. State of New York—the state adopted a new school finance formula: a need- and cost-adjusted foundation aid formula beginning around 2006. The formula was to be phased in over the next several years but has never been fully incorporated.

- **Pennsylvania** is a state that operates approximately 500 school districts, most of which are unified K–12 districts. Pennsylvania adopted a new state school

finance system in 2008, moving to a system that set a new foundation level and adopted new student-need and cost adjustments. The formula was to be phased in over the next several years but has since been dismantled.

- **Texas** is a state that operates more than 1,000 school districts. Texas adopted changes to its state school finance system in 2006 (H.B.1), focused specifically on using state aid for tax relief (to buy-down or "compress" local property tax rates). Texas was already operating a system with a need- and cost-adjusted foundation level. That system was retained in the modified formula.

Notably, four of the six focus states adopted substantive changes to their state school finance systems in the years immediately prior to the study period—2006–07 and 2008–09—with one of those states, Pennsylvania, being in the midst of making changes during the study period. Changes to the state finance formula in Pennsylvania came about without any cloud of litigation and a long history of judicial deference to the state legislature. In New York state the new foundation aid formula was adopted in response to a court order in Campaign for Fiscal Equity v. State, but it has never been fully funded.[16] In Missouri the new formula was adopted prior to litigation challenging the equity and adequacy of the state school finance system. The state ultimately prevailed in that case—Committee for Educational Equality v. Missouri—and the new law moved forward without threat of immediate judicial intervention.[17] On paper, Pennsylvania's reforms would appear more progressive than those in Missouri or New York, but the Keystone State's reforms have yet to be fully implemented.[18]

Finally, Texas presents a peculiar case, where the state court ruling in 2006 did not pertain to inadequate funding. Rather, the court ruled that the school finance system had in effect created a statewide property tax, impermissible under the Texas Constitution, by effectively forcing school districts to levy their maximum property tax rate. The court ruled that the system no longer provided "meaningful discretion" for districts to raise additional revenue for their schools, drawing on language from previous Texas school finance rulings. Thus the Texas legislature set out to correct those aspects of the formula, which limited meaningful discretion, but set aside concerns over the equity or adequacy of funding.[19]

Neither North Carolina nor Illinois have adopted substantive structural changes to their state school finance systems in recent years. Illinois, similar to Pennsylvania, has faced no substantive threat[20] of litigation to overturn what has historically been one of the nation's most persistently inequitable state school

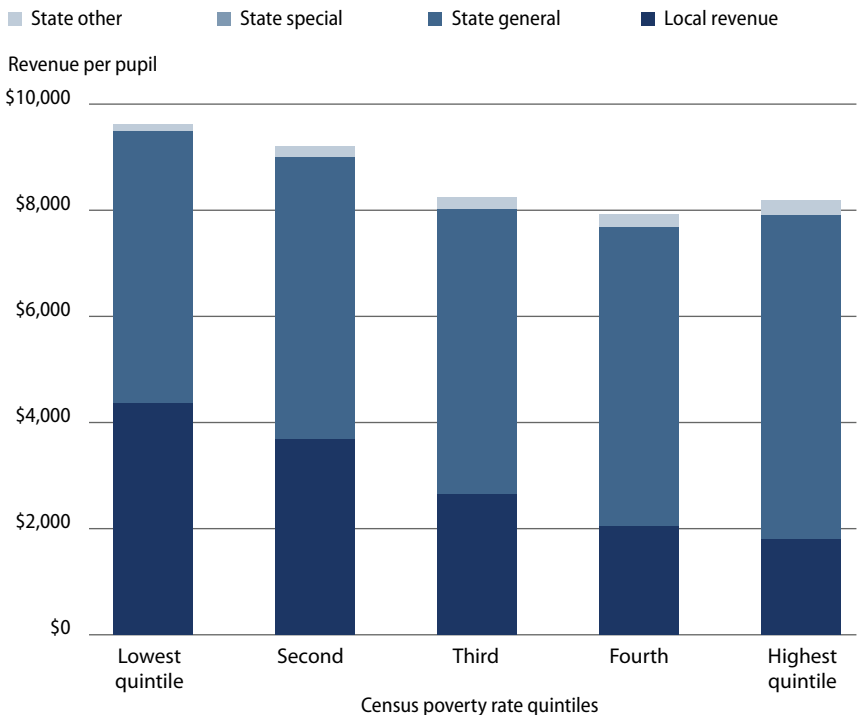
finance systems. That wasn't to be the case for North Carolina, which in 2004 was ordered by its court—Hoke County Board of Ed. v. North Carolina, also known as Leandro v. State—to remedy deficiencies in the equity and adequacy of their state school finance system but has since made little substantive change.[21] Incidentally, our collection of highly inequitable states—which includes both states with and without substantive finance reform and judicial pressure—illustrates that court intervention alone is no guarantee of equity.[22]

The relationship between state and local revenues per pupil and district poverty in these six states is examined first, in the manner shown in figures 1 through 4. The Census Fiscal Survey data characterizes the basic components of revenue and its distribution over a three-year period.

North Carolina allocates state aid across county organizational units. Remarkably, state aid per pupil appears to vary little with respect to differing poverty rates across counties. The lowest-poverty county districts appear to receive nearly as much state aid per pupil as the highest-poverty counties—despite the fact that they also have substantially greater local revenue per pupil. State "other" revenue per pupil is allocated in somewhat higher amounts to higher-poverty counties but is insufficient to counterbalance the overall regressive distribution. Put simply, the pattern of revenues exhibited in North Carolina looks nothing like the hypothetical preferred distribution in Figure 1 of the introductory chapter, where state aid offsets variation in ability to pay and provides greater aid to districts with higher costs.

FIGURE 5

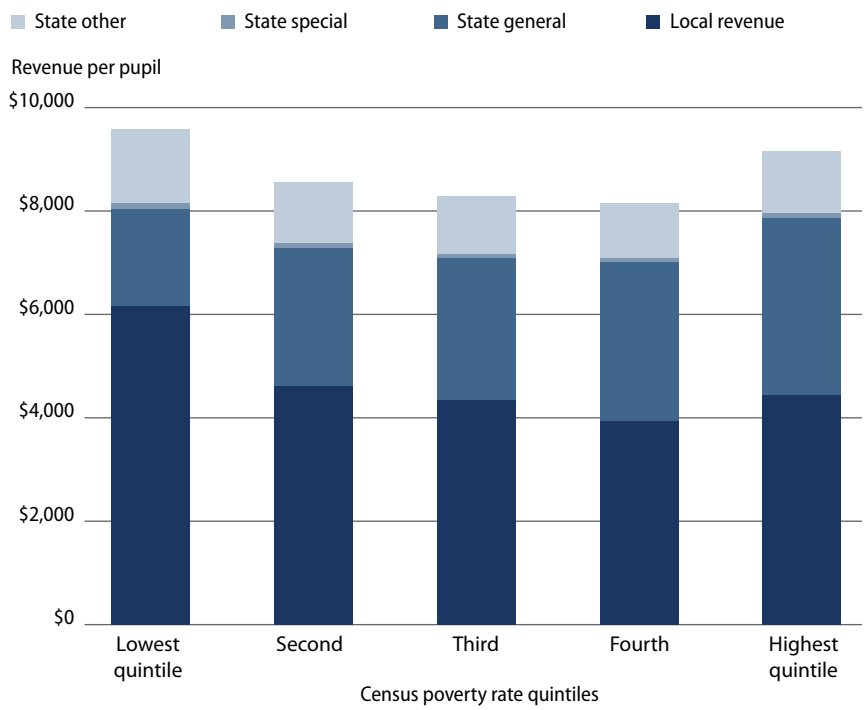
North Carolina averages, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at http://www.census.gov/govs/school/; U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

FIGURE 6

Missouri averages, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at http://www.census.gov/govs/school/; U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

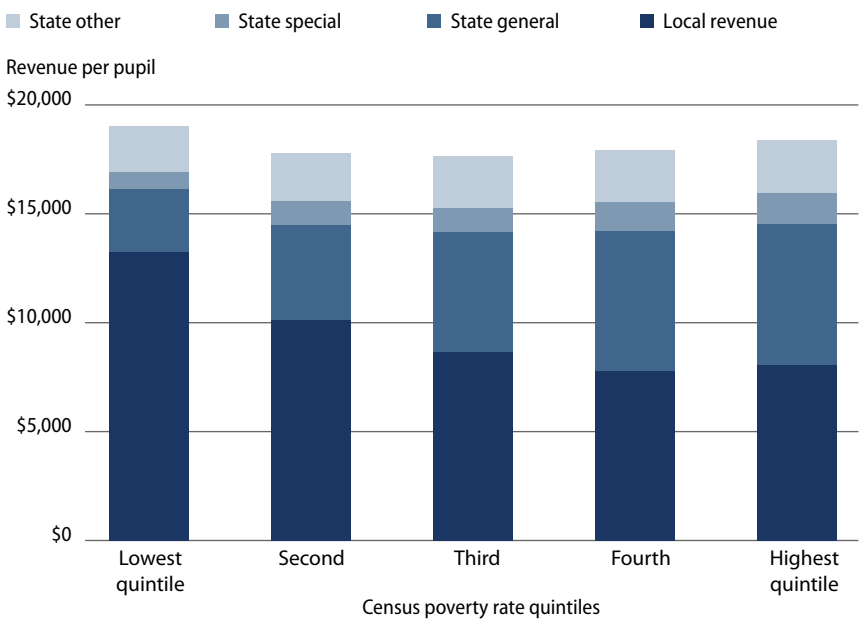
In some ways, the Missouri pattern looks similar to that of New Jersey or Ohio in that funding is higher in the highest-poverty districts, but funding dips in the middle, as seen in Figure 6 (which includes no cost adjustment). After correcting for cost factors, however—as in Table 1 of the introductory chapter—the Missouri formula has a decisive regressive tilt. During the 1990s Missouri looked more like New Jersey or Ohio, with a bump in funding appearing in the two large high-poverty urban districts of St. Louis and Kansas City, resulting from desegregation litigation. A notable feature of that bump, however, was that it was largely achieved by mandated increases in local taxes in the two districts.[23] That bump has since faded from its high point, but local revenues per pupil remain higher in those districts as a remnant of past desegregation orders.

As seen in Figure 6, a significant portion of "other" state aid, along with some state general aid, goes to the lowest-poverty districts in the state. The districts in the middle or districts with moderate poverty levels—which also have the lowest local revenue per student—receive almost $2,000 less per student in state and local revenues than the lowest-poverty districts.

New York state shows a gradual decline in state and local revenue per pupil with poverty rates. As in Missouri, some of the highest-poverty districts are larger cities, which have a somewhat stronger local property tax base than some of the more rural and inner-urban-fringe high-poverty districts and thus generate somewhat more local revenue per pupil. Despite the overall regressive distribution of resources across New York districts (more sharply regressive when modeled with controls for regional costs and other factors), the state allocates substantial general and other state aid to the lowest-poverty districts.

FIGURE 7

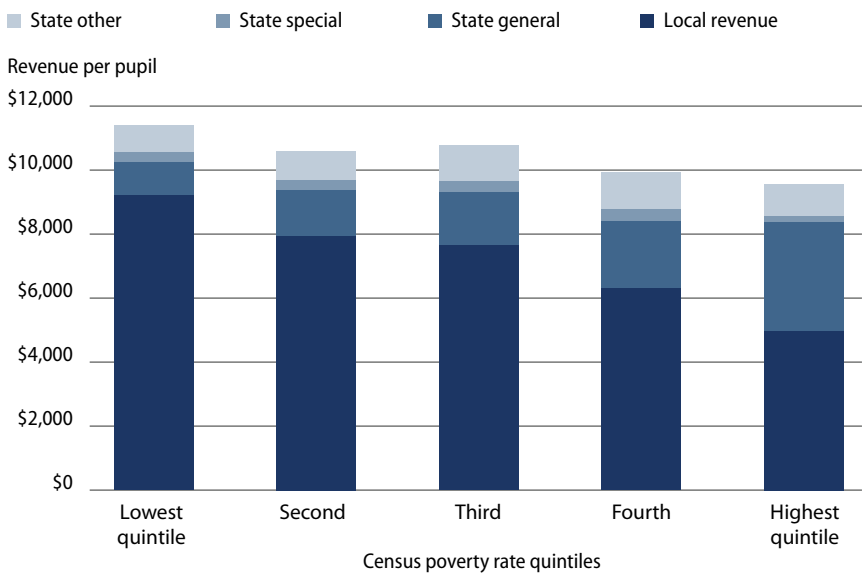
New York averages, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at http://www.census.gov/govs/school/; U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at http://www.census.gov/did/www/saipe/data/schools/data/index.html.

FIGURE 8

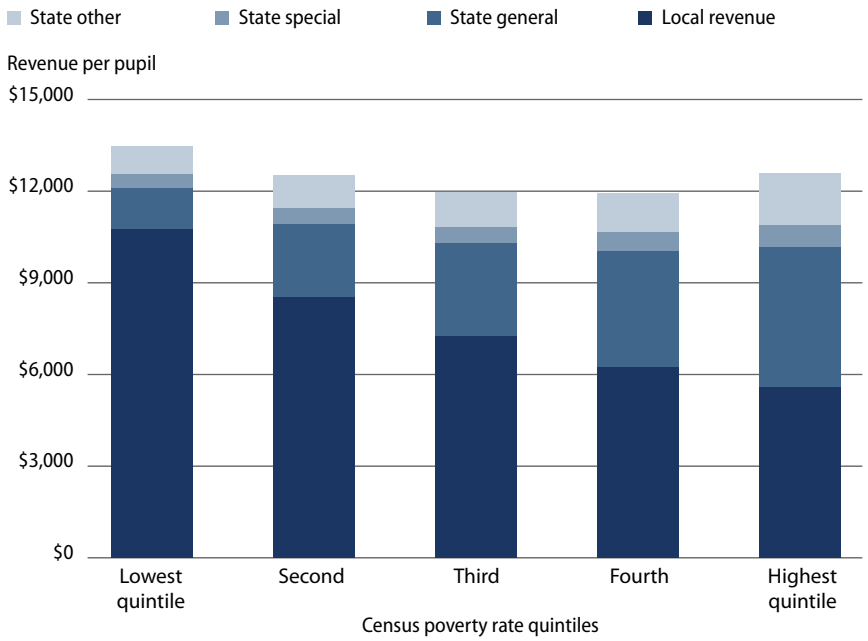
Illinois, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at **http://www.census.gov/govs/school/**; U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at **http://www.census.gov/did/www/saipe/data/schools/data/index.html.**

FIGURE 9

Pennsylvania, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at **http://www.census.gov/govs/school/**; U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at **http://www.census.gov/did/www/saipe/data/schools/data/index.html.**

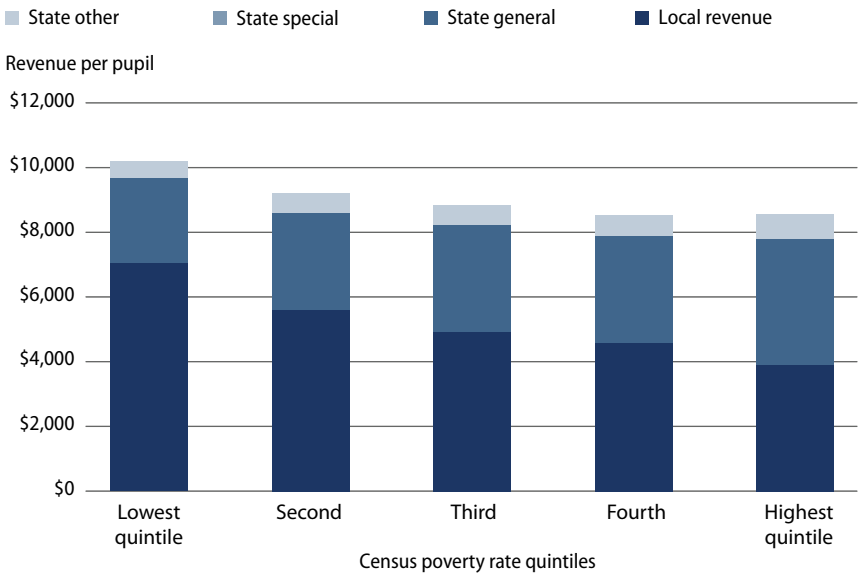
As seen in Figure 8, revenues in Illinois are even more regressive than those in New York. In Illinois the highest-poverty districts have substantially less total state and local revenue per pupil than do the lowest-poverty districts. In fact, the local revenue component of the lowest-poverty districts' funding is higher than the state and local revenue per pupil combined of the highest-poverty districts. Yet a significant portion of state general and other aid still flows to these districts.

Pennsylvania is more of the same. Overall, the state school finance system is regressive even when presented with unadjusted descriptive data, as in the preceding figure, and even more so when adjusted for regional costs of labor and other factors—as in Table 1 of the introductory chapter. Similar to New York and Illinois, despite the overall regressive distribution of revenues, state aid in Pennsylvania continues to flow to low-poverty districts, including state general aid, state other aid, and state special-education aid.

Texas is shown in Figure 10. Similar to the other states that we have presented here, the regressive distribution of state and local revenues in Texas is exacerbated by the distribution of state aid, with a significant amount of general foundation aid provided to the state's lowest-need districts, while failing to bring the highest-need districts up to the level of low-poverty districts.

FIGURE 10

Texas averages, 2007–2009



Sources: U.S. Census Bureau, Fiscal Survey of Local Governments Public School Finance Survey (2007–09), available at **http://www.census.gov/govs/school/;** U.S. Census Bureau, Small Area Income and Poverty Estimates, School District Data (2007–09), available at **http://www.census.gov/did/www/saipe/data/schools/data/index.html.**

Taken together, the previous state graphs show that state school finance systems can and do fall short of satisfying the two basic principles of school finance: equitable and adequate funding. In some cases, states continue to allocate substantial general and other aid to districts that would seem to have less need for that aid. Such distributions might be less problematic if these states were also allocating sufficient aid to districts facing higher costs, with greater student needs, and with less local fiscal capacity. But as the preceding figures show, that is not the case in these states.

Causes of stealth inequities in state aid systems

In most cases, the inequitable funding patterns in the previous section are the result of many years of political decisions regarding the distribution of state aid. Not surprisingly, state legislators advocating for their districts seek to preserve past funding streams and look for ways to advocate for more funding for their districts.[24] Consider Kansas, which permits the 16 districts with the most expensive residential properties to levy a special local tax to raise more revenue, on the basis that it costs more to hire teachers in neighborhoods with high-priced houses.[25] This has particularly negative equity consequences in the Kansas City metropolitan area, where housing-price variation is influenced by decades of racial restrictions in property deeds.[26] Permitting districts with high-priced houses to raise more revenue means permitting districts that are predominantly white—largely due to decades of racial restrictions in home deeds—to raise more revenue than neighboring minority districts, with the specific purposes of raising teachers' salaries. Similarly, Arizona's state school finance formula includes an adjustment for districts with more experienced teachers (higher than the state's average experience), who are more likely to serve in low-needs districts, but it doesn't include an adjustment for the greater needs of low-income students.[27]

This section focuses on features of these state aid systems, which drive additional aid to districts that generally would be assumed to need less aid. In some cases, these provisions drive aid to districts that could more than pay their own way with their own source revenues. These provisions often emerge anew or persist as an untouchable third rail when political tradeoffs are made to generate sufficient votes to get a formula passed in a state legislature. A handful of provisions have been adopted that contribute to the regressive distribution of funding by providing disproportionate aid to districts with fewer educational needs or greater local fiscal capacity, or both. Table 2 provides an overview of the types of provisions identified through in-depth analysis of the focus states' school finance formulas.

While a general aid formula in its purest implementation would have a state-sharing ratio that drops to no financial aid (or a 0 percent state share) for districts with

sufficient local capacity, many—if not most—state aid formulas include minimum aid provisions and/or other adjustments to state sharing ratios that allow districts to receive the "greater of X or Y" or "no less than Z." These types of provisions would produce the distributions of general aid to the low-need, high-capacity districts seen in the previous figures. These provisions may also increase the aid for districts that would otherwise receive less.

Another similar type of adjustment to state general aid, often used when changes are made to a state school finance system, is the hold-harmless provision. Hold-harmless provisions take numerous forms, but the general idea is that no district should receive either less state aid or less in total funding than it received in some baseline comparison year. Thus if a state is transitioning from a formula that had a minimum aid provision but no longer does, and that state adopts a 100 percent hold-harmless state aid provision, then the state has essentially maintained the previous minimum aid provision. There's no more minimum aid, per se, but no district shall receive less than the minimum aid they received under the previous formula.

On top of these provisions of states' general aid formulas, many states also have multiple funding formulas operating simultaneously. There may be one general aid formula and several additional aid formulas. It may be that the general aid formula is adjusted for differences in local capacity to pay for the services intended to be funded by that formula, but that some or all of the other aid formulas are not adjusted for differences in local capacity. Additional aid may be allocated in flat block grants across districts regardless of differences in student populations, regional costs, or local capacity. This is why we see the relatively constant lightest blue (state other aid) and second lightest blue (state special aid) portions of the bars across poverty quintiles in figures 5 through 10. Alternatively, many of these additional grants may be allocated according to needs but not adjusted for local capacity. Further, some of these grants may be allocated entirely at the discretion of state agencies. In some states, the general aid formula may constitute a relatively small piece of the overall distribution of state aid. Consequently, while the general aid formula may be progressive and work to improve equity and adequacy overall, the other types of aid— outside of the general formula funds—may completely erase any improvements made with general aid.

One particularly problematic category of aid provisions plays a significant dis-equalizing role in three of our six focus states—specifically, state aid for property tax reduction. On its face it could make sense to allocate state aid to support reduction of local property taxes. In fact, state aid generally does just that. If a

district receives more in state aid, then that district can provide the same level of service while raising less in local revenue or can provide a higher level of service while raising the same in local revenue. State "equalization aid" is generally distributed so as to permit lower-fiscal-capacity school districts to have comparable total revenue with a tax effort that is fair or comparable to the tax effort of higher-fiscal-capacity districts. In many states, however, it remains the case that poorer, lower-fiscal-capacity districts continue to levy much higher nominal tax rates than do higher-fiscal-capacity districts, while still having lower total revenue per pupil. At the same time in these states, particularly affluent local public school districts can still raise far more than they would need to operate their school systems with much lower than average local property tax rates.

It is important to remember that state general aid is partly intended to be allocated in inverse proportion to local capacity, which is usually measured in terms of taxable property wealth. That is, state general equalization aid is intended to allow districts, regardless of their property wealth, to raise the revenues they need and make sure that high-need, low-wealth districts aren't forced to tax themselves at unfairly high rates. General equalization aid is property tax relief for those who need it most. Thus there would be little or no reason to provide separate funding streams for property tax relief, especially in inverse relation to the general equalization aid formula. Some states have done just that—targeting tax relief aid to those with the greatest local fiscal capacity and the fewest additional need and cost pressures. These tax-relief aid programs are, in effect, unequalization aid.

New York state, for example, operates its property tax relief program as an entirely separate formula. Texas, on the other hand, has embedded its property tax relief aid within its general aid formula and has focused on "compressing" (Texan for cutting or reducing) local property taxes in districts. Missouri's property tax relief aid is the least regressive among the three states discussed herein with such provisions and is based on a referendum passed in 1982, which set aside a special fund, derived from a 1 percent statewide sales tax.

TABLE 2

Stealth provisions in state aid formulas

	Adjustments to state aid ratio (and minimum aid)		Un-equalized (or ad hoc) categorical aid		Tax relief provisions	
	Note	Amount	Note	Amount	Note	Amount
Illinois[1]	Alternative aid formulas including flat minimum[2]	Minimum = $218 per pupil plus hold harmless aid[3]	Mandatory (state formula) and discretionary (distributed by the Illinois State Board of Education) categorical grants			
New York[4]	Minimum foundation aid and other adjustments	Minimum = $500 per aid-able pupil unit			New York State School Tax Relief Program[5] (STAR)	
Pennsylvania	Minimum basic funding aid ratio[6]	15 percent of foundation target	Special education (Census-based)[7]	$400+ per average daily membership		
North Carolina	Minimum aid through personnel ratio formula					
Missouri[8]	Hold-harmless provision (transition to SB287 from SB380)		Classroom Trust fund	$435 per average daily attendance	Proposition C (1982)	$786 to $818 per weighted average daily attendance (10 percent of state and local revenue)
Texas[9]	Available school fund	Approx. $250 per pupil minimum, $466 per pupil in 2010-11[10]	New Instructional Facilities Allotment		Additional State Aid for Tax Reduction[11] (ASATR)	Fills gap between revenue at compressed rate and target revenue

1 Illinois State Board of Education, General State Aid Overview, available at http://www.isbe.state.il.us/funding/pdf/gsa_overview.pdf..

2 The second formula is the "Alternate" formula. Districts qualifying for this formula have available local resources per pupil of at least 93 percent but less than 175 percent of the foundation level. The third formula is the flat-grant formula. Districts qualifying for this formula have available local resources per pupil of at least 175 percent of the foundation level.

3 A hold-harmless provision is included in Section 18-8.05(J) of the School Code. If, for any district in 2007–08, the formula yields less than the sum of the district's 1997–98 General State Aid and 1997–98 hold-harmless, a separately appropriated grant will be made to hold those districts harmless to the 1997–98 levels. Districts will be eligible (subject to appropriation) to receive hold-harmless grants in all subsequent years if the amount of General State Aid the district receives is below the 1997–98 levels described above. See Illinois State Board of Education, General State Aid Overview.

4 New York State Education Department Fiscal Analysis and Research Unit, Primer on State Aid, available at http://www.oms.nysed.gov/faru/PDFDocuments/Primer11-12D.pdf.

5 New York State Department of Taxation and Finance, New York State School Tax Relief Program, available at http://www.tax.ny.gov/pit/property/star/index.htm.

6 Pennsylvania Dept. of Education, Basic Education Funding History, available at http://www.portal.state.pa.us/portal/server.pt?open=514&objID=509059&mode=2.

7 Pennsylvania Dept. of Education, Special Education Funding History, available at http://www.portal.state.pa.us/portal/server.pt?open=514&objID=509062&mode=2.

8 Missouri Senate Bill 287, available at http://www.senate.mo.gov/07info/pdf-bill/intro/SB287.pdf (last accessed September 2012).

9 Texas Association of School Boards, School Finance 101, available at http://www.tasbo.org/files-public/publications/TEA/School_Finance_101.pdf.

10 Texas Education Agency, Available School Fund available at http://www.tea.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2147499903&libID=2147499900.

11 Texas Education Agency, School Finance Topics 1-page overviews, available at http://www.tea.state.tx.us/index2.aspx?id=2147499540 .

In addition to those policies listed in Table 2 and discussed in the following sections, there are a number of other provisions that contribute to inequities by reducing support for high-need districts. For example, three of the states addressed here distribute their state aid primarily on the basis of average daily attendance rather than enrollment or membership. Higher-poverty districts and higher-minority-concentration districts tend to have lower attendance rates, often for several reasons outside of the districts' own control. Using average daily attendance as the base count method for driving school funding reduces aid to these districts—serving effectively as an unpoverty weight. Second, states may tweak their need-weighting systems in a number of ways to make them not play out as one might expect. Missouri, for example, provides additional need weighting only above the statewide average for any given need measure. That is, there is no need differentiation for districts from 0 percent low-income to the statewide average or 0 percent limited English proficiency/English language learners to the statewide average. The weight only kicks in above that level. This approach serves to preserve more aid for the least-needy districts and provide less differentiation of aid for the neediest districts.

The property tax relief provisions in Missouri, Texas, and New York are discussed more fully below.

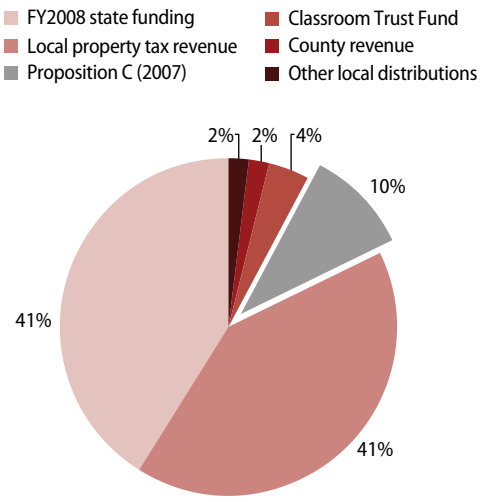
Tax relief aid in New York, Missouri, and Texas

Missouri's Proposition C

Missouri's Proposition C was adopted as a 1-cent sales tax for education by referendum in November 1982. In effect, through state aid formulas prior to the current formula, Proposition C generated a flat-grant allocation of additional aid to every school district in Missouri. The mechanism for Proposition C would seem to the casual reader to be a bit strange at first but is not too uncommon for such provisions in state school funding formulas. In both the prior and current funding formula, half of a district's Proposition C revenue is counted as local revenue for each district toward its funding target. That is, state revenue generated from the sales tax is allocated to local districts as replacement of a portion of their own local property tax effort. It's really all just a calculation game that is equivalent to allocating that same portion of funding as a flat grant per pupil in state aid. The other half of Proposition C revenue is essentially allocated as a flat grant per weighted

FIGURE 11

Missouri revenue structure simulated 2007–08 full implementation



Source: Author's simulation of 2007–08 implementation of S.B. 287.[28]

pupil—the point being that if a district receives $400 per pupil in additional state aid, that's $400 per pupil that a district does not need to raise in local property taxes. Essentially, it is a gift that can be saved or spent. This particular school-funding gift is uniquely protected by the fact that it was adopted by state referendum with a dedicated revenue source. Because Proposition C was adopted by referendum, legislators have limited capacity to change it for better or worse.

The equity effect (or lack thereof) of Proposition C revenue was improved marginally with the adoption of a new school funding formula in 2006—S.B. 287. Under previous formulas, Proposition C was distributed in flat amounts with respect to students in average daily attendance. As such, the actual allotment of Proposition C revenue per enrolled pupil was marginally lower in higher-poverty districts due to the "attendance effect." Under the new formula, Proposition C revenue is distributed by weighted average daily attendance. While this measure retains the problem of disparate attendance rates, it includes the student-need weights, in effect driving marginally higher amounts of Proposition C aid into higher-need districts.

Figure 11 shows that dedicated funds from Proposition C make up a sizeable portion of total available revenue for Missouri schools. While Proposition C is now adjusted for the student-need weights in the formula, it is not by its design and original purpose (as we interpret it) adjusted for local fiscal capacity. So while 41 percent of the total fund is allocated as general state aid that is equalized for local capacity and adjusted for student need, a quarter as much—a sizeable share – is not adjusted for local capacity differences.

Table 3 shows the Proposition C allotments from 2006–07 through 2010–11. In "good years" Proposition C has amounted to nearly $800 million in revenue and more than $850 per student in weighted average daily attendance for all districts. These funds—if available for more progressive distribution according to need and for equalization according to wealth—could go a long way toward eliminating the regressive nature of Missouri's school funding. While they sustain inequities in Missouri by sitting independently on top of an inequitable system, these funds do not advance those inequities by driving even more resources into wealthier districts in the same way that tax relief aid programs do in New York and Texas.

TABLE 3

Proposition C allotments, 2006–07 through 2010-11

Payment year	Total dollars distributed	Payment amount	Payment made per yearly weighted average daily attendance
2006–07	$784,900,800.00	$856.93	2005–06 weighted attendance record
2007–08	$772,820,015.00	$845.28	2006–07 weighted attendance record
2008–09	$730,325,406.57	$804.07	2007–08 weighted attendance record
2009–10	$695,120,132.29	$763.83	2008–09 weighted attendance record
2010–11	$711,615,172.47	$777.48	2009–10 weighted attendance record

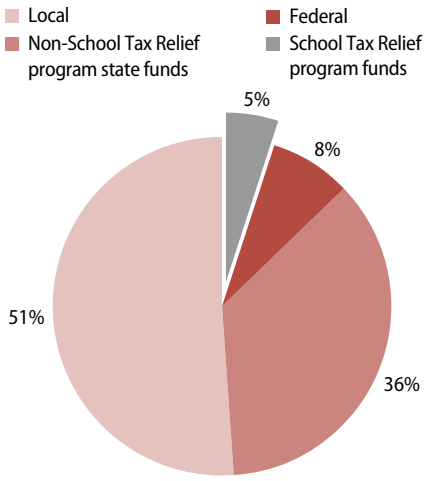
Source: Missouri State Department of Elementary and Secondary Education, "Proposition C Actual Payments," available at http://dese.mo.gov/divadm/finance/documents/sf-PropositionCPerWADAActualPayments.pdf.

New York state School Tax Relief program

New York state also makes a sizeable financial commitment to property tax relief. Figure 12 shows that tax relief aid in New York state amounts to about 5 percent of total state and local financial support for public schools. The state School Tax Relief program aid is more than half the magnitude of all federal aid received by New York state districts. Table 4 shows that as a share of state support, the program's funding is on the order of 14 percent, declining somewhat over the past few years, based on district-level data on allocations received.

FIGURE 12

Components of New York district revenue, 2009–10



Source: Calculated from summed district-level data, as reported in the New York State Education Department, Fiscal Profiles 2009–10, available at http://www.oms.nysed.gov/faru/Profiles/profiles_cover.html.

TABLE 4
School Tax Relief aid as a share of state aid

Year	Non-School Tax Relief state aid	School Tax Relief state aid	Percent of School Tax Relief aid
2009-10	$40,379	$6,416	13.7%
2008-09	$43,562	$7,053	13.9%
2007-08	$39,776	$7,422	15.7%
2006-07	$36,075	$7,107	16.5%

Source: New York State Education Department, Fiscal Profiles 2009–10, available at http://www.oms.nysed.gov/faru/Profiles/profiles_cover.html.

Unlike Missouri's effort, which is now mildly progressive but largely flat, New York's property tax relief program is significantly regressive, allocating systematically more state-financed property tax relief on a per pupil basis to districts with lower student needs and, on average, higher local fiscal capacity.

New York's School Tax Relief program provides individual property owners with two levels of exemptions—basic[29] and enhanced[30]—to their taxable property values. New York then provides aid to local districts to offset the revenues lost to these exemptions. While only property owners with incomes of less than $500,000 per year are eligible for basic tax relief under the program, the largest exemptions remain concentrated in the state's more affluent school districts.[31] In fact, affluent districts received on average more than $1,500 per pupil in 2010, while the poorest districts received on average less than $1,000.

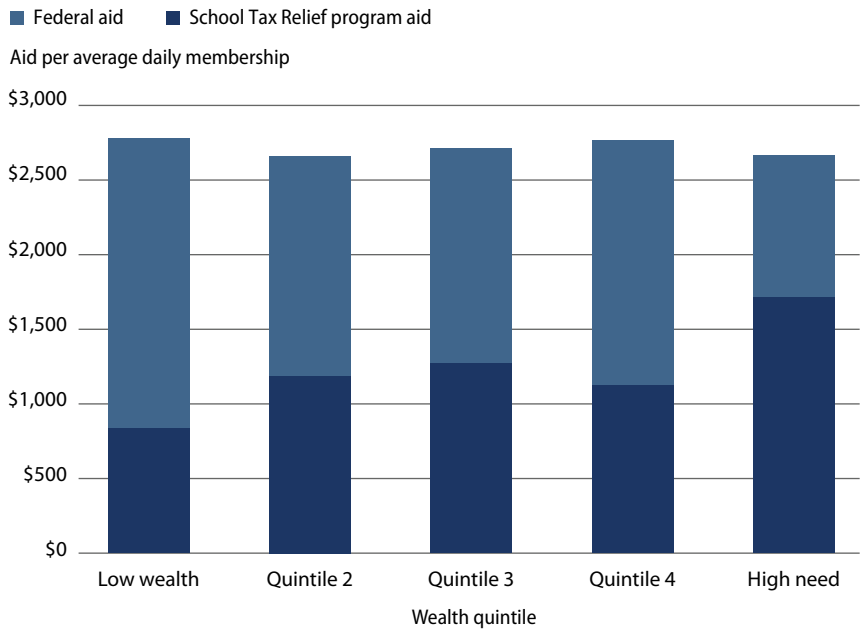
Figure 13 puts New York's School Tax Relief program aid allocations into context. Federal aid to schools is largely designed to improve equity by targeting resources to higher-need, especially higher-poverty, districts. The School Tax Relief program aid to New York schools tends on average to be slightly less than federal aid. But to the extent that federal aid creates any improvement to the distribution of resources across New York school districts, the state's School Tax Relief program aid wipes out that improvement entirely. Aid under the program, which is indicated by the darkest blue in Figure 13, is allocated in nearly perfectly inverse proportion to federal aid, such that when the two are stacked on the other, the cumulative effect is that districts receive about the same regardless of their wealth.

New York's School Tax Relief Program may also be among the most researched school-funding-related property tax relief programs. Over the past decade, a growing body of empirical literature suggests that using state aid to subsidize property

tax relief in more affluent communities actually serves to fuel their higher spending and, by some measures, to fuel decreased efficiency. As noted previously, state aid generally may either be applied toward the reduction of local revenue efforts or toward increased total spending. Providing state aid to communities already more apt to spend more on themselves seems to stimulate higher spending, perhaps coupled with less oversight of that spending.

FIGURE 13

Counterbalancing the effects of New York School Tax Relief program aid and federal aid to New York districts, 2009–10



Source: Calculated from summed district level data as reported in New York State Education Department, Fiscal Profiles 2009–10, available at http://www.oms.nysed.gov/faru/Profiles/profiles_cover.html.

As Jonah Rockoff, an economist at Columbia University, explains in a recent working paper, "I find that tax-price reductions for homeowners in New York State led to an increase in local school district expenditures, crowded out a significant portion of the intended tax relief, and raised taxes for other property owners."[32] Further, Rutgers professor Tae Ho Eom and Syracuse professor Ross Rubenstein explain in the journal Public Budgeting and Finance, "We find evidence that, all else constant, the exemptions have reduced efficiency in districts with larger exemptions, but the effects appear to diminish as taxpayers become accustomed to the exemptions."[33]

Finally, using state aid in ways that stimulates spending increases in affluent communities serves to exacerbate inequities. Eom and Kieran Killeen, a professor at the University of Vermont, explain in Education and Urban Society that the School Tax Relief program's "inherent conflict with the wealth equalization policies of New York State's school finance system are highlighted in a manner that effectively penalizes large, urban school districts by not adjusting for factors likely to contribute to high property taxation."[34]

In light of these findings, coupled with the fact that New York continues to operate one of the nation's least equitable school funding formulas, it is difficult to conceive of a purely nonpolitical reason for maintaining New York's School Tax Relief program. It is certainly not in the best interest of equity, adequacy, or efficiency. While aid from New York's School Tax Relief program alone would be insufficient for remedying the inequities of the state's school finance system, allocating that aid according to need and local capacity would certainly be a step in the right direction.

Texas Additional State Aid for Tax Reduction

Texas's Additional State Aid for Tax Reduction program came about in Texas school finance policy in response to the 2006 judicial ruling in West Orange Cove v. Texas. The court was faced with two claims: The state school finance system did not provide sufficient resources for a thorough and efficient system of public schooling; and because so many districts had reached the maximum maintenance and operation levy[35] of $1.50 (dollars per $100 in assessed valuation), meaningful discretion no longer existed for districts to raise additional revenues for enhancement. In effect, the $1.50 rate had become a statewide property tax in violation of the constitution. The Texas Supreme Court ruled that the existing system only violated the second of these claims.[36] Following that order, the Texas Legislature adopted H.B. 1, which provided for additional state aid to support "compression" (read reduction) of local tax levies from the $1.50 rate to $1.00, with a new maximum of rate of $1.17.[37]

In short, under judicial pressure the Texas Legislature took the bull by the horns and dedicated substantial portions of state aid for the next several years to the reduction, or compression, of local district tax rates. In Texas this tax relief model was, in effect, also a hold-harmless provision. The basic idea was that each district would be assigned a compressed tax rate, which would of course lower the property tax revenue generated by that district. The state would then guarantee that no district received less in total operating revenue (local property tax plus state formula aid) than it had in the 2005–06 school year. In effect, the state would pay for the property tax revenue lost from compression. The calculation is embedded into the general aid formula and thus interacts with or overrides other provisions of that formula (i.e., the Texas Foundation School Program, which is Texas's main source of state school funding), which are otherwise less regressive.[38] Mathematically, it just happens to work out that districts with higher taxable property value per pupil receive systematically larger additional state aid for tax

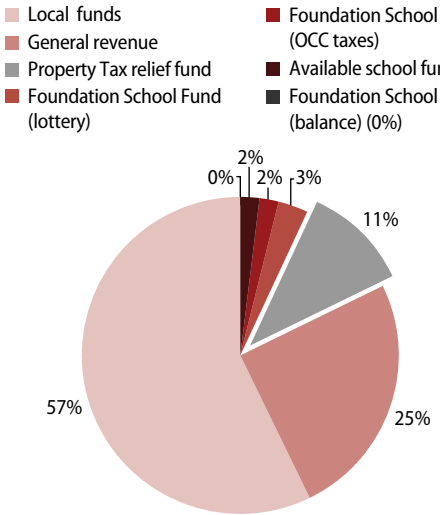
reduction adjustment per pupil. This is because when you lower a property tax rate on higher value properties, you lose more revenue. By design, Texas's additional state aid for the tax reduction program is inverse-equalization aid—even more so than New York's School Tax Relief aid program.

Figure 14 conveys the relative magnitude of additional state aid for tax-reduction funding in 2009–10 under the Texas Foundation School Program.

Table 5 shows the funding budgeted for Texas's Additional State Aid for Tax Reduction Program for 2006–07 to 2010–11. Operating as a hold-harmless provision, the program funding would be assumed to phase down over time, as state aid and spending increases and fewer districts fall below prior spending levels. It's also worth noting that the Additional State Aid for Tax Reduction program plays off of the other funding provided through the Foundation School Program. If general state aid is cut, but the Additional State Aid for Tax Reduction program provision is held in place, a large share of total state aid goes to preserving the hold-harmless provision. That is because more districts would fall short of their target revenue and thus would be funded to their target revenue rather than their actual need and cost-adjusted funding levels calculated under the Foundation School Program.

FIGURE 14

Texas components of Foundation School Program revenue, 2009–10



Source: Memo from Susan Combs to Texas Gov. Rick Perry, Texas Lt. Gov. David Dewhurst, and Speaker of the State House Joe Straus III, November 24, 2009, Table A-10, available at http://www.window.state.tx.us/taxbud/cre1011/cre10.pdf.

TABLE 5

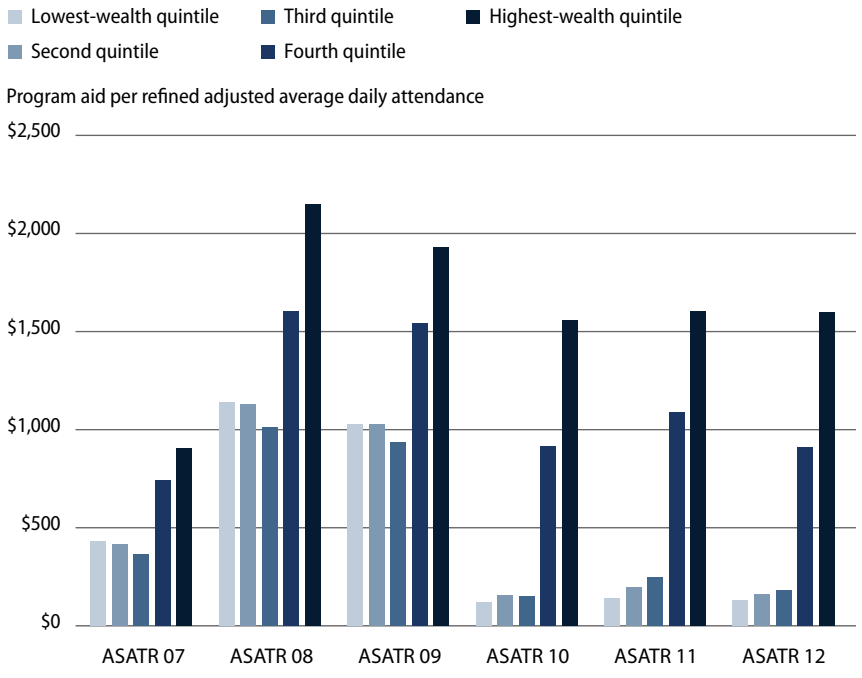
Budgeted funding for Additional State Aid for Tax Relief program

Year	Additional State Aid for Tax Relief
2006-2007	$2,241,737,690
2007-2008	$5,643,195,498
2008-2009	$5,327,551,484
2009-2010	$2,224,033,410
2010-2011*	$1,638,024,569

Source: Memo from Susan Combs to Texas Gov. Rick Perry, Texas Lt. Gov. David Dewhurst, and Speaker of the State House Joe Straus III, November 24, 2009, available at http://www.window.state.tx.us/taxbud/cre1011/cre10.pdf.

FIGURE 15

Additional State Aid for Tax Reduction program aid per pupil



Sources: Data from Texas Education Agency.

Figure 15 shows the distribution of Additional State Aid for Tax Reduction aid per pupil from 2007 to 2012 by district wealth quintiles (district property value per pupil). In each year of its existence, the program funds have, as one would expect, gone disproportionately to buy down the property tax levies in the highest-wealth districts. In the first few years, significant effort was applied toward buying-down property tax rates in middle- and lower-wealth communities, but since 2010 the vast majority of remaining program aid has been spent on the top two quintiles of property wealth.

Minimum-aid provisions and flat-grant programs

Minimum-aid provisions are adjustments to the determination of the state and local share of foundation aid. Sometimes they are embedded right into the foundation aid formula. Other times they are included as separate—outside the formula—flat grants. At times they are expressed as a blunt, circuit-breaker-type provision, or they can be more nuanced, including multiple levels or adjustments to sliding scales. Typically, state school finance formulas include some basic calculation of the share of foundation funding that should be paid for with local-source revenue.

The amount is occasionally calculated as a share and at other times as an estimate of the appropriate local contribution per pupil. These tend to be sliding-scale adjustments, often based on either taxable property wealth alone or on some weighted mix of taxable property wealth and income. Typically, when one estimates the initial local share index, that index would reach a point where it is assumed that some, if not many, local districts have the capacity to fully fund their schools with equitable local tax efforts. In fact, in many cases the most affluent

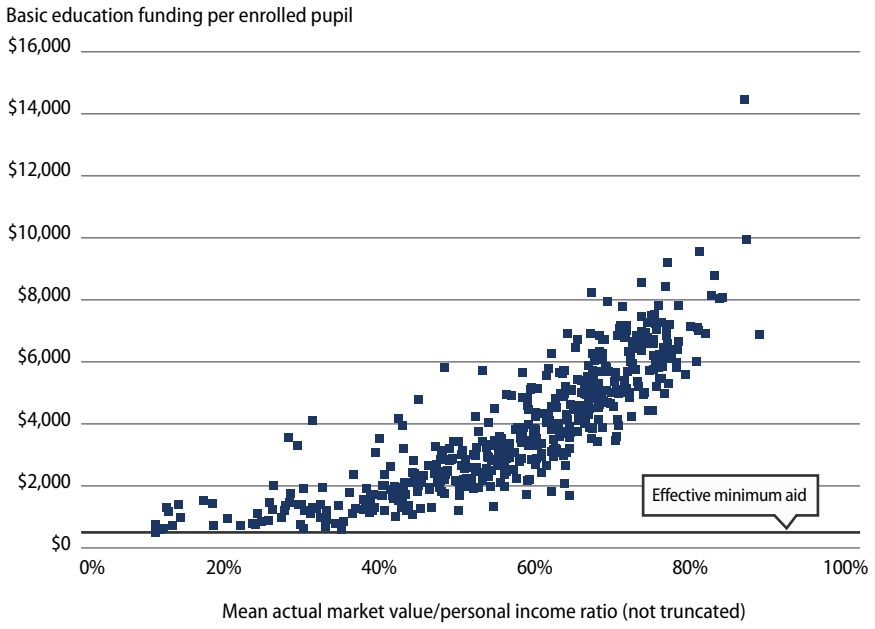
districts could raise double what they would otherwise need with only 50 percent of the effective tax rate. Sometimes the sliding scales of state-local sharing are linear, and sometimes they are curved, but typically, they would reach 0 percent state share for some or many districts if retained in their pure form. On the flip side, they would approach 100 percent state share for some very poor districts. But such extremes tend not to be politically palatable. As a result, state legislators break out the funding formula duct-tape, attaching a multitude of modifications to make sure that everyone gets a little something, with some getting a bit more, but with no one getting too much.

Minimum state share in Pennsylvania

Starting with Pennsylvania, this state provides a solid slice of the general state aid pie to the lowest-poverty districts. One chunk of that aid comes from that state's truncation of its state-sharing ratio. Pennsylvania uses a combination of property value (market value) and income (personal income) to determine the state and local share of funding. Pennsylvania's index is called the market value/personal income aid ratio. The higher a district's market value/personal income aid ratio, the larger the share of foundation funding (basic education funding) that will be provided by the state. Figure 16 shows the distribution of state basic education funding per pupil with respect to market value/personal income aid ratios. Overall, it is a curved relationship, where districts with higher aid ratios—as a result of having lower incomes and property wealth—receive more per-pupil funding. The effective cap on state aid is around 80 percent at which

FIGURE 16

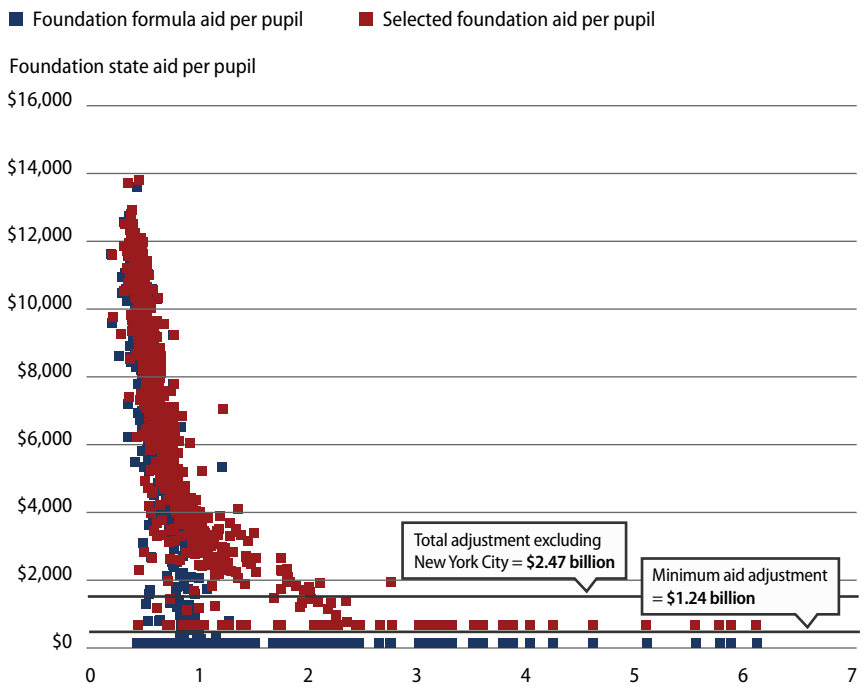
Pennsylvania basic education funding, 2011



Source: Pennsylvania Department of Education, Basic Education Funding Program and Aid ratios, available at http://www.portal.state.pa.us/portal/http://www.portal.state.pa.us;80/portal/server.pt/gateway/PTARGS_0_123706_1091868_0_0_18/Finances%20AidRatios%202009-2010.xls.

FIGURE 17

Effect of foundation-aid adjustments in New York state



Source: Bruce D. Baker, "School Funding Fairness in New York State" (Slingerlands, New York: New York State Association of Small City School Districts, 2011). Foundation formula simulation was constructed from 2011–12 foundation aid formula district estimates. Selected foundation aid is the calculation of what the foundation aid would be if the formula were funded at proposed 2011–12 levels.

point districts are receiving $8,000 to $10,000 per pupil in state aid. That is the case even when a district might have such low property wealth that it has difficulty raising its 20 percent share of needed revenues. As it stands, that district will still be required to raise at least 20 percent. At the other end, the market value/personal income aid ratio is not asymptotic to $0 as one might expect. Rather, it is truncated to a minimum of .15 (the untruncated version is presented in Figure 16). Regardless of district affluence, taxable property wealth, and income, districts receive at minimum about $500 per pupil in basic education funding.

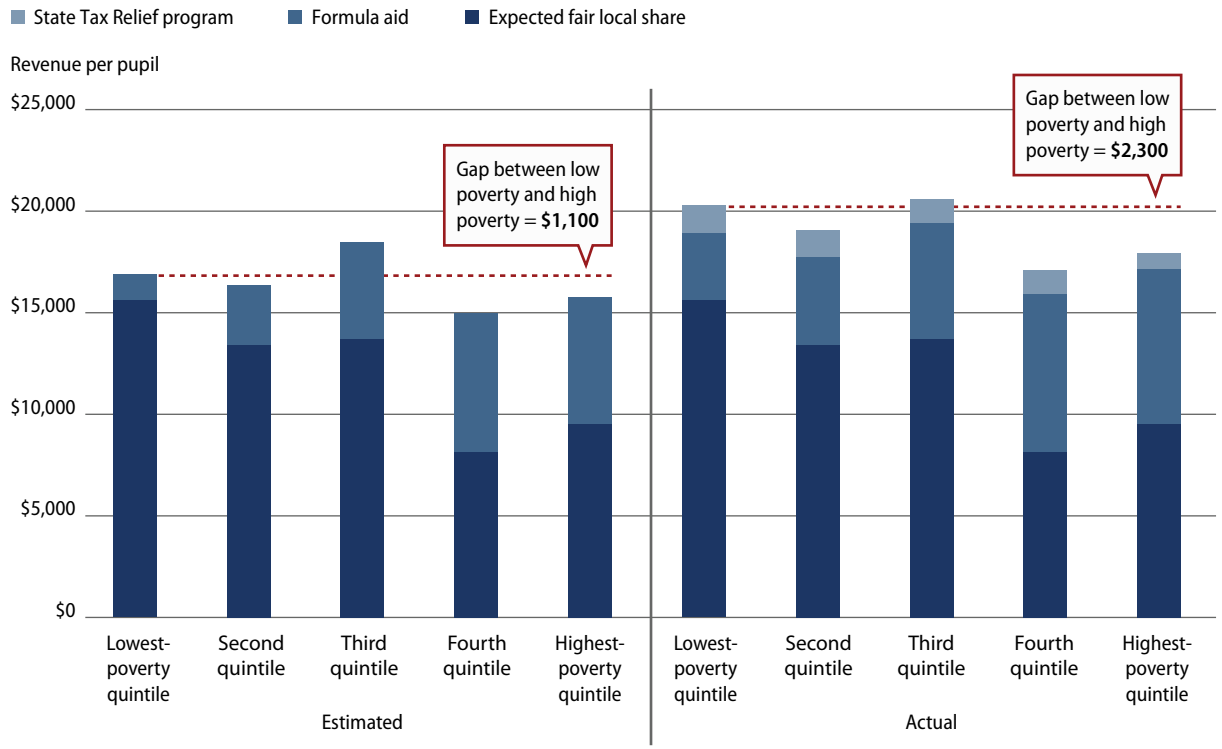
About 20 districts (which would otherwise have market value/personal income aid ratios of less than .15 percent) serving about 91,000 children receive on average $712 per pupil, for a total of $64.6 million, which could be allocated to higher-need districts.

Tweaking the sharing ratio in New York

New York's foundation-aid formula includes a series of "if/then" steps to determine whether a district should receive state aid based on its initial calculation of local fair share or based on an alternative calculation, one of which is the provision of minimum aid of $500 per pupil. Figure 17 shows the pattern of state and local sharing that would occur if foundation aid were based solely on the income-wealth index estimated by the state. Under that index, the lowest-wealth districts would receive about $12,000 to $14,000 in aid per pupil, and districts with an income-wealth index greater than 1 would receive no aid. After including the various alter-

FIGURE 18

New York state foundation aid formula, initial calculations and final/actual calculations, 2011



Source: Bruce D. Baker, "School Funding Fairness in New York State" (Slingerlands, New York: New York State Association of Small City School Districts, 2011).

native calculations, districts with an income-wealth index above about 2.5 would receive the minimum of $500 per pupil, while districts with index rates from 1 to 2.5 would receive a sliding scale toward the minimum rather than either the minimum or $0. The adjusted version is shown in red. Note however, that neither was fully funded in recent years. (Recent reality is achieved by taking the red squares and shifting them downward but preserving the minimum aid.)

If fully funded, the cost of retaining the minimum aid provision tops $1.2 billion, and the cost of preserving the diagonal, sliding-scale adjustment between the income-wealth index of 1 and 2.5 is $2.47 billion (if we exclude the disproportionate effects of New York City). That's real money—money that could be perhaps targeted toward higher-need districts to reduce the overall regressive nature of New York's finance system.

The cumulative effects of these adjustments and the School Tax Relief program on the distribution of resources across New York school districts is shown above. The left hand portion of Figure 18 shows local revenue with formula aid prior to the adjustments in Figure 17. Even this isn't a very pretty picture because state aid remains insufficient to provide even nominal funding equity from lower- to higher-poverty districts. But the right hand side of Figure 18 shows the effect of the adjustments in Figure 17, with the icing of school tax relief aid on top.

Prior to foundation-sharing adjustments and the School Tax Relief program aid, the per-pupil difference in state and local revenue per pupil between the lowest- and highest-poverty quintile is about $1,100. After the adjustments, the per-pupil difference is more than $2,300. New York makes adjustments to its aid formula and throws on tax relief funding in a pattern that more than doubles the nominal inequity between the state's lowest- and highest-poverty districts.

Other "flat," outside-the-formula aid programs

Both Missouri and Texas operate additional flat-aid programs that are effectively outside of the general state aid formula. As such, they are neither equalized for local wealth nor targeted according to student needs. They are the mathematical equivalent of flat minimum state aid allocations.

Missouri's Classroom Trust fund

One outside-the-formula flat-grant program that further contributes to inequities across Missouri school districts is the Classroom Trust fund. Similar to Proposition C, this is a protected revenue source. It is sizeable, at about half the size of Proposition C, and is dedicated to direct expenditure. The Classroom Trust fund remains marginally regressively distributed across districts because it is distributed with respect to average daily attendance figures, as opposed to enrollment. Even though it is a flat allocation per average daily attendance, it amounts to less funding per enrolled pupil in higher-poverty, higher-minority-concentration districts. It provides unequal funding to affluent districts and is based on a

student-count method that puts higher- need districts at a disadvantage. Table 6 shows the dedicated funds and payment amount of the Classroom Trust fund for Missouri districts in recent years.

TABLE 6
Dedicated funds of the Classroom Trust fund, 2006-07 through 2010-11

Payment year	Total dollars distributed	Payment amount	Payment made per yearly average daily attendance
2006-2007	$297,208,638.00	$345.88	2005–06 average daily attendance
2007-2008	$311,285,315.00	$362.39	2006–07 average daily attendance
2008-2009	$307,880,397.00	$361.36	2007–08 average daily attendance
2009-2010	$307,100,979.00	$359.82	2008–09 average daily attendance
2010-2011	$376,710,968.00	$442.32	2009–10 average daily attendance

Source: Missouri State Department of Elementary and Secondary Education, "Classroom Trust Fund Actual Payments," available at http://dese.mo.gov/divadm/finance/documents/sf-ClassroomTrustFundActualPayments.pdf.

Texas's Available School fund

Similar to Missouri's dedicated-revenue streams, Texas has its Available School Fund, a flat-grant allocation embedded in the state's Foundation School program, which is derived from an 1850s-era dedicated-revenue source called the Permanent School fund.[39]

According to the Texas Education Agency, the Permanent School fund:

> *was created with a $2 million appropriation by the Texas legislature in 1854 expressly for the benefit of the public schools of Texas. The state constitution of 1876 stipulated that certain lands and all proceeds from the sale of these lands should also constitute the Permanent School fund. Additional acts later gave more public-domain land and rights to the Permanent School fund. In 1953, Congress passed the Submerged Lands Act that relinquished to coastal states all rights of U.S. navigable waters within state boundaries. If the state, by law, had set a larger boundary prior to or at the time of admission to the union, or if the boundary had been approved by Congress, then the larger boundary applied.*

After three years of litigation (1957–1960), the U.S. Supreme Court on May 31, 1960, affirmed Texas' historic three marine leagues (10.35 miles) seaward boundary. Texas proved its submerged lands property rights to three leagues into the Gulf of Mexico by citing historic laws and treaties dating back to 1836. All lands lying within that limit belong to the Permanent School fund. The proceeds from the sale and the mineral-related rental of these lands including, bonuses, delay rentals, and royalty payments, become the corpus of the fund.[40]

The Available School fund allotment, derived from the Permanent School fund, is added (similar to the first 50 percent of Missouri's Proposition C revenue) to each district's local obligation toward financing the first-tier of the Foundation School program. In other words, it is a flat grant that happens to be given to districts to help reduce required local effort. Table 7 shows the amounts of the Available School fund allotment from 2000 to 2011. The minimum Available School fund allotment is $250 per pupil (in weighted average daily attendance).

TABLE 7
Texas's Available School Fund

Year	Rate ($ per pupil)	Allotment ($)
2000–2001	276.00	1,016,592,805
2001–2002	236.00	882,115,931
2002–2003	371.00	1,416,832,762
2003–2004	334.00	1,300,948,054
2004–2005	393.00	1,558,282,468
2005–2006	317.00	1,276,255,334
2006–2007	394.00	1,624,852,326
2007–2008	280.00	1,170,781,906

Year	Rate ($ per pupil)	Allotment ($)
2008–2009	258.00	1,093,744,680
2009–2010	274.06	1,179,465,191
2010–2011	466.66	2,037,643,761

Source: Texas Education Agency, School Finance Topics 1-page overviews, available at http://www.tea.state.tx.us/index2.aspx?id=2147499540.

Categorical-aid programs in Pennsylvania and Illinois

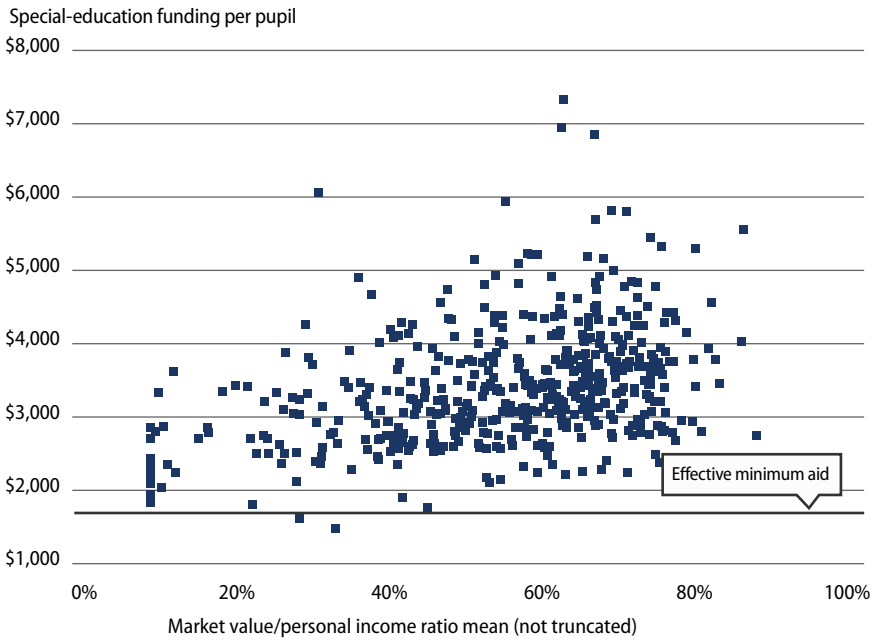
Recall that in several of the six inequitable states explored here, state special aid and other state aid flowed in significant sums to low-poverty districts. Often, these categorical and other funds flow outside the general aid formula and often these categorical and special funds do not take into consideration local ability to pay. That is, they are not equalized based on fiscal ability. Categorical aid of these types is less problematic when, for example, it is at least being targeted on the basis of a legitimate need or on costs being faced by districts. Further, categorical aid of these types is less problematic if the overall pattern of funding is progressive.[41] Neither, however, is the case in the examples that follow.

Flat special education funding in Pennsylvania

Pennsylvania is among the handful of states that persist in using a special-education finance formula, which provides a flat sum of special-education aid per a fixed share of total enrolled students. This approach to funding is referred to as census-based funding and gained some traction in the 1990s, when it was perceived that special-education classifica-

FIGURE 19

Special-education funding per special-education student, 2009–10



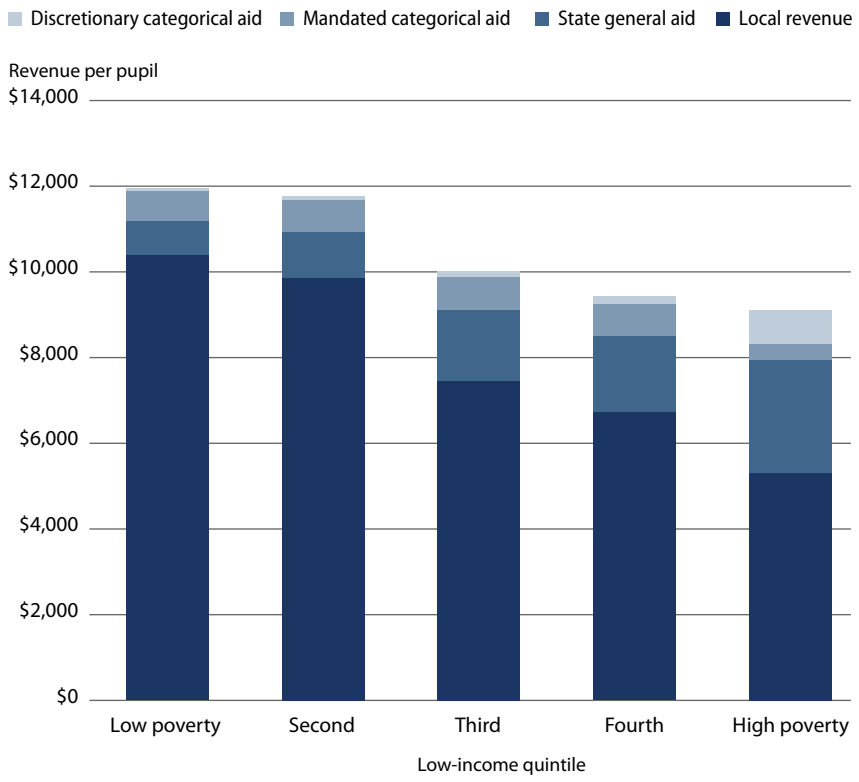
Data Source: Pennsylvania Department of Education, Special Education Funding Program and Aid Ratios, available at http://www.portal.state.pa.us/portal/http;//www.portal.state.pa.us;80/portal/server.pt/gateway/PTARGS_0_123706_1091868_0_0_18/Finances%20AidRatios%202009-2010.xls.

tion rates were climbing unfettered. It was assumed that capping special-education funding and/or removing potential funding incentives for additional classification would control this growth. Currently, Pennsylvania allocates a fixed sum of special-education funding per 16 percent of each district's student population. Some adjustments are made through supplements for variations in wealth. But in general—similar to the flat, outside-the-formula aid in the previous subsection—the funding is not (fully) equalized for local fiscal capacity or for actual student needs.[42] As such, even the most affluent districts in the state receive from $2,000 to $4,000 per special-education pupil (or about $400 per total-enrolled pupil). Further, a district is funded for 16 percent of pupils whether a district's special-education student population is 7 percent or 30 percent. As a result of using this formula, Pennsylvania chooses to overfund many districts to the same extent that it underfunds others.[43]

Those same 20 districts receiving minimum-foundation aid as a result of the unequalized census-based special-education funding, receive another $37.8 million that could be put to other uses (91,000 students at about $417 per pupil).

FIGURE 20

Illinois aid distributions, 2009–10



Source: Bruce D. Baker, "The State of Illinois and Illinois State Board of Education Operate and Maintain a Racially Disparate System for Financing Public Schools" (Chicago: Urban League of Chicago, 2010).

Counterbalancing categorical aid in Illinois

Illinois maintains two basic categories of categorical funding—funding which is controlled by legislated formula, and funding that is distributed at the discretion of the State Board of Education. The bulk of state-mandated categorical aid is distributed as special-education aid, with the second largest chunk(s) associated with transportation. As is the case in Pennsylvania, the special-education aid in Illinois

is not equalized for local differences in capacity. Table 8 shows the distribution of special-education aid per enrolled pupil, which sits at about $390 across each poverty category but is lower in the highest-poverty category as a function of a different allocation method being used for the city of Chicago. Essentially, when it comes to mandated and discretionary categorical aid, Chicago is treated as an entirely separate entity and is provided widely fluctuating aid through Chicago-specific categorical block grants. But it would appear that the overall strategy in allocating mandatory and discretionary aid is to simply provide more of one type of aid where there is less of the other, which leads to a negligible overall effect on equity. Table 8 shows the distribution of special-education aid, mandated categorical aid inclusive of special-education aid, and discretionary categorical aid.

TABLE 8

Mandated and discretionary categorical-aid allotments per pupil

	Special education	All mandated	All discretionary
Lowest-poverty Quintile	$389	$700	$65
Second Quintile	$390	$736	$95
Third Quintile	$384	$770	$144
Fourth Quintile	$390	$736	$189
Highest-poverty Quintile	$206	$381	$800

Source: Author's calculations based on data from the Illinois State Board of Education.

Figure 20 shows the counterbalancing categorical aids added to the general distribution of state and local resources across Illinois school districts. As can be seen, categorical aids make up about half of the state aid received by the lowest-poverty districts. The remainder comes in general aid through alternative- and minimum-aid formulas. While redistributing these aids to the highest-need districts would not go very far toward making Illinois school funding less regressive, it would at least be a start.

Persistence of flat-grant, general-aid programs in southern states: The case of North Carolina

North Carolina simply operates a generally unequalized formula that is also only slightly adjusted for differences in student needs and includes a modest adjustment for low-wealth districts (in place of more substantive wealth equalization). That is, while the states spotlighted in previous sections of this chapter allocated portions of their total state aid through separate unequalized formulas, North Carolina's entire aid formula is of this type. The North Carolina formula is similar in many ways to formulas in other Southern states, including Alabama, which is also highly regressive. The formula is essentially a block-grant formula that determines the amount of state aid to be delivered by calculating the basic cost of providing specific pupil-to-teacher ratios for different grade ranges, as shown in Table 9. The formula provides a handful of supplemental allotments to accommodate special needs. Additionally, the formula assumes an average distribution of county revenue to local schools to support the basic education program.

The basic elements of the funded educational program are laid out in Table 9. Each staffing category is then assigned a unit price, and the total cost of operating the basic education program is determined. It is essentially a flat, common model to be funded across all districts regardless of variations in local capacity to support the basic program.

TABLE 9

North Carolina pupil-to-teacher ratio allocations

Category	Basis of allotment (funding factors are rounded)	Allotted salary
Classroom teachers		
Kindergarten	1 per 18 in average daily membership (Local education agency class size average is 21)	
1–3	1 per 17 in average daily membership (Local education agency class size average is 21)	
4–6	1 per 22 in average daily membership	
7–8	1 per 21 in average daily membership	
9	1 per 24.5 in average daily membership	
10–12	1 per 26.64 in average daily membership	Local education agency average
Math/science/computer teachers	1 per county or based on subagreements	
Teacher assistants	$1,152.21 per K-3 average daily membership	N/A
Instructional support	1 per 210.53 in average daily membership	Local education agency average
School building administration		
Principals	1 per school with at least 100 average daily membership or at least seven state paid teachers or instructional support personnel	Local education agency average
Assistant principals	1 month per average daily membership in grades 8-12	Local education agency average
Career technical education months of employment (limited flexibility - salary increase)	Base of 50 months employment per local education agency with remainder distributed based on average daily membership in grades 8-12	Local education agency average
ABC incentive award	Not funded	
Classroom materials/instructional supplies/equipment	$32.82 per average daily membership plus $2.69 per average daily membership in grades eight and nine for PSAT Testing	
Textbooks	$14.82 per average daily membership in grades K-12	

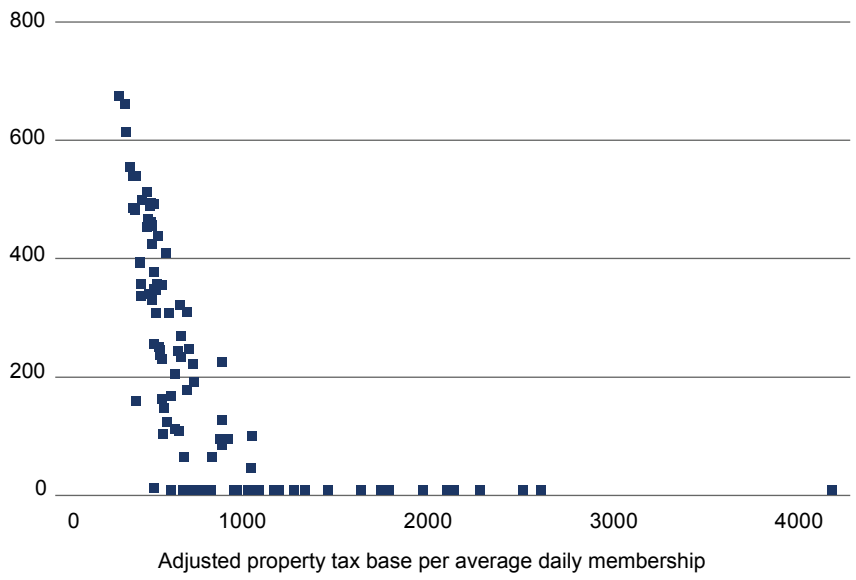
Source: North Carolina State Board of Education Division of Financial and Business Services, Public Schools of North Carolina, available at. http://www.ncpublicschools.org/fbs/allotments/initial/.

Supplements to the model for addressing student needs range from modest to trivial. Every district receives $1,211.49 per 4 percent of its population for academically gifted and talented students. This is essentially a flat grant; it is unequalized. At-risk services consist of providing each district with a resource officer per high school and at least two teachers and two instructional support-staff per district. Beyond that basic allocation, districts receive approximately $357 per low-income child, a trivial adjustment by any stretch. While special-education funding is not determined entirely by Census data, districts receive funding in a block grant for no more than 12.5 percent of their enrollments. Flat supplements are also provided for English language learner students.

North Carolina provides supplemental aid to low-wealth districts through a formula that first determines an index based on the:

- Revenue base per average daily membership for each district (40 percent)
- Property tax base per square-mile (10 percent)
- Income per capita (50 percent)

FIGURE 21
North Carolina low-wealth adjustment



Source: State Board of Education, Public Schools of North Carolina, Low-Wealth Formula, available at http://www.ncpublicschools.org/docs/fbs/allotments/support/prior/lowwealth.xls.

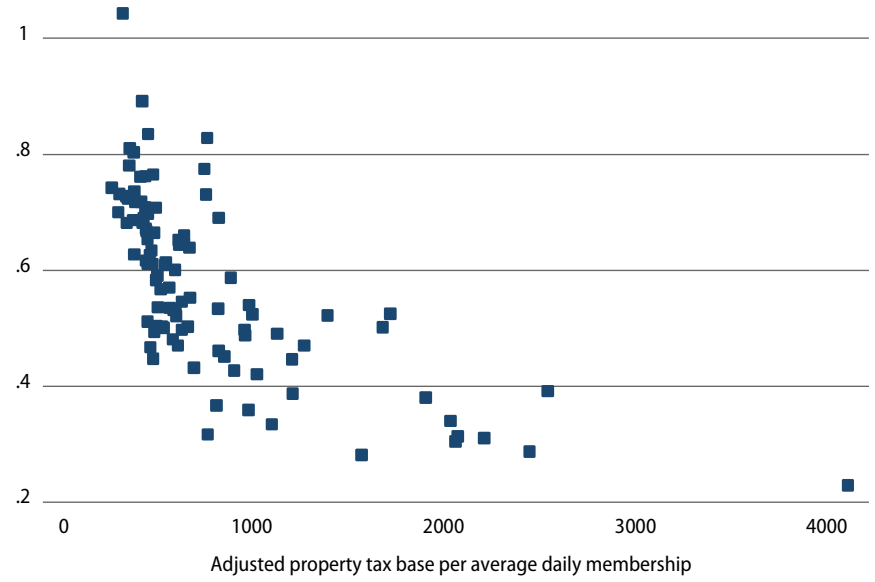
While these parameters make sense, the supplements derived from these parameters, in effect, do little to improve equity across wealthy and poor districts. Figure 21 shows the magnitude of the low-wealth adjustment, which maxes out around $600 per pupil for the county districts with the lowest taxable property wealth per pupil.

Figure 22 reveals the effectiveness of this formula for improving equity of property taxation across county districts. Indeed, without this low-wealth aid, the lowest-wealth districts might find themselves in a position of having to raise property taxes more to generate up to $600 per pupil more in revenue. But even with this adjustment, lower-wealth districts still have more than double the county tax rate compared to more prosperous counties. Moreover, state and local revenue combined in North Carolina remains among the most regressive among states with respect to poverty.

In summary, the North Carolina funding formula is not even designed at the most basic level to accomplish either of the two generally accepted goals of school-funding formulas laid out in the introductory chapter. The state's formula does not drive any substantive financial support to county or city districts in accordance with different student needs, and the formula provides negligible differentiation of state aid in accordance with local capacity to pay.

FIGURE 22

North Carolina tax rates and property wealth



Source: State Board of Education, Public Schools of North Carolina, Low-Wealth Formula, available at http://www.ncpublicschools.org/docs/fbs/allotments/support/prior/lowwealth.xls.

Conclusion and policy implications

This chapter has thoroughly examined six states where children attending school in higher-poverty districts still have substantially less access to state and local revenue than children attending school in lower-poverty districts. What makes these patterns more offensive is that each of these states is taking billions of statewide taxpayer dollars and channeling them back to lower-poverty districts. Each of these states could achieve far more equitable distribution of resources and far more adequate educational opportunities in high-poverty settings if these resources were allocated more appropriately. Consider New York, where state legislators pay off their most affluent districts— among the richest in the country— to the cumulative amount of more than $2,000 per pupil in state redistributed tax resources. In fact, these aid allocations effectively more than double the funding gap between the lowest- and highest-poverty districts in New York state. Likewise, lawmakers in Texas, while rapidly draining resources from the state's highest-need districts and the children they serve, have provided billions of dollars to reduce tax rates disproportionately in districts with greater property wealth. And some states such as North Carolina don't even try to promote either taxpayer or student equity with their state aid formulas.

Clearly, a few basic guidelines are in order for directing state school finance deliberations and creating federal pressure on states to mitigate the vast stealth inequities in school funding:

States must understand that general state equalization aid provides tax relief. Thus it is illogical to assume that a program directly counterbalancing aid would be necessary or even appropriate. Further, it makes sense on its face and has been supported by numerous empirical studies, that providing these unnecessary subsidies to affluent districts merely encourages higher spending by these districts, which increases inequity and, by some measures, actually decreases cost efficiency. That is, tax relief aid to the rich promotes both inequity and inefficiency, the exact opposite of what state aid formulas are intended to achieve.

States should run as large a share of aid as possible through their general equalization formulas, which are weighted for student needs or relevant costs attached to the particular aid program. Outside-the-formula aid is among the most common drivers of stealth inequity. Except in rare cases, it makes little sense to assume that districts have sufficient capacity to pay for general education services but not for other services. Outside-the-formula funding should especially be under the spotlight in states with general regressive distributions of state and local funding.

States should at the very least explore options for making the most protected sources of stealth inequities less inequitable. Missouri's choice to base Proposition C aid on weighted average daily attendance is one example of a modest move in the right direction.

Federal agencies should seek to intervene or create pressure for change in those cases where states such as North Carolina make little or no attempt to operate a state school-finance formula that follows basic principles of equalization and need-based targeting.

Admittedly, not every mechanism that induces the problematic and stealth inequities addressed in this chapter can be easily addressed by state legislatures. Many of these provisions exist as historical artifacts—19th-century trust funds or more recent (but still dated) decades-old referenda. Others exist as a mere matter of political convenience and persistent pattern of practice. As such, year after year, while state aid lags, and equity and adequacy falter, these resources remain untouched, protected, and off the table. But if inequitable states aren't going to cough up new resources for schools, then they need to look at all available resources for improving equity and adequacy. Certainly, when states are looking to cut budgets even deeper, they should refrain from delivering those cuts through the more equitable aid programs while protecting the inequitable ones.

About the Author

Bruce Baker is professor in the department of educational theory, policy and administration at Rutgers, the State University of New Jersey. Prior to working at Rutgers, Baker was at the University of Kansas in Lawrence, Kansas. His area of specialization is state school finance policy, with specific emphasis on understanding education costs and student needs, as well as the intersection between state school finance systems and teacher labor markets. He has authored numerous peer-reviewed research articles pertaining to school finance, teacher and administrator labor markets, and legal concerns surrounding school funding equity. He is co-author of a textbook on school finance called Financing Education Systems (Merrill-Prentice-Hall, 2008) with Preston Green of Penn State and Craig Richards of Teachers College at Columbia University. Baker has testified on numerous occasions in state and federal court in cases pertaining to the equity and adequacy of school funding.

Chapter Two: The Role of Local Revenues in Funding Disparities Across School Districts

Sean P. Corcoran

Introduction and summary

The introductory chapter of this report—"The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending"—identified states with inequitable distributions of state and local revenues for K–12 public education, defined as those where the revenue gap between the lowest- and highest-poverty school districts is the greatest.[44] The introductory chapter also offered a "primer" on school-funding systems, which laid the groundwork for understanding how these inequities arise. All school finance systems in the United States—with the exception of Hawaii and the District of Columbia—rely on a combination of local taxes and state aid for the vast majority of resources for public schools. Setting aside federal aid, which comprises only a small share of revenues in most districts, funding disparities between low- and high-poverty school districts must be due to gaps in local revenue collection, state aid, or both. Differences in local property wealth and taxes have historically played the largest role in these inequities, and, as the preceding chapter showed, state aid programs are sometimes insufficient for overcoming inequities in local resources.[45] In some instances, they exacerbate them.

This chapter focuses on the role local revenues play in resource disparities across low- and high-poverty school districts. The main storyline is not a new one: Local revenues are primarily determined by a district's ability and willingness to raise tax dollars for its schools. To the extent that taxable wealth—for example, property or income—is lower in high-poverty districts, poorer districts will tend to raise fewer education dollars than wealthier ones for any given level of tax effort. Localities also have some discretion over their own tax effort; those with a particularly high preference or high level of political support for public education may, for example, choose to spend more on schools, all else being equal. Those communities with a lower taste for education or those with competing local budget priorities—for example, the need for public assistance or an increased level of policing—may choose to spend less on schools.

Willingness and ability to pay are not, however, the only reasons local revenues vary across school districts. States set the rules, parameters, and institutions governing how localities raise education dollars. They determine the types of tax instruments available to districts (property, income, sales) and set limitations on how these instruments can be used. States may set a minimum required tax rate as part of their foundation aid program, affix a cap on rates or the growth rate of local taxes, or they may place no limitations at all on the revenue that localities raise. States establish rules by which taxable wealth is measured and assessed, and whether and how tax limitations—if any—can be overridden. The structure of their own state aid program can encourage or discourage local taxation by affecting the "tax price" of education spending. That is, aid programs can make the price to a community of raising an additional dollar of education spending less or more expensive.[46] The preceding chapter, "How State Aid Formulas Undermine Educational Equity in States," provided one example of this in the property tax relief programs of New York, Texas, and Missouri: By replacing a portion of local property taxes with state aid, these three states effectively lower the price of raising an additional dollar for schools and education.[47]

Taken together, there are a number of ways in which school finance programs can create opportunities for "stealth" inequities in local revenues—inequities not solely due to differences in available resources. Generally speaking, however, the local side of the stealth inequities story is less complex than the state side described in the preceding chapter.[48] Often, byzantine aid formulas—negotiated in the statehouse and crafted to satisfy political (and sometimes judicial) demands—provide many more opportunities to influence the distribution of resources across districts, for better or for worse.

The next section begins by drawing on national data from 2007 to 2009 to show how local education revenues are raised in the United States. As has long been the case, local school districts rely heavily on property taxes for their share of revenues, with the average district raising between 62 percent and 75 percent of its local dollars from property taxation.[49] In many states, this percentage approaches 90 percent to 95 percent. The chapter continues by considering the extent to which property taxes and other revenue sources contribute to overall inequality in revenues across districts. Though districts receive revenue from sources other than property, property taxes play a disproportionate role in variability across districts. Finally, because local revenue sources only contribute to resource disparities between low- and high-poverty districts if these sources do in fact vary with poverty, this chapter examines how each source is related to poverty, measured

using the Census child-poverty rate for the district. This analysis finds that almost all local revenue sources are negatively related to poverty, as might be expected—although property taxes have the strongest negative association with poverty. Taken together, this analysis shows that property taxes are the most important contributor to inequities in local revenues across districts, and that these inequities are closely tied to local income.

These findings suggest that institutions surrounding local property taxation for public schools should be the focal point of a study on local funding inequities. Other local revenue sources such as income and sales taxes and fees are important in a few select states but, on the whole, play a much less important role. The remainder of this chapter, therefore, takes a closer look at the rules governing local property tax collection in the six focus states that our introductory chapter identified as highly inequitable—Illinois, Missouri, New York, North Carolina, Pennsylvania, and Texas. It does, however, explore instances of nonproperty tax revenue sources in these states that tend to exacerbate resource disparities. These case studies provide lawmakers and advocates with useful examples of settings where reforms are sorely needed to address disparities in local resources.

Sources of local revenue for public education

Detailed data on local revenues for public education in the United States is available from the Annual Surveys of School System Finances, conducted each year by the U.S. Census Bureau and known to school-finance researchers as the "F–33." The chief advantage of these annual surveys is standardization—by establishing common categories for fiscal data, it enables comparisons across states without having to navigate each state's unique financial reporting system. Its main disadvantages are as follows:

- Its reporting categories are less detailed than most states' financial data and thus do not identify specific funding streams that may be of interest.
- Notwithstanding attempts at standardization, states may categorize and report comparable revenue or expenditure items differently.

Despite its imperfections, the F–33 offers our best picture of local revenue sources for public education. Figure 23 shows the share of local revenues from nine different sources in the combined 2007, 2008, and 2009 fiscal years; some of the smallest revenue categories such as fees have been combined for ease of presentation. This figure presents enrollment-weighted averages across districts, which puts more weight on large districts and less on sparsely populated ones, although nonweighted averages are very similar.

Far and away the largest share of revenue comes from property taxes, comprising 62.4 percent of all local revenues. Another 15.6 percent is from parent governments of fiscally dependent school districts, although much—if not most—of this revenue also originates from property taxes, which is instead levied by a county or city government. Roughly 7 percent of revenues are from fees, including school meals, activities, and tuition, and 5 percent are unclassified "miscellaneous" revenues.[50] Only 2.1 percent of local revenues are from income and sales taxes, although these take a more prominent role in select states. Additionally, 2.6 percent of revenues come from transfers from other school districts (often due to interdistrict tuition agreements), and a greater share—about 4 percent—comes from interest on investments, sale of property, and fines (with interest income the largest of these).

TABLE 10

States with significant shares of local revenues from sources other than property or parent governments

Revenue category	States
Sales taxes	Louisiana (53 percent), Georgia (20 percent), Iowa (14 percent), South Dakota (3 percent)
Public utilities taxes	Kentucky (12 percent), Iowa (2 percent)
Income taxes	Pennsylvania (9 percent), Kentucky (5 percent), Ohio (3 percent), Iowa (3 percent)
Other taxes	Nebraska (7 percent), Pennsylvania (4 percent), Missouri (3 percent), Vermont (2 percent)
Other cities & counties	Alabama (28 percent), Wyoming (23 percent), Montana (22 percent), Tennessee (16 percent), Massachusetts (11 percent), Oklahoma (9 percent), Kansas (6 percent); many states are between 2 percent and 6 percent
Tuition fees	Minnesota (3 percent)
School meals fees	Vermont (18 percent), Arkansas (10 percent), Minnesota (8 percent), Idaho (8 percent); many states are between 2 percent and 8 percent
Activity fees	Arkansas (14 percent), Tennessee (10 percent), Oklahoma (10 percent), Alabama (7 percent); many states are between 2 percent and 7 percent
Other sales & service revenue	Minnesota (5 percent), Michigan (3 percent), Alabama (2 percent)
Rental income	Mississippi (3 percent), Alaska (3 percent), Vermont (2 percent)
Interest income	Vermont (14 percent), Idaho (8 percent), Arkansas (8 percent), Minnesota (7 percent); many states are between 2 percent and 7 percent
Private contributions	New Mexico (4 percent), Alabama (2 percent)
Miscellaneous revenues	Vermont (14 percent), California (11 percent), Delaware (10 percent); many states are between 2 percent and 10 percent

Source: Author's calculations using data from the Annual Surveys of School System Finances, 2006–07, 2007–08, and 2008–09. No state had more than 2 percent of revenues from the following sources: transportation fees, textbook fees, other fees, property sales, and fines. Transfers from other school districts are not shown.

Only in a handful of states do local districts draw a meaningful share of revenues from nonproperty or parent government sources. Notable examples are in Table 10, which lists states with more than 2 percent of local revenues derived from alternative sources. Iowa districts, for example, receive on average 14 percent of local revenues from sales taxes, 3 percent from income taxes, and 2 percent from public utilities taxes. Georgia and Louisiana school districts receive a substantial share of local revenues from sales taxes—20 percent and 53 percent, respectively—while Pennsylvania districts receive 13 percent of their revenues on average from income and other taxes. A number of districts would appear to derive a large share of their local revenues from fees; for example, Arkansas districts earn 14 percent of local revenues from activity fees, and Vermont districts earn 18 percent of revenues from school meals charges. These states, however, are among the highest in the nation

in the share of revenues that come from state, as opposed to local, sources. Fees represent a large share of the local contribution only because the local contribution is small.

While states vary in their reliance on revenues other than property taxes, in a study of inequality these sources only matter to the extent they actually contribute to variability across districts. Local districts, for example, may earn a significant share of revenues from sales taxes, but if sales tax receipts per student are relatively constant across districts, then they cannot contribute much to resource disparities. One way of summarizing the relative importance of each revenue source is to decompose local revenue inequality into its component parts. This analysis asks, for example, what proportion of inequality in local revenues per student can be attributed to property taxes, income taxes, sales taxes, and so on. Results for the nation as a whole are reported in Table 11 and separately by state in Appendix B using the same revenue categories and years of data as were used in Figure 23.[51]

This table shows that while property tax revenues are a substantial share of local dollars, they constitute an even larger share of the overall variability in local revenues. Figure 23 showed that nationally, property taxes represent 62 percent of all local revenues, but Table 11 indicates that they constitute 80 percent of the inequality in local revenues per student. When adding revenues from parent and other local governments (much of which is also derived from property taxes), these sources combined represent almost 91 percent of the overall inequality in local revenues per student. By comparison, all other categories are substantially less important.

Table 12 lists states where 90 percent or more of the variability in local revenues is attributable to property taxes or parent government revenues based on this decomposition. What is striking is how similar this list is to our initial list of inequitable states (see Table 1 in our introductory chapter, "The Stealth Inequities of School Funding"); 6 of the top 10 most inequitable states appear among the 10 states with the greatest local revenue sensitivity to property tax collection.[52] Some of the explanation for this sensitivity to property taxes lies in these states' higher-than-average

FIGURE 23

Sources of local education revenues: 2006-07 to 2008-09

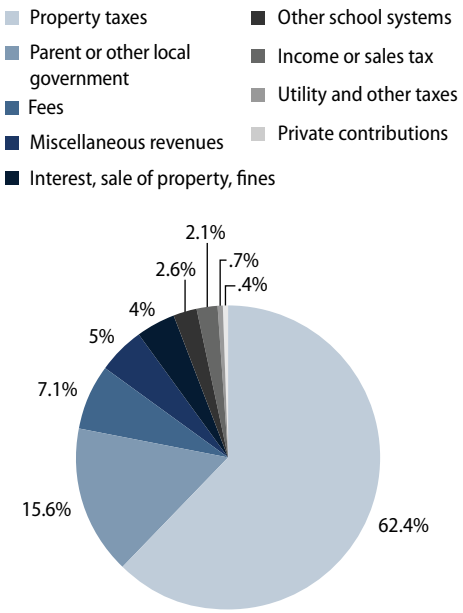


TABLE 11

Decomposing inequality in local revenues per student into its component parts, U.S. school districts 2006–07 through 2008–09

Revenue category	Proportional contribution to inequality (%)
Property taxes	80.3
Parent or other local government	10.6
Income or sales taxes	0.23
Utility or other taxes	0.22
Other school districts	1.9
Fees	0.7
Interest, sale of property, fines	2.2
Private contributions	0.3
Miscellaneous revenues	3.6

Source: Author's calculation using data from the U.S. Census Bureau, *Annual Surveys of School System Finances 2006–07, 2007–08,* and *2008–09.*

reliance on property taxes, but this is not the entire explanation. In Texas, for example, 94 percent of the inequality in local revenues is attributable to property taxes, despite a somewhat lower share of local revenues—86 percent—originating as property taxes. This suggests Texas's nonproperty revenue sources do less to contribute to inequality in local revenues than does its property tax. The situation in Pennsylvania is similar, where 91.6 percent of its local revenue inequality is attributable to property taxes, even though 76.6 percent of its combined local revenues come from this source.

TABLE 12

States in which 90 percent or more of inequality in local revenues is due to property taxes or parent government

U.S. school districts 2006-07 through 2008-09

	Proportional contribution to inequality (%)		
State	Property taxes	Parent or other government	Among most inequitable in introductory chapter (see "The Stealth Inequities of School Funding")
New Hampshire	98.1	-5.2	Yes
Nevada	96.0	0	Yes
Ohio	94.6	0.6	
Texas	**94.2**	**0.6**	Yes
West Virginia	93.2	2.1	
Illinois	**92.4**	**0.1**	Yes
Wisconsin	92.2	0.6	
New York	**91.8**	**-0.2**	Yes
Pennsylvania	**91.6**	**0**	Yes
Florida	90.9	0	Yes
South Carolina	90.6	2.4	
Rhode Island	-2.7	102.3	
Maryland	0.0	102.1	
Connecticut	0.0	100.3	
Virginia	0.0	94.9	
North Carolina	**0.0**	**93.9**	Yes
Massachusetts	0.0	93.7	

Source: Author's calculation using data from the U.S. Census Bureau, *Annual Surveys of School System Finances 2006–07*, *2007–08*, and *2008–09*.

It is worth noting that while many states with a high sensitivity of local revenues to property taxes are on our list of inequitable states (see Table 1 in our introductory chapter, "The Stealth Inequities of School Funding"), several are not, including a few cases where the local share is high. This demonstrates that an appropriately progressive system of state aid can offset variability in property tax. Ohio and Massachusetts provide examples. Although these states' local share of combined state and local revenues is higher than the national average—50.2 percent and 51.8 percent, respectively—and their variability in local revenues is tightly linked to property taxes, their state aid policies offset this variability in local resources, assuring that they do not appear among our most inequitable states.

Notably, five of the six focus states are found in Table 12. The interesting exception is Missouri, where only 79.5 percent of inequality in local revenues is attributable to property taxes. In Missouri, another 3.4 percent is due to parent government transfers; 4.7 percent comes from public utility taxes; and 6.3 percent is from unclassified, "miscellaneous" revenue. These categories are investigated in greater detail later in this chapter.

Finally, it is possible for revenue sources to vary across districts yet not relate to poverty. Consider a high-poverty urban district, for example, with access to a large commercial property tax base. While its poverty rate is high, its property tax revenue per student may be high as well, weakening the relationship between property taxes and poverty rates. To examine this, Figure 24 shows the correlation between each local revenue component reported in the F–33 and district poverty. In this figure, the bars represent the Pearson correlation coefficient between revenues per pupil and district poverty, which is an index of association ranging from –1 (minus one)—a perfect negative correlation—to +1 (plus one)—a perfect positive correlation—with values close to zero suggesting little or no correlation.

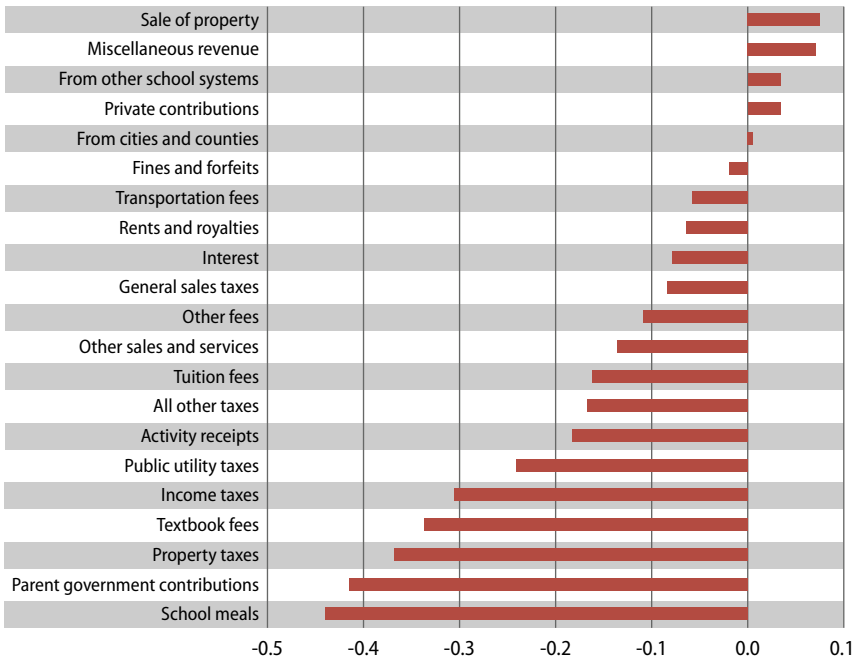
As one might expect, almost all revenue sources are negatively correlated with district poverty, meaning higher-poverty districts within a state receive on average fewer dollars per student in that category than lower-poverty districts. Property tax revenues per student, for example, are negatively related to district poverty, with a correlation coefficient of -0.37, a modestly strong negative correlation. Again, this doesn't have to be the case; high-poverty districts may have access to other tax bases (for example, commercial property or sales taxes) that low-poverty districts do not. On balance, however, these cases appear to be the exception, not the rule. Revenues per student—and especially property tax revenues per student—almost uniformly have a negative relationship with district poverty. The negative correlation between

property taxes and poverty is particularly important, given the significant role of property taxes in explaining local revenue inequalities across districts.

Fees are also negatively related to district poverty, including fees for school meals (-0.44), textbooks (-0.34), activities (-0.18), and tuition (-0.16). It is unsurprising, however, that school meals fees are strongly related to poverty, as the collection of these fees from students is directly tied to family income. School districts receive federal subsidies for free and reduced price meals. While fees together represent about 7 percent of all local revenues, Table 11 shows that fees contribute much less to the overall variation in local dollars. It is notable, however, that fees are rarely counted as part of the local contribution in a state aid formula and thus are not typically equalized (school meals being the exception, since they are reimbursed by the federal lunch and breakfast programs). Other local revenue categories such as private contributions, revenues from cities and counties, sales taxes, and property sales have virtually no correlation with district poverty.

FIGURE 24

Correlation between local revenue components per pupil and district poverty



Source: Author's calculation using data from the Annual Surveys of School System Finances, 2006–07, 2007–08, and 2008–09. Local revenue components per pupil (in logarithms) and district poverty rate have been standardized within each state and year to a mean zero, standard deviation one scale. In each case, only districts in states with positive revenue in that category are included. School lunch fees are those collected from students; high-poverty districts receive subsidies for free and reduced-price lunches and thus are much less likely to collect these fees.

The relationships in Figure 24 were computed using data on all districts in the country, and correlations do vary by state. In some states the correlation between property tax revenues and poverty is stronger than that observed in national data, while in other states it is weaker. This figure does, however, provide a bird's eye view of the general relationship between local revenue sources and poverty. Taking all of these findings together, we have seen that property tax revenues are far and away the most important contributor to inequities in local

revenues, and that these inequities are strongly related to poverty. This suggests that institutions surrounding the property tax deserve the closest scrutiny in this analysis. The next section, therefore, provides a closer look at the rules governing property tax collection for public education in the six focus states, beginning with Illinois. Where instructive, it also examines variation in other revenue sources—such as income taxes and fees—that exacerbate or attenuate inequality. These case studies provide important examples of state funding systems in need of reform.

Local revenue disparities for public education in six states

Illinois

Illinois school districts contribute more than 61 percent of combined local and state revenues for education, one of the highest local burdens in the nation (only Nebraska is higher). Roughly 88 percent of local funds are raised from property taxes; another 3.6 percent comes from interest income on investments; 3 percent is from miscellaneous revenues; and between 2 percent and 4 percent is collected in school meals and other fees.[53] As shown in Appendix B, 92.5 percent of the inequality in local revenues is due to property taxes.

Property wealth is also the primary determinant of state aid awarded to Illinois districts, with more state aid channeled to districts with lower property wealth per student. The aid program is based on a minimum foundation amount per student to which the state and local district both contribute. (For the past three fiscal years—2010, 2011, and 2012—this amount has remained at $6,119 per student). To compute the local contribution to the foundation, the state assumes districts will impose a minimum property tax rate ranging from 1.05 percent to 3 percent, depending on the grades served by the district (called the "calculation rate").[54] The assumed tax rate is applied to the district's property tax base (33.3 percent of fair market value, less homestead exemptions), and this amount is added to its corporate personal property replacement taxes, which are described shortly in greater detail.[55] This sum represents the assumed local contribution, but districts are free to set tax rates above or below the calculation rate as they see fit; in other words, they are not enforced as minimum rates. In practice, however, almost all districts find it necessary to set a tax rate above these levels.

In addition to a minimum assumed property tax rate, Illinois sets a maximum property tax rate that can be levied by local school boards without a voter referendum. There are separate maximums for broad categories of spending, including current educational expenditures (for example, teacher and support-staff salaries, textbooks, and supplies), operations and maintenance, capital improvements, and

the like. In 2010 the maximum rate for current expenditures ranged from 0.92 percent to 1.84 percent.[56] (These rates apply in all districts except Chicago). Districts may tax above these rates—only with voter approval—up to a maximum of 3.5 percent to 4 percent. Most districts have tax rates above the maximum allowed without a referendum, although the higher threshold is binding for only a few high-spending districts.

Table 13 shows how average property tax rates, property tax revenues, and corporate personal property replacement taxes vary across Illinois districts, which are grouped by quintiles of poverty in 2008–09. (In this case, the poverty measure used is the percent of students in the district who are poor, as reported by the Illinois State Board of Education rather than the Census child-poverty rate used in earlier examples.) Tax rates and revenues are shown separately for current educational expenditures and all activities combined (which incorporates operations and maintenance, capital improvements, and more). Property tax rates and revenues display the traditional pattern of school finance inequity, in which high-poverty districts have much lower-than-average yields despite having higher tax rates. In Illinois the lowest-poverty districts on average receive more than three times as much per student in revenues for current expenses than do the highest-poverty districts ($7,300 versus $2,380). Revenues for all activities are 2.5 times as large in the lower-poverty districts than in the high-poverty districts ($10,420 versus $4,070). These are large differences, especially when contrasted with the $5,734 foundation amount per student that applied in 2008–09, the same year as the data used in Table 13.

The corporate personal property replacement tax is a somewhat unusual element of the foundation aid formula, as its distribution depends on districts' historic share of all personal property taxes collected statewide prior to 1979. Illinois eliminated taxation on business-personal property in that year and has since used an alternative tax on business income that the state collects and distributes to taxing districts.[57] As the name suggests, the corporate personal property replacement tax is treated as a "replacement" for lost local tax revenues. In 2008–09 the corporate personal property replacement tax distribution per pupil was small for the average district ($367), especially when compared against average property tax receipts per student. But corporate personal property replacement tax payments were as large as 12 percent of combined levies per pupil in the highest-poverty districts. Table 13 shows the distribution of the corporate personal property replacement tax is progressive, with poorer districts receiving more per pupil than wealthier

TABLE 13

Mean property tax rates, property tax revenues per pupil, and corporate personal property replacement tax per pupil, by quintile of poverty rate, Illinois, 2008–09

Quintile of district poverty	Mean tax rate for current expenses	Mean tax rate (all funds)	Mean revenues (current)	Mean tax revenues (all)	Mean per-pupil corporate personal property replacement tax	Mean per-pupil corporate personal property replacement tax (enrollment weighted)
Lowest	1.89	2.83	$7,300	$10,420	$249	$169
Second	2.17	3.44	$5,180	$ 7,790	$356	$270
Third	2.23	3.75	$3,770	$5,960	$334	$303
Fourth	2.16	3.86	$3,460	$5,590	$387	$338
Highest	2	3.76	$2,380	$4,070	$506	$449

Source: Author's calculations using data from the Illinois State Board of Education. (Data on corporate personal property replacement tax distributions come from the Illinois State Board of Education, available at http://www.isbe.net/funding/pdf/CPPRT_11.pdf).

districts. Still, the lowest-poverty districts continue to receive an average of $250 to $350 per pupil from the corporate personal property replacement tax, which is a legacy of the 1979 law change. The corporate personal property replacement tax counts toward the local contribution toward the foundation, but for districts whose property tax levy already exceeds the foundation, these represent purely additional revenues.

Another important influence on local revenue collection in Illinois is the Property Tax Extension Limitation Law, a 1991 restriction on the growth of the overall property tax bill to 5 percent or to the increase in the Consumer Price Index, whichever is less.[58] The idea was to limit the growth of property taxes when housing values rise faster than inflation. The law initially applied only to Cook County and its contiguous counties (the "collar counties"), but others—with majority approval of the voters—were later permitted to apply the law to their counties. In 2009, 39 counties (of 102 in the state) were subject to the Property Tax Extension Limitation Law, which accounts for 460 (or 53 percent) of school districts in the state but a larger share (78 percent) of average daily attendance.[59] Low-poverty districts were the most likely to be under the tax limitation (81.4 percent were subject to the limitation in 2008–09), but more than half of the highest-poverty districts were also subject to the property tax extension limitation law—fully 63.6 percent in 2008–09. (see Table 14)

Under the Property Tax Extension Limitation Law, districts are subject to a "limiting rate," which is the tax rate that permits the maximum allowed growth in tax levies. In high-property-wealth districts, where low tax rates still manage to generate large revenues per student, the limiting rate can fall below even the minimum assumed tax rate in the foundation aid program. Thus the Property Tax Extension Limitation Law in principle can keep tax rates quite low in wealthy districts. The limiting rate tends to be higher in poorer districts, where property taxes bring in fewer revenues per student, but these districts are still constrained by the limit on levy growth. Any district is permitted to levy beyond the law limitation, but doing so requires approval through a direct referendum from the voters. Consequently, the impact of this limitation depends heavily on voters' willingness to support increases beyond the legal limit, which may vary by districts' ability to pay for these increases.

TABLE 14

Percent of Illinois districts subject to property tax extension limitation law (PTELL), 2008-09

Quintile of district poverty	Percent subject to limitation
Lowest	81.4
Second	58.7
Third	51.7
Fourth	44.8
Highest	63.6

Source: Author's calculations using data from the Illinois State Board of Education.

Several academic studies have found that the initial implementation of the Property Tax Extension Limitation Law in Illinois slowed the rate of growth in taxes and expenditures in affected school districts. Richard Dye and Therese McGuire, for example, in a 1997 study compared revenue and expenditure growth in neighboring districts, all in the Chicago area, that were and were not affected by the law.[60] They found a significantly lower rate of growth in property taxes and operating expenditures in school districts that were affected by the tax limitation. They indicated little surprise with this finding, as a majority of their study's districts were taxing at the maximum allowable rate. Their analysis did not, however, look at effects separately by district poverty, and thus it is difficult to say whether the law has had a bigger impact on low- or high-poverty districts. Judging by the distribution of districts in which the law applies, however, it would appear that the lowest-poverty districts are the most likely to have been revenue constrained, which if anything should have reduced revenue inequities between low- and high-poverty districts. But instead, as noted, a large number of high-poverty districts are subject to the law, as well; and these districts may be less capable of overriding the law's restrictions through voter referenda or finding alternative revenue sources to compensate for lost revenues. Thus, how the Property Tax Extension Limitation Law affects local revenue disparities depends on how impacted districts respond to the limitation. If high-poverty districts are politically more constrained by the limit—and state aid fails to cover the difference between the limit and needed revenues—the law could exacerbate already-high inequalities. More research on the impact of the limitation

is needed, particularly as one study, which is now more than 10 years old, found that the tax limitation law had negative effects on math achievement, especially in the most disadvantaged districts.[61] We will encounter similar local tax limitations in the cases of New York and Pennsylvania, described in a later section.

Missouri

In Missouri revenues collected at the local level constitute 54 percent of combined local and state revenues for education—less than Illinois but still high relative to the average state. Its local tax base is also more diverse than Illinois, with about 71 percent of its local funds raised from property taxes, 5 percent from interest income on investments, 5 percent to 6 percent from other cities, counties, and school districts (which includes property tax revenues on railroads and utilities paid to counties), 3.4 percent from other taxes, and an unusually high 8 percent from fees.[62] As shown in Appendix B, more than 80 percent of inequality in local revenues per student in Missouri is attributable to property taxes, which again is low relative to Illinois's 92.5 percent.

As described in the preceding chapter—"Stealth Inequities: How State Aid Formulas Undermine Educational Equity in States"—the state of Missouri reformed its school funding system in 2005, moving from a guaranteed tax base program to a foundation formula.[63] The level of the foundation was initially set at $6,117 per student, with local districts expected to assess a minimum required tax rate of 0.343 percent or higher.[64] State aid is the portion of the foundation not collected locally in property taxes, intangible taxes on financial institutions, and state-assessed railroad and utility taxes. School districts are permitted to tax property at a rate of 0.275 percent without voter approval, up to 0.6 percent with a majority vote, and above 0.6 percent with a two-thirds majority. Property is assessed at 19 percent of market value for residential property, and 32 percent of market value for commercial property.

In 2011 the mean and median district had a property tax rate exactly equal to the minimum (0.343 percent); about 116 districts (of 542) had rates between 0.35 percent and 0.4 percent; 36 districts had rates between 0.4 percent and 0.45 percent; and 24 districts had rates at or above 0.5 percent. As seen in Table 15, tax rates have the opposite relationship with poverty than that seen in Illinois. In Missouri the lowest-poverty districts have the highest average tax rates (0.38 percent), while the highest-poverty districts have the lowest tax rate (0.322 percent). Revenues generated from these tax rates, however, decline monotonically from the wealthiest ($4,500) to the poorest ($2,450) districts.

TABLE 15

Mean property tax rate and revenues per pupil, Missouri school districts, by quintile of poverty rate, 2011

Quintile of district poverty	Mean tax rate (operating)	Mean revenues per pupil (operating)
Lowest	3.8	$4,500
Second	3.62	$3,190
Third	3.6	$3,100
Fourth	3.63	$2,960
Highest	3.22	$2,450

Source: Author's calculations using data from the Missouri Department of Elementary and Secondary Education.

As noted, Missouri districts receive a meaningful share of local revenues from sources other than property taxes. Table 16 shows how these receipts vary, on average, by quintile of district poverty. Although each of these components is small relative to property taxes per student, all are related to poverty, with the highest-poverty districts receiving much less per student than the lowest-poverty districts. The category "other taxes" (which may represent the intangible tax on financial institutions), for example, declines from an average of $133 per student in the wealthiest districts to $54 per student in the poorest.[65] Combining these with miscellaneous revenues, interest income, and fees (excluding the collection of fees for school meals), the lowest-poverty districts receive $871 per student as compared to $562 per student in the highest-poverty districts—a $309 difference, or about 13 percent of what the lowest-poverty districts receive in property taxes per student. With the exception of the intangibles tax, these differences in resources are not equalized through the general state aid formula. The disparities are partially made up through the tax on utilities, which is a state tax and is accounted for as local revenues from other cities or counties; however, the difference between the highest- and lowest-poverty districts is only $61 ($237 versus $298, respectively).

TABLE 16

Mean revenues per pupil from sources other than property taxes, by quintile of poverty rate, Missouri school districts, 2006–07, 2007–08, 2008–09

Quintile of District Poverty	Mean revenues per pupil: other taxes	Mean revenues per pupil: interest	Mean revenues per pupil: miscellaneous revenues	Mean fees per pupil (other than lunch)	Total mean revenues
Lowest	$133	$249	$152	$337	$871
Second	$74	$198	$98	$295	$665
Third	$64	$193	$88	$301	$646
Fourth	$43	$180	$73	$274	$570
Highest	$54	$184	$100	$224	$562

Source: Author's calculations using data from U.S. Census Bureau, Annual Surveys of School System Finances.

North Carolina

North Carolina districts contribute a much smaller share of combined local and state funding (on average about 36 percent of this sum comes from local sources) and receive a higher-than-average share of revenues from state aid. State aid, however, is distributed primarily on a personnel allotment basis rather than a foundation or tax-base equalization program. As a consequence, state revenues per student are roughly constant with respect to district poverty (recall Figure 5 in the introductory chapter, "The Stealth Inequities of School Funding"), and virtually all variation in state and local funding per student is due to the local component.[66] North Carolina districts are aligned with counties or cities and are fiscally dependent on these higher levels of government. About 84 percent of local dollars pass through the city or county government. Another 7 percent of local revenues are from fees for school meals; 1.6 percent are from other fees; and 4.3 percent are collected in "miscellaneous revenues."[67] Property taxes are the primary source of revenue for parent governments, as counties do not have the authority to levy sales or income taxes. Such taxes are collected by the state and then distributed to counties as state aid.

North Carolina counties are not required to raise local revenues for education through a minimum tax rate in order to receive state support, although all of them do. The maximum property tax rate available to counties is 1.5 percent; the current range is 0.279 percent to 0.99 percent, with a mean of 0.617 percent.[68] These rates apply to all county government expenditures, however, and not solely to school district expenditures. Some school districts have the ability to levy supplementary property taxes for school purposes, with voter approval (two small districts are able to set school taxes without approval). Supplementary taxes are rare, however. In the 2011–12 school year only 14 districts (of 115 in the state) had a special school tax in place, with an average rate of 0.1271 percent.[69] It is notable, however, that districts with special school taxes are not exclusively wealthy districts with an interest in spending more on their schools. In fact, high-poverty districts are overrepresented among those with a supplementary property tax. Of the 14 districts that levied a special school tax, six are among the poorest in the state, with child poverty rates of 30 percent or higher.[70] Supplementary taxes can be used for a number of purposes, but presumably these high-poverty districts found the existing levels of state aid and local property taxes to be insufficient for their needs.

State aid in North Carolina is explicitly intended to cover basic operations, including personnel, services for at-risk and special-needs students, gifted education, technology, and professional development. Local revenues are meant to support

supplementary funds for teachers and support personnel, facilities, advanced courses, and debt service.[71] A common use of local revenues is to offer supplements to the base salary schedule for teachers and other staff. These supplements might be used, for example, to compensate for differences in the cost of living across districts, to recruit teachers in hard-to-staff subjects or to hard-to-staff districts, or simply to attract higher-quality teachers. These payments, however, depend heavily on locally raised revenues.

Table 17 shows how average salary supplements varied across districts according to their quintile of poverty, using data from 2009. The differences are quite large, with an average teacher salary supplement of $3,190 in the lowest-poverty districts as compared to an average $2,250 salary supplement in the highest-poverty districts. These are substantial in size when compared to, for example, the state's base salary for a teacher with a bachelor's degree and five years of experience in the same year ($35,380).[72] A significant drop is observed when comparing the fifth and fourth quartiles of poverty (from $2,240 to $1,300), perhaps because the highest-poverty districts receive additional poverty aid from the state that can be used toward supplements. As seen in Table 17, the gap in average salary supplements is larger still for principals and assistant principals, who receive nearly twice the salary supplement in low-poverty districts.

Of course, Table 17 is only a cursory look at salary supplements in North Carolina and fails to take into account differences in the experience profile of staff or true differences in the cost of living across districts. At the same time, high-poverty districts tend to be those that have the most difficult time recruiting and retaining high-quality teachers and thus are likely to benefit most from a higher salary offer. There is strong evidence from North Carolina that high-poverty schools and districts employ less-qualified school personnel on average than lower-poverty schools in the state, suggesting existing salary offers are insufficient to attract a comparably qualified workforce.[73] A related study found that substantial salary increases—on the order of 40 percent to 50 percent above their current levels—would be required to attract a similarly skilled workforce to the most disadvantaged districts.[74]

Finally, in addition to salary supplements, funding for school facilities is also highly dependent on local tax dollars. According to a 2010 report on capital spending, North Carolina ranked 29th in the state share of capital outlays and 35th in overall spending per student on facilities.[75] While there is limited evidence on the equity or adequacy of resources available for facilities across districts in the state, there

TABLE 17

Average salary supplements, by quintile of poverty rate, North Carolina school districts, 2008–09

Quintile of district poverty	Average supplement: teachers	Number of teachers with supplement (per student)	Average supplement: principals	Average supplement: assistant principals
Lowest	$3,190	0.074	$9,180	$5,180
Second	$3,040	0.073	$7,990	$4,360
Third	$1,640	0.075	$5,400	$2,820
Fourth	$1,390	0.08	$5,270	$2,190
Highest	$2,250	0.081	$5,090	$2,590

Source: Author's calculations using data from the North Carolina Superintendent of Public Instruction.

is little reason to believe that state aid has done much to promote equity.[76] North Carolina allocates revenues from its lottery and corporate income tax to support capital outlays—and does so primarily on a non-wealth equalizing, per-capita basis. Sixty-five percent of these revenues are allocated purely on a per-student basis, while the remaining 35 percent is reserved for districts with higher-than-average property tax rates (not necessarily low-wealth or low-income districts, although less-wealthy districts do tend to receive a larger allocation per student).[77]

New York

In New York state, revenues collected locally make up about half (49.7 percent) of combined local and state revenues. As in Illinois, local school revenues in New York are derived almost entirely from property taxes (an estimated 90 percent share in 2012–13).[78] These taxes are levied by fiscally independent school districts, with the exception of the five largest cities in the state, which finance their schools through the municipal budget (New York City, Buffalo, Rochester, Syracuse, and Yonkers). Other sources of local revenue in the state include a utility tax (in small-city districts), and a small sales tax permitted in eight counties (but levied in only five districts).[79] Until 2011 only the "Big Five" cities had tax limitations, applied to the entire city budget. Beginning in 2012–13, however, a statewide property tax cap will be in place, limiting the growth of tax levies to less than 2 percent or to the growth in the Consumer Price Index.[80] Levies exceeding this cap will require 60 percent approval from local voters. This new cap on levies is discussed further below.

New York is phasing in a new foundation state aid formula to which the state and local districts contribute—although the budget for this formula is currently frozen at its 2008–09 levels. In 2011–12 the foundation amount was $6,535 per pupil. The expected local contribution is determined as the lesser of two values: The first assumes a minimum tax rate of 1.3 percent applied to local property wealth with an adjustment factor for district income, and the second is based on a "state sharing ratio" which weights equally district property wealth and income relative to the state average. There is no maximum tax rate, although the new property tax cap effectively restricts tax rates to that level, which constrains the growth of levies to the maximum allowed.

New York districts vary widely in property wealth and, as a result, tax rates and expenditures do, as well. As shown in Table 18, taxable property wealth per pupil in the state's highest-spending districts (the top 10 percent, or top decile) is more than seven times that observed in its lowest-spending districts (the bottom 10 percent, or bottom decile). Despite lower average tax rates, levies per pupil are five times higher in the wealthiest districts. The state's aid formula offsets these disparities to some extent, with about $4,800 more per pupil in aid provided to the poorest districts. New York's school property tax relief program, as we point out in the preceding chapter, works the other way, by disproportionately benefiting wealthier and higher-spending districts.[81] On net, however, operating expenditures per student remain more than twice as high in the top decile of districts, as compared to the lowest decile of districts.

TABLE 18

Average wealth, expenditure, and state aid in New York State school districts, 2009–10

	Highest-spending districts (top 10 percent)	Lowest spending districts (bottom 10 percent)	Ratio of top to bottom decile
Operating expenses per pupil	$19,796	$8,618	2.3
Property value per pupil	$2,049,440	$283,478	7.23
Tax rate (mills)	9.62	13.54	0.71
Property tax levy per pupil	$19,716	$3,838	5.14
State aid per pupil (excluding state property tax relief program)	$1,867	$6,737	0.28
State property tax relief program assistance per pupil	$1,269	$823	1.54

Source: New York State Education Department, State Aid to Schools: A Primer (2012), p. 13. Excludes New York City.

Local revenue sources other than property taxes are modest in the state of New York, but their distribution is tipped strongly in favor of low-poverty districts. Averages for the five largest categories are provided in Table 19. As in Missouri, each of these categories taken alone represents a relatively small share of local dollars. But combined, they add up to modest-sized disparities between the lowest- and highest-poverty districts—disparities that are not explicitly equalized through the state aid formula. Together these revenues are 42 percent higher per pupil in low-poverty districts, with the largest absolute disparities observed in revenues from other cities and counties and in miscellaneous revenues. Combined fees (excluding school meals) are nearly 2.5 times as large in low-poverty districts than in high-poverty ones. Much of this appears to be tuition fees paid by nonresidents and other districts—in the latter case often for special-education placements. Public utility taxes (not shown) are modest and disproportionately benefit small, poorer cities in the state (for example, Niagara Falls, Utica, and Troy).

Going forward, one of the biggest potential threats to school finance equity in New York state will be the new cap on property tax levies. In a state in which school districts bear a large share of the combined local-state responsibility for public education—and in which state aid has been stagnant—the 2 percent limitation on levy growth will present a challenge for all local school districts. But these challenges will be particularly great for high-poverty, low-wealth districts where existing levies are substantially less than in wealthier districts. Put another way, a 2 percent increase on levies in a district with a high baseline property tax levy will generate more revenue

TABLE 19

Average revenues from sources other than property taxes, by quintile of poverty rate, New York school districts, 2006–07, 2007–08, and 2008–09

Quintile of district poverty	Mean revenues per pupil: other cities/counties	Mean revenues per pupil: interest	Mean revenues per pupil: misc. revenues	Mean fees per pupil (other than lunches)	Mean revenues per pupil: private contributions	Total
Lowest	$106	$254	$514	$124	$14*	$1,012
Second	$135	$289	$420	$88	$7	$939
Third	$109	$214	$395	$56	$14	$788
Fourth	$54	$208	$578	$54	$11	$905
Highest	$29	$193	$433	$51	$5	$711

Source: Author's calculations using data from U.S. Census Bureau, Annual Surveys of School System Finances.

*Excludes one outlier district with very low enrollment.

per student than the same percentage increase in a district with a low initial levy. All districts are permitted to go beyond the tax limitation with a supermajority approval, but it remains to be seen whether low-income and rural districts will be able to circumvent the tax limitation to the same extent as their wealthier counterparts.

Additionally, electoral barriers to increases beyond the tax cap—as a result of limitations in districts' willingness and ability to pay, political constraints, or both—are likely to be faced often. A 2012 study by the New York's State School Boards Association found that three out of four districts in its study would not have been able to raise sufficient property tax revenues—without the 60 percent required voter approval—to cover the growth in costs and the loss in state aid between 2011 and 2012.[82] They further found that reserve funds, which can be used to cover such shortfalls, were most scarce in districts with lower incomes and property wealth. The consequences of failure to approve proposed budgets will be severe. If proposed budgets fail twice to obtain voter approval, under the new law a contingency budget will apply that limits levies to their prior year's value—in effect a limitation on levy growth to 0 percent.

Pennsylvania

Pennsylvania school districts have a more diverse tax base than the other five states profiled here. In addition to the property tax—which on average constitutes 77 percent of local revenues in Pennsylvania—districts receive revenues from a local 0.5 percent earned income tax (permitted to be higher in Philadelphia and Pittsburgh) and a variety of nonproperty Act 511 taxes, including a real estate transfer tax, an occupation tax, and others.[83] Roughly 9 percent of local revenues come from the income tax, and 6 percent come from other taxes—the remainder is from fees and other sources. As seen in Table 12, however, close to 92 percent of the variation across districts is due to the property tax.

Table 20 shows how local revenue sources per student vary between districts in the lowest and highest quintiles of poverty for the 2007 through 2009 school years. From all sources combined, local revenues are $2,955 per student (or 66 percent) higher on average in low-poverty districts than in high-poverty districts. The gap in property tax revenues of $2,532 per student is a substantial share of this, with property tax revenues about 88 percent higher in low-poverty districts. The ratio of revenues in low- to high-poverty districts is larger still for income and other taxes; these components, however, constitute too small a share of local revenues to make much of a difference in local revenue disparities (less than 1 percent for both groups).

TABLE 20

Average local revenues by source and quintile of poverty, Pennsylvania school districts2007–2009

Source	Lowest quintile of poverty ($)	Highest quintile of poverty ($)	Ratio of lowest to highest
All sources	**$7,400**	**$4,445**	**1.66**
Property taxes	$5,421 (73.2%)	$2,889 (70.0%)	1.88
Sales taxes	$46	$41	1.12
Utilities taxes	$9	$11	0.85
Income taxes	$56	$28	2.00
Other taxes	$45	$17	2.65
Cities and counties	$210	$162	1.30
Fees (all)	$402	$252	1.60
Interest	$185	$158	1.17
Private contributions	$29	$24	1.21

Source: Author's calculations using data from U.S. Census Bureau, Annual Surveys of School System Finances, 2006–07, 2007–08, and 2008–09.

Because they are generally small in size and difficult to collect, the wide variety of nonproperty Act 511 taxes have been dubbed "nuisance" taxes by many.[84] Maximum rates were set in 1965, including the 1 percent income tax that must be shared equally between the school district and municipality. An attempt at reform occurred in 1998 with the passage of Act 50, which permitted districts to adopt a higher income tax conditional on the elimination of other Act 511 taxes such as the occupational privilege tax. Only four districts (out of 500), however, elected to do so in subsequent years.[85]

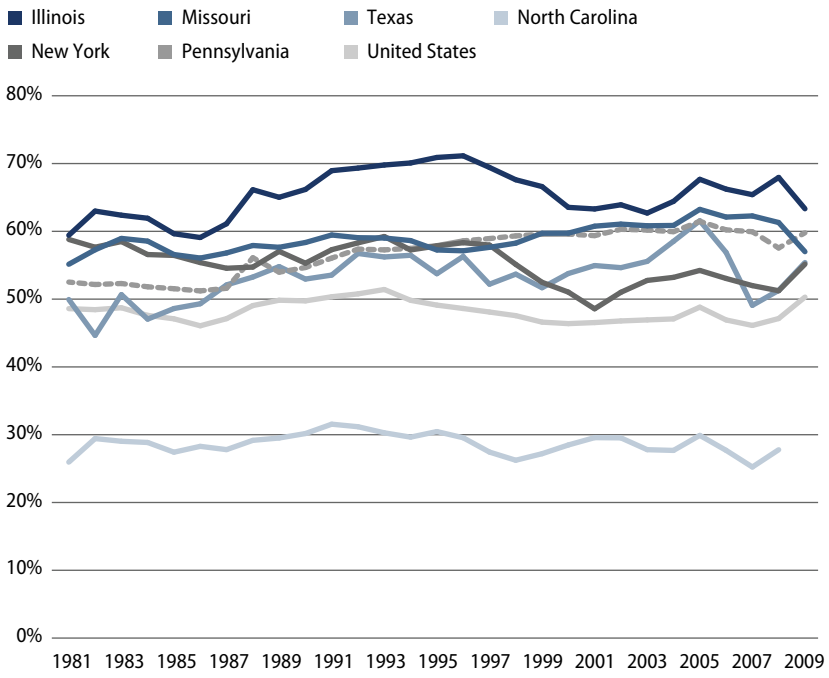
A more significant piece of legislation is the state's Taxpayer Relief Act, or Act 1, which places explicit growth limitations on local levies. Passed in 2006, this law limits the growth of local tax revenues to an inflation factor tied to wages and the federal employment cost index, with 10 exceptions tied to cost factors such as special education.[86] (The inflation factor has varied from 1 percent to 2 percent in recent years.) Increases beyond the inflation factor are subject to a voter referendum. In 2011 the act was revised to further restrict available exceptions, making it more difficult for districts to raise revenues beyond the inflation factor.[87] While it is as yet unclear how the tax limitation will affect the level and equity of spending in the state, Act 1 has several advantages over its counterpart in New York state. First, the allowed-inflation factor is linked to district wealth, with poorer districts being given greater flexibility in revenue growth.[88] Second, the inflation factor is tied to a federal employment cost

index for elementary and secondary education, arguably a better gauge of educational costs than the Consumer Price Index. Another difference is that Act 1 places restrictions on the growth of the tax rate rather than on total levies.

How the tax limitation will affect inequities between districts will again depend on differences in communities' willingness to vote for tax increases in order to support education. The fact that school revenues in general remain so closely linked to property taxes is a concern, particularly given that the trend in Pennsylvania has been for an increasingly large share of local and state financing to be borne by localities. Figure 25 shows the trend in the local share of combined state and local revenues over a 30-year period in Pennsylvania, in the other five focus states, and the U.S. average. While the average U.S. share has remained fixed at roughly 50 percent, Pennsylvania's local share (the dashed line) rose from 52 percent to almost 60 percent over the same period. Texas, Missouri, and Illinois have seen their local shares rise, as well, though to a lesser degree.

FIGURE 25

Percent of state and local revenues from local sources



Source: Author's calculations using data from the National Center for Education Statistics, Digest of Education Statistics (U.S. Department of Education).

Finally, another concern raised in the context of property taxation in Pennsylvania is its lack of uniformity in assessment practices. The state is only one of nine in which the timing and method of property assessment is made at the individual county level, rather than the state level.[89] This has resulted in significantly different practices across school districts and in considerable variation in the frequency of reassessment. Little is known about how this variation has differentially affected districts, but a 2010 study by Weber and others examined 21 years of assessment data from Pennsylvania counties and found that the number of years that had

elapsed since the previous assessment was associated with lower tax revenues all else equal, with a larger effect in rural areas.[90] Moreover, the lag in assessments was observed to be longer in lower-income communities than in higher-income communities, particularly in rural areas.

Texas

In Texas 55 percent of combined local and state revenues are from local sources. About 86 percent of local revenues are collected in property taxes. As in Illinois and Pennsylvania, however, a disproportionate share of the variation in local revenues is due to property taxes (94.2 percent, as seen above in Table 12). These revenue sources contribute to Texas's two-tiered foundation program that combines local and state revenues toward a minimum foundation amount per student, which varies by district.[91] Tier 1 covers this foundation—intended for basic education purposes and supplemental programs such as bilingual education, compensatory and gifted education, and transportation—and requires a minimum tax rate of 1 percent or of the "compressed" tax rate, whichever is lower (see our discussion of the compressed tax rate in the preceding chapter). Tier II is a guaranteed tax base type program, which enables districts to raise revenues beyond the foundation with a guaranteed yield. Since 2009 districts can earn revenues at Austin's property tax base per student for up to a 6-cents-higher tax rate (1.06, or six cents added to the compressed tax rate) and unlimited revenues at a lower statutory base per student, subject to voter approval.

Table 21 shows average tax rates, property wealth per student, and tax levies per student for Texas districts in 2009 grouped by quintile of poverty. Average tax rates for operating purposes (maintenance and operations) are similar across groups, ranging from 1.051 percent to 1.065 percent, although rates are highest in the poorest districts. When looking at tax rates for all school purposes, including capital, however, tax rates are highest in the lowest-poverty districts. Both rates translate into much lower yields per student in the highest-poverty districts, with yields per student more than twice as high in the low-poverty districts. A similar share of districts in each quintile (about 15 percent to18 percent) had tax rates of 1.16 percent or higher (near the statutory maximum of 1.17 percent) although nearly a quarter of all districts in the highest-poverty quintile were taxing at a rate of 1.16 percent or higher.

TABLE 21

Average property valuation, tax rates, and yields in Texas school districts, by quintile of poverty (2009)

Quintile of district poverty	Mean property value per pupil	Mean tax rate (operating)	Mean tax rate (total)	Property tax levies per pupil (operating)	Property tax levies per pupil (total)
Lowest	$634,850	1.051	1.282	$6,670	$8,300
Second	$626,840	1.056	1.223	$6,620	$7,822
Third	$602,810	1.055	1.217	$6,360	$7,500
Fourth	$454,380	1.058	1.189	$4,800	$5,560
Highest	$306,700	1.065	1.196	$3,270	$3,830

Source: Author's calculations using data from the Texas Education Agency, available at http://www.tea.state.tx.us/index2.aspx?id=6872&menu_id=645&menu_id2=78.

Disparities in tax rates and levies between low- and high-poverty districts in Texas are, in part, a reflection of the state's minimal contribution to school facilities funding. A 2010 report found that Texas ranked 31st in the nation in its state share of support for facilities. Historically, the state has played a very small role in supporting capital outlays, although in the past 20 years its support has increased and been targeted primarily toward low-wealth districts. One example is its Instructional Facilities Allotment, a guaranteed-yield formula that ensures a $35-per-pupil yield (unweighted) per penny of tax effort.[92] A 2006 analysis of this program found that the Instructional Facilities Allotment did increase capital spending in low-wealth districts, but a corresponding rise in spending in high-wealth districts—and stagnant spending in middle-wealth districts, which lack both Instructional Facilities Allotment support and a high tax base—led to no change in the equity of capital outlays.[93]

Conclusion

This chapter sought to identify sources of inequities in local revenues between low- and high-poverty school districts and the role local dollars play in these funding disparities. As is well-known, the largest share of local revenues comes from property taxes, although in some states, districts draw upon a broader tax base, including income, sales, public utility, and other taxes. An analysis of U.S. school finance data over three years reveals, however, that property taxes play a disproportionate role in inequality in per-student revenues. That is, while districts may rely on multiple sources of revenues, these sources do less to contribute to inequality than does the property tax.

This finding is disconcerting, as many of the most inequitable states identified in the introductory chapter rely quite heavily on the property tax. Six of our 10 most inequitable states—as defined by the ratio of revenues in low- to high-poverty districts—and four of our six focus states are among the states where local revenues are the most sensitive to property taxes. Even in states such as Pennsylvania, where school districts rely on a broader base, property tax revenues account for more than 90 percent of the district-level variation in revenues.

The common finding across our case study states is not a new one: Taxable property wealth is inversely related to the poverty rate, meaning that higher-poverty districts are able to raise less in property taxes than low-poverty districts for the same level of tax effort. We saw in the cases of Illinois, New York, and Texas that low-poverty districts are able to raise significantly greater revenues per student with a lower tax rate than high-poverty districts do with a higher one. In each case this translates into greater state aid for poorer districts, but, as shown in the introduction to this chapter and in the preceding chapter, this aid is not nearly sufficient to compensate for initial disparities in local resources.

Several of our case-study states impose maximum tax rates, including Illinois, North Carolina, Missouri, and Texas, but in most cases the maximum tax rate is not binding, or it can be exceeded with voter approval. More importantly, three of our

case study states have implemented restrictions on the growth of local revenues—Illinois, Pennsylvania, and, most recently, New York—even as state funding has been cut back, and localities have shouldered more of the burden. Further analysis will be necessary in order to understand the effects of these limitations on resource disparities, particularly in light of research that has found tax limitations to be more restrictive for low-income, low-property wealth districts less able to pass overrides to statutory limitations.[94] The tax cap in New York is especially worrisome, given its uniform application to all districts with no attention to local capacity, as a similar law does in Pennsylvania. Its link to the Consumer Price Index, rather than to a more appropriate index of educational costs, is also of concern.

States such as Illinois, Pennsylvania, New York, and Texas appear on our list of inequitable states in part due to their higher-than-average local share of combined state and local revenues, their heavy reliance on property taxes, and their disproportionate sensitivity to variability in property tax collections. These characteristics are not, however, sufficient conditions for inequity. As we have seen, states such as Ohio and New Jersey are similarly reliant on local financing of public schools, yet their progressive systems of state aid ensure that high-poverty and low-wealth districts are not left behind.

Finally, it is important to point out that Illinois, Pennsylvania, and New York—and to a lesser extent, Missouri—are among the most administratively fragmented state systems of public education in the country, with 868, 501, 680, and 523 local school districts, respectively. (The first three of these states are among the 11 states with the largest number of school districts per square mile of land area). These can be contrasted with, for example, the 115 districts in North Carolina, 67 districts in Florida, and 295 districts in Washington state. Quite simply, a large number of small local school districts provides a much greater opportunity for inequity in property wealth and other resources than does a small number of large districts. Attempts at consolidation and reorganization are politically unpopular but potentially an important step toward greater equity in local spending.

About the Author

Sean P. Corcoran is an associate professor of educational economics at New York University's Steinhardt School of Culture, Education, and Human Development, and an affiliated faculty member of the Robert F. Wagner School of Public Service. He has been a research associate of the Economic Policy Institute in Washington, D.C., since 2004 and was selected to be a visiting scholar in residence at the Russell Sage Foundation from 2005 to 2006. He currently serves on the editorial boards of *Education Finance and Policy* and *Educational Evaluation and Policy Analysis* journals, and is a former member of the board of directors of the Association for Education Finance and Policy.

Corcoran's research focuses on three areas: human capital in the teaching profession, education finance, and school choice. His papers have examined long-run trends in the quality of teachers; the impact of income inequality and court-ordered school finance reform on the level and equity of education funding in the United States; the properties of value-added measures of teacher effectiveness; and the political economy of school choice reforms. In 2009 he led the first evaluation of the Aspiring Principals alternative certification program in New York. For the 2012–13 academic year, he is a visiting scholar at the Center for Education Policy Analysis at Stanford University. While at Stanford, Corcoran will complete several studies on the impact of universal high school choice in New York City.

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Appendix A

Data compiled for identification model

Data type	Primary sampling unit	Sample breadth/ completeness	Key variables	Data source	Years available
District characteristics	District (enrolled population)	Universe of local education agencies	Core-based Statistical Area location, grade range	National Center for Education Statistics, Common Core of Data—Local Education Agency Universe Survey, available at http://nces.ed.gov/ccd/pubagency.asp	2006-07 to 2008-09
Demographics/ enrollment	District (enrolled population)	Universe of local education agencies	English language learner, Individualized Education Program, and migrant enrollment	National Center for Education Statistics, Common Core of Data—Local Education Agency Universe Survey, available at http://nces.ed.gov/ccd/pubagency.asp	2006-07 to 2008-09
Demographics/ enrollment	School (can be aggregated to district) (enrolled population)	Universe of public schools	Percent free (130 percent poverty)/ reduced lunch (185 percent poverty) racial composition	National Center for Education Statistics, Common Core of Data—Public School Universe Survey, available at http://nces.ed.gov/ccd/pubschuniv.asp	2006-07 to 2008-09
Demographics/ population	District (resident population)	Universe of local education agencies	Percentage of 5-year-olds to 15-year-olds below 100 percent poverty	U.S. Census Bureau, Small Area Income and Poverty Estimates, available at http://www.census.gov/did/www/saipe/data/schools/data/index.html	2006-07 to 2008-09
Geographic variation in wages	District (labor market or Core-based Statistical Area and Public Use Microdata Area mapped to district)	Universe of local education agencies	Education comparable wage index	National Center for Education Statistics, Education Comparable Wage Index, available at http://nces.ed.gov/edfin/adjustments.asp	2005 mean centered NCES Education comparable wage index
District finances	District	Universe of local education agencies	Current operating expenditures and/or state and local revenues per enrolled pupil	U.S. Census Bureau, Fiscal Survey of Local Governments, Public Elementary and Secondary Finances, available at http://www.census.gov/govs/school/	2006-07 to 2008-09
Population density	County			U.S. Census Bureau, Population Estimates, County Population Density, available at http://www.census.gov/popest/data/maps/2009/County-Density-09.html	2007-2009

Decomposition of inequality in local revenues, by state

	Prop taxes, Parent govt, or other	Property taxes	Parent or other local govt	Other school districts	Fees	Income or sales taxes	Utility and other taxes	Interest etc.	Private	Misc. rev.
NH	92.8	98.1	-5.2	1	0.3	0	0	0.8	4.3	0.7
NV	96	96	0	0.1	1	0	0.2	2.8	0	0
OH	95.2	94.6	0.6	-0.7	0.9	0.2	0.9	1.7	0.2	1.5
TX	94.8	94.2	0.6	0.1	0.2	0	0	3.5	0	1.5
WV	95.2	93.2	2.1	0.6	2.4	0	0	2.2	0.1	-0.4
IL	92.5	92.4	0.1	0.5	2.3	0	0	3.6	0	1.1
WI	92.8	92.2	0.6	5.6	0.5	0	0	0.7	0.4	0.1
NY	91.6	91.8	-0.2	1	0.2	0	0	2.2	1	3.9
PA	91.6	91.6	0	-0.5	0.8	3.4	2.2	1.6	0	0.9
FL	90.9	90.9	0	0	0.9	0	0	2.7	0.1	5.5
SC	93	90.6	2.4	0	0.1	0	-0.6	5.1	-0.2	2.6
UT	89.6	89.7	0	5.1	1.4	0	0	2.9	-0.1	1
AZ	90.9	88.9	2	1.2	1.2	0	0	0.5	1.4	4.8
SD	89	88.6	0.4	0	1.7	3.7	0.5	3.3	1	0.9
MI	88.1	87.6	0.4	3	1.2	0	0	5.8	0.4	1.5
ID	87.3	87.3	0	0.2	0.3	0	0	7.6	0.1	4.5
NE	86.1	85.7	0.4	6.9	3	0	2.9	0.5	0.1	0.4
DE	81.8	81.8	0	13.2	-0.6	0	0	1.2	0	4.4
NJ	92.1	81.3	10.8	0.9	3.2	0	0	0.3	0	3.4
MO	82.9	79.5	3.4	0.5	3	0	4.7	2.6	0	6.3
NM	79	79	0	0	2.2	0	0	4.8	7.6	6.3
CA	78	77.8	0.2	4.7	1.7	0	2.1	5.5	0	8.1
OK	78.2	76.3	1.9	0	4.5	0	0	1.5	0.2	15.7
WA	80.4	75.6	4.8	1.4	5.1	0	0.2	3.6	1.7	7.6
CO	74.4	73.1	1.3	1.7	3.1	0.6	0.6	2.2	0.4	17
IN	80.3	73.1	7.2	5.9	3	0	0	1.2	0.5	9.2
ND	87.7	67.4	20.3	0.1	-1.1	0	0	6.2	0	7.1
IA	65.4	65.4	0	9.6	1	11.1	2.6	7.3	1.4	1.6
WV	93.8	63	30.8	-0.2	0.9	0	0.3	3.5	0.1	1.5

	Prop taxes, Parent govt, or other	Property taxes	Parent or other local govt	Other school districts	Fees	Income or sales taxes	Utility and other taxes	Interest etc.	Private	Misc. rev.
MT	72.3	60.4	11.9	7.3	9.6	0	0	6.5	1.9	2.4
GA	75.9	58.8	17.1	-0.1	1.6	17.1	0	2.1	0	3.4
KY	58.2	57.2	1	0.1	3	5.6	2	0.9	1.1	29.1
MS	56.5	52	4.5	0.1	4.7	0	5.4	3.9	2.3	27.1
LA	46.9	46.4	0.6	0.9	0.3	32.7	0	5.6	0	13.6
AR	46.6	45.5	1.2	1.2	6.1	0.1	0.4	5.6	9	30.9
OR	56.0	44.2	11.9	0.2	4.4	0	0	28.4	2.5	8.5
KS	44.1	43.3	0.7	0	0.4	0	0	3.1	0.9	51.5
AL	69.8	36.8	33	0.1	2.4	0	0.5	3.9	0.5	22.9
MN	44.4	35.4	9	33.1	8.2	0	0	6.2	0.4	7.8
ME	96.9	15.3	81.6	2.8	0.1	0	0	0.1	0.2	-0.1
MD	102.1	0	102.1	0	1.2	0	0	-0.3	0	-3
CT	100.3	0	100.3	-0.5	0.3	0	0	0	0	-0.1
VA	94.9	0	94.9	2.4	1.9	0	0	0.3	0.2	0.3
NC	93.9	0	93.9	0	2.1	0	0	0.5	0	3.4
MA	93.7	0	93.7	3.9	0.9	0	0	0.1	0.1	1.4
TN	88.6	0	88.6	0.1	4.9	0	0	0.5	4.6	1.4
VT	-0.1	-0.1	-0.1	98.9	0.7	0	0	-0.1	0.3	0.4
RI	99.6	-2.7	102.3	-0.2	0.7	0	0	0	-0.1	0

Endnotes

1 According to a recently published national report on school funding fairness, the percent of funding that comes from the state as opposed to local sources is unrelated to whether a school finance system succeeds in providing more resources to children with greater needs. See Bruce D. Baker, Danielle Farrie, and David Sciarra, "Is School Funding Fair?" (Newark, New Jersey: Education Law Center of New Jersey, Ford Foundation, and Educational Testing Service, 2010). This suggests that states providing a large share of state aid are not necessarily more equitable. In other words, the savage inequalities stereotyped by Jonathan Kozol of rich towns and poor towns with rich schools and poor schools are only part of the story of school funding inequity. See Jonathan Kozol, *Savage Inequalities: Children in America's Schools* (New York: Random House, 1991).

2 The Technical Appendix explaining this model can be found in Bruce D. Baker and Danielle Farrie, "Is School Funding Fair? A National Report Card Technical Report" (Newark, New Jersey: Education Law Center, 2009), available at http://schoolfundingfairness.org/SFF_Data_and_Methods.pdf.

3 We use a new poverty measure for our analysis, which corrects school district level poverty estimates for differences in competitive wages across labor markets. This approach allows us to more accurately distill whether state school finance systems are progressive or regressive with respect to child poverty concentrations in districts. As in the report, "Is School Funding Fair?" we use the above model to project the expected state and local revenues per pupil of districts with 0 percent, 10 percent, 20 percent, and 30 percent children in poverty. The updated poverty measure is explained in J.G. Chambers, and others, "Towards a More Accurate Measure of Student Poverty: An Alternative Method for Calculating Cost-Adjusted Poverty with an Application to Measuring Student Need" (Boston: Annual Meeting of the Association for Education Finance and Policy, 2012).

4 States that appear more inequitable in Table 1a (which does not adjust for differences in cost) than in Table 1 (which does) may be those where low-poverty districts tend to be higher-cost districts, and high-poverty districts tend to be lower-cost districts. In this case, revenue gaps that appear large when not adjusting for costs will narrow when taking into account cost differences. Virginia provides an example. When not adjusting for cost differences, it ranks among the most imbalanced states, with high-poverty districts receiving much lower revenues than low-poverty districts (Table 1). However, high-poverty districts in this state tend to be located in rural or low-wage areas (e.g., Richmond and Roanoke) while low-poverty districts tend to be in urban or high-wage areas (e.g., Fairfax and Loudon Counties). Therefore the real difference in resources is not as great.

5 Bruce D. Baker, "How Much Does Federal Title I Funding Affect Fairness in State School Finance Systems?" School Finance 101 blog, June 29, 2012, available at http://schoolfinance101.wordpress.com/2012/06/29/how-much-does-federal-title-i-funding-affect-fairness-in-state-school-finance-systems/.

6 See for example, Arizona and Utah in the 2012 School Funding Fairness report, which both fall into the bottom five states in overall spending, but where Utah's spending distribution is progressive and Arizona's relatively flat. Bruce D. Baker, Danielle Farrie, and David Sciarra, "Is School Funding Fair? A National Report Card" (Newark, New Jersey: Education Law Center, 2012), available at http://schoolfundingfairness.org/National_Report_Card_2012.pdf.

7 George Strayer and Robert Haig, "The Financing of Education in the State of New York" (Education Finance Inquiry Commission, 1923).

8 John Coons, William Clune, and Steven Sugarman, "Educational Opportunity: A workable constitutional test for state financial structures," *California Law Review* 57 (2) (1969): p. 305–421.

9 Robert Berne and Leanna Stiefel, *The Measurement of Equity in School Finance: Conceptual, Methodological and Empirical Dimensions* (Baltimore: Johns Hopkins University Press, 1984); Robert Berne and Leanna Stiefel, "Concepts of School Finance Equity: 1970 to the Present." In Helen F. Ladd, Rosemary Chalk, and Janet S. Hansen, eds., *Equity and Adequacy in Education Finance* (Washington: National Academy Press, 1999), p. 7–33.

10 William Duncombe and John Yinger, "Measurement of Cost Differentials." In Helen F. Ladd & Edward Fiske, eds., *Handbook of Research in Education Finance and Policy* (New York: Routledge, 2008), p. 203–221; Bruce D. Baker, "The Emerging Shape of Educational Adequacy: From Theoretical Assumptions to Empirical Evidence," *Journal of Education Finance* 30 (3) (2005): 277–305.

11 Bruce D. Baker and Preston C. Green, "Conceptions of Equity and Adequacy in School Finance." In Helen F. Ladd & Edward Fiske, eds, *Handbook of Research in Education Finance and Policy* (New York: Routledge, 2008), p. 203–221.

12 John Yinger, "State Aid and the Pursuit of Educational Equity: An Overview." In John Yinger, ed., *Helping Children Left Behind: State Aid and the Pursuit of Educational Equity* (Cambridge: MIT Press, 2004), p. 3–57.

13 Duncombe and Yinger, "Measurement of Cost Differentials"; Baker, "The Emerging Shape of Educational Adequacy."

14 Baker and Green, "Conceptions of Equity and Adequacy in School Finance"; Yinger, "State Aid and the Pursuit of Educational Equity: An Overview"; William Koski and Robert Reich, "When Adequate Isn't: The retreat from equity in educational law and policy and why it matters," *Emory Law Review* 56 (3) (2006): 547–618.

15 Michael Rebell, *Courts and Kids: Pursuing Educational Equity through the State Courts* (Chicago: University of Chicago Press, 2009).

16 Bruce D. Baker, "School Funding Fairness in New York State" (2011), available at http://schoolfinance101.files.wordpress.com/2010/01/ny-aid-policy-brief_fall2011_draft6.pdf.

17 Summary of *Committee for Educational Equality vs. State of Missouri,* available at http://missourilawreview.blogspot.com/2010/01/committee-for-educational-equality-v.html (last accessed July 2012).

18 "Education Justice: Pennsylvania," available at http://www.educationjustice.org/states/pennsylvania (last accessed July 2012).

19 "Education Justice: Texas," available at http://www.educationjustice.org/states/texas (last accessed July 2012).

20 A pending case in Illinois challenges the racial disparities in funding within the school finance system under

the state's antidiscrimination statute, but most recently the court determined that plaintiffs (the Urban League of Chicago) could challenge only those aspects of the state school finance system under discretionary control of the State Board of Education.

21 "Education Justice: North Carolina," available at http://www.educationjustice.org/states/northcarolina (last accessed July 2012).

22 Ibid; Bruce D. Baker and Kevin Welner, "School Finance and Courts: Does Reform Matter, and How Can We Tell?" *Teachers College Record* 113 (11) (2011): 2374–2414. Baker and Welner discuss the studies that make overly simplified characterizations of state school finance reforms, and judicial decisions and their effects. There exists a sizeable body of literature that claims judicial orders in state school finance litigation do not improve the equity or adequacy of student outcomes. These studies often simply classify a state as having or not having a judicial order pertaining to school finance. Many of the classifications would not, for example, recognize that the Texas judicial order in fact encouraged the state to adopt a reform that did nothing to improve equity or adequacy of funding. Many of these studies, as explained by Baker and Welner, do not actually measure whether substantive reforms were even implemented following the court order, instead simply asserting that because the court order did not improve student outcomes, school finance reforms do not improve student outcomes.

23 Preston C. Green and Bruce D. Baker, "Urban Legends, Desegregation and School Finance: Did Kansas City really prove that money doesn't matter?" *Michigan Journal of Race and Law* 12 (1) (2006): 57–105.

24 Preston C. Green and Bruce D. Baker, "Tricks of the Trade: Legislative Actions in School Finance that Disadvantage Minorities in the Post-Brown Era" *American Journal of Education* 111 (2005): 372–413; Tony Ortega, "Funny Math," *Kansas City Pitch*, April 14, 2005, available at http://www.pitch.com/kansascity/funny-math/Content?oid=2177356.

25 Bruce D. Baker, "What will it take to make Kansas School Funding 'Cost-Based?'" *Kansas Policy Review* 27 (2) (2005): 21–30.

26 Kevin Fox Gotham, "Urban Space, Restrictive Covenants and the Origins of Racial Residential Segregation in a U.S. City, 1900–50," *International Journal of Urban and Regional Research* 24 (3) (2000): 616–633.

27 Bruce D. Baker, "Arizona's State School Finance Formula Fails to Guarantee Equal Educational Opportunity" (Phoenix: Arizona Center for Law in the Public Interest, 2007).

28 Originally presented in Bruce D. Baker, "Missouri's School Finance Formula Fails to Deliver Equal or Minimally Adequate Educational Opportunities to Missouri Schoolchildren," expert exhibit for lawsuit *Committee for Educational Equality v. State of Missouri* (2006), available upon request from the author.

29 This exemption is available for owner-occupied primary residences where the resident owners' and their spouses' income is less than $500,000. It exempts the first $30,000 of the full value of a home from school taxes.

30 This exemption provides an increased benefit for the primary residences of senior citizens (age 65 and older) with qualifying incomes. It exempts the first $62,200 of the full value of a home from school taxes, as of 2012–13 school tax bills (up from $60,100 in 2011–12).

31 "New York State Division of Taxation and Finance, STAR," available at http://www.tax.ny.gov/pit/property/star/ex_index.htm (last accessed July 2012).

32 Jonah Rockoff, "Local Response to Fiscal Incentives in Heterogeneous Communities." Working Paper (Cambridge, Massachusetts, and New York City: National Bureau of Economic Research and Columbia University, 2010).

33 Tae Ho Eom and Ross Rubenstein, "Do State Funded Property Tax Exemptions Increase Local Government Inefficiency? An Analysis of New York State's STAR Program," *Public Budgeting and Finance* 26 (1) (2006): 66–87.

34 Tae Ho Eom and Kieran Killeen, "Reconciling State Aid and Property Tax Relief for Urban Schools: Birthing a New STAR in New York State," *Education and Urban Society* 40 (1) (2007): 36–61.

35 In Texas school finance lingo, the maintenance and operations levy is effectively the local operating tax levy for schools. The other type of levy used for schools in Texas is the I&S levy, or interest and sinking fund levy, used for paying down debt incurred for capital projects.

36 "Education Justice: Texas."

37 H.B. 1, 79 Leg., 3d Sess. (Tex 2006).

38 Texas Educ. Code Ann. § 42.2516 (2011); 19 Tex. Admin. Code § 61 (2011): A school district that imposes a maintenance and operations tax at a rate at least equal to the product of the state compression percentage multiplied by the maintenance and operations tax rate adopted by the district for the 2005 tax year is entitled to at least the amount of state revenue necessary to provide the district with the sum of the amount of state and local revenue per student in weighted average daily attendance for maintenance and operations that the district would have received during the 2009–10 school year. This amount must be at an maintenance and operations tax rate equal to the product of state compression percentage for that year multiplied by the maintenance and operations tax rate adopted by the district for the 2005 tax year; and an amount equal to the product of $120 multiplied by the weighted average daily attendance for the district; and an amount equal to the amount the district is required to pay into the tax increment fund for a reinvestment zone in the current year; and any amount to which the district is entitled under § 42.106. House Bill 3646. HB 3646 state and local revenue amount is compared to the minimum and maximum revenue hold-harmless levels under HB 3646. If the state and local revenue amount is less than the minimum hold-harmless level, the district receives the difference as Additional State Aid for Tax Reduction. If the state and local revenue amount is greater than the minimum hold-harmless level but less than the maximum hold-harmless level, the district gets to keep all the revenue. If the state and local revenue amount exceeds the maximum hold-harmless level, the district's funding is reduced to the maximum hold-harmless level.

39 Texas Educ. Code Ann. § 43: 001-020 (2011) Permanent School Fund and Available School Fund.

40 "Texas Permanent School Fund Overview," available at http://www.tea.state.tx.us/index4.aspx?id=2147485578&menu_id=2147483695 (last accessed July 2012).

41 New Jersey, for example, provides categorical special-education aid even to its most-affluent districts, which could pay for those same services on their own while maintaining lower effective tax rates than middle-class

New Jersey districts. But, at least in New Jersey, this dispersion of school finance pork is done in a context where sufficient effort is already provided to improving the progressiveness of the system as a whole.

42 Some portions of special education aid are mildly adjusted for differences in a district's market value/personal income aid ratio.

43 Bruce D. Baker and Matthew Ramsey, "What we don't know can't hurt us? Evaluating the equity consequences of the assumption of uniform distribution of needs in Census Based special education funding," *Journal of Education Finance* 35 (3) (2010): 245–275; Bruce D. Baker, Preston C. Green and Matthew J. Ramsey, "Ramsey Financing Education For Children With Special Needs." In James M. Kauffman and Daniel P. Hallahan, eds., *Handbook of Leadership for Special Education* (New York: Routledge, 2012).

44 Bruce D. Baker and Sean P. Corcoran, "The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending" (Washington, D.C.: Center for American Progress, 2012).

45 Bruce D. Baker, "How State Aid Formulas Undermine Educational Equity in States." In Baker and Corcoran, "The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending" (Washington, D.C.: Center for American Progress, 2012).

46 Caroline Hoxby, "All School Finance Equalizations are Not Created Equal," *Quarterly Journal of Economics* 116 (4) (2001): 1189–1231; Caroline Hoxby and Ilyana Kuziemko, "Robin Hood and His Not-So-Merry Plan: Capitalization and the Self-Destruction of Texas' School Finance Equalization." Working Paper No. 10722 (National Bureau of Economic Research, 2004).

47 Baker, "How State Aid Formulas Undermine Educational Equity in States."

48 Ibid.

49 As is shown in the next section, the average revenue share from property taxes is 62.4 percent. This understates the reliance on property taxes, as fiscally dependent districts receive their revenues from a higher level of government such as a city or a county, which may in turn raise its revenues from property taxation. Seventy-five percent of local revenues originate from property taxes or a parent government.

50 The fees category combines eight types of fees and proceeds: school meals (3.6 percent), activity receipts (1.9 percent), tuition (less than 1 percent), transportation (less than 1 percent), textbooks (less than 1 percent), other fees (less than 1 percent), other sales and services (less than 1 percent), and rents and royalties (less than 1 percent).

51 This analysis uses the method outlined in A. F. Shorrocks, "Inequality Decomposition by Factor Components," *Econometrica* 50 (1) (1982): 193–212. The proportionate contribution of a revenue factor *f* to overall inequality is: Corr(*f*) * [SD(*f*) / SD(Local)], where Corr(*f*) is the correlation coefficient between factor *f* and local revenues, and SD(f) and SD(Local) are the standard deviations of factor *f* and local revenues, respectively.

52 Baker and Corcoran, "The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending."

53 These calculations are based on an enrollment-weighted average across school districts.

54 Illinois State Board of Education, *General State Aid Overview* , available at http://www.isbe.net/funding/pdf/gsa_overview.pdf.

55 Ronald J. Gidwitz and Respicio F. Vasquez, "State, Local and Federal Financing for Illinois Public Schools, 2000 –2001" (Illinois State Board of Education, 2002), available at http://www.isbe.state.il.us/sfms/pdf/slf01.pdf.

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58 Illinois Department of Revenue, *Property Tax Limitation Law: Technical Manual,* available at http://www.revenue.state.il.us/publications/LocalGovernment/PTAX1080.pdf.

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61 Thomas A. Downes, Richard F. Dye, and Therese J. McGuire, "Do Limits Matter? Evidence on the Effects of Tax Limitations on Student Performance," *Journal of Urban Economics* 43 (3) (1998): 401–417. See also Thomas A. Downes and David Figlio, "School Finance Reforms, Tax Limits, and Student Performance: Do Reforms Level Up or Dumb Down?" (Cambridge: Tufts University, 2000).

62 These calculations are based on an enrollment-weighted average across school districts.

63 Baker, "How State Aid Formulas Undermine Educational Equity in States."

64 Michael Podgursky and Matthew G. Springer, "K-12 Public School Finance in Missouri: An Overview," *Federal Reserve Bank of St. Louis Regional Economic Development* 2 (1) (2006): 31–50.

65 It is not possible with the F–33 data to discern the exact source of "other local taxes." The intangible tax is likely to appear in this category or "miscellaneous revenues."

66 State aid per student will vary across districts to the extent that they vary in average teacher qualifications, as statewide base salaries are higher for teachers with more experience and education. Categorical aid programs, which represented 18.5 percent of state aid in 2010, also produce variation across districts. See North Carolina Department of Public Instruction, *Highlights of the North Carolina Public School Budget,* available at http://www.ncpublicschools.org/docs/fbs/resources/data/highlights/2012highlights.pdf (p. 9).

67 These calculations are based on an enrollment-weighted average across school districts.

68 Authors' calculations using data from the North Carolina Department of Revenue.

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