



School Finance in the US

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Abstract

This chapter provides an overview of K-12 public school finance in the United States by tracing how funding systems changed over time, how they operate today, and how well they advance core policy goals. Section 2 documents the long-run shift from local property-tax finance toward larger state and federal roles, driven by economic crises, legislation, and litigation. Section 3 describes the contemporary funding system, including the distinct roles of state, local, federal, and non-governmental revenues. Section 4 explains the core functions of state finance formulas, focusing on adequacy baselines, required local effort, and incentives for additional local spending. Section 5 reviews the school finance reform movement, showing how litigation moved from equal protection to equity and then to adequacy, with contemporary examples from Washington, California, and Tennessee. Section 6 evaluates school finance in terms of efficiency and equity, reviewing evidence that additional revenues improve achievement and long-run outcomes, generate broader social benefits, affect housing markets, and remain unevenly distributed across places and student groups.

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1. Introduction

In this chapter we focus primarily on K–12 public education finance in the United States. The central questions guiding this discussion are: How has school finance evolved over time, how are schools funded today, and are those funding mechanisms meeting policy goals? Undergirding these questions are normative and practical considerations about why societies make sizeable public investments in education and what they want these investments to accomplish.

Public education in the United States is widely accessible, mandated in each state’s constitution (Parker, 2016; Dallman & Nath, 2020) to ensure all children have opportunities to learn. This accessibility, however, is expensive. For example, in fiscal year 2023, the U.S. spent approximately \$980 billion in elementary and secondary education, roughly on par with U.S. defense, Medicaid, or Medicare spending (Corman et al., 2025; U.S. Department of the Treasury, 2023).

Given the magnitude, it is useful to provide theoretical justifications for this expenditure. Broadly, educational investments yield both social and private returns. Social returns to education include significant gains in human capital (Goldin & Katz, 2009; Hanushek & Wößmann, 2010), civic engagement (Lochner, 2011), and public safety (Machin, et al., 2011; Hjalmarsson, et al., 2015). Private returns to education, meanwhile, influence individual earnings potential and social status, creating pathways for upward mobility (Chetty, et al., 2014; Deming, 2022). Given these private returns, residential choices partly reflect school quality indicators, with families acquiring educational benefits through housing decisions, as initially theorized by Tiebout (1956; Black, 1999; Nechyba, 1997). Such residential sorting predictably leads to inequalities, as wealthier families cluster in communities with higher-quality schools.

The tension between social and private returns to education reveals the fundamental challenge that education finance policy embodies: balancing equality, efficiency, and local choice while navigating complicated decisions around public and private funding. This chapter provides an education finance overview that helps readers understand the sources of these tensions.

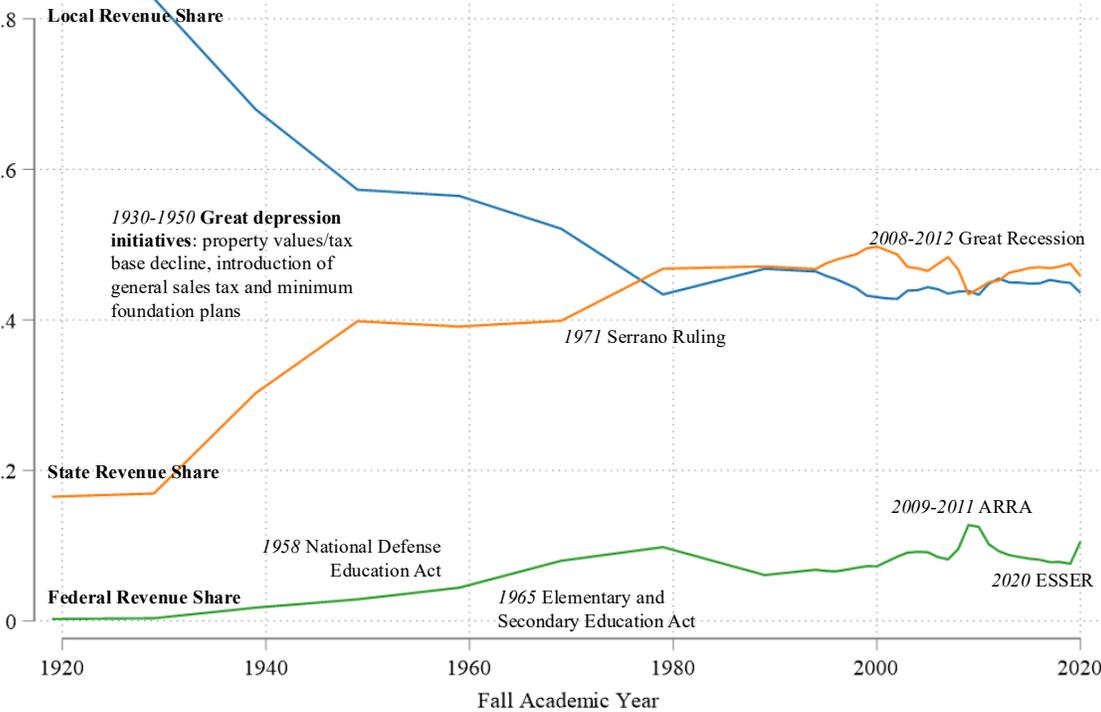
2. How Have Intergovernmental Roles Changed Over Time?

Understanding contemporary education finance requires examining how local, state, and federal roles have shifted across the past century. In the beginning of the 20th century, public education was funded almost entirely from local taxes, mostly local property taxes. The roles for state and federal governments increased throughout the 20th century, sometimes gradually but often dramatically, due to economic disruptions, political movements, and judicial mandates. Figure 1 summarizes these changes.

In the early twentieth century, public education was funded almost exclusively by local governments through property taxes. This structure produced large disparities between districts. Communities with higher property values raised more revenue, while lower-wealth districts struggled to support basic operations. These patterns reflected and reinforced broader racial and economic inequalities, even after *Brown v. Board of Education* (1954) declared school segregation unconstitutional. State governments contributed relatively little to K–12 finance, and the federal role was negligible—less than one percent of total revenues before the 1930s.

During the Great Depression, collapsing property values reduced local governments’ fiscal capacity. In response, educators and organized teachers lobbied state legislatures to assume more responsibility for funding. Real estate interests supported these policies, anticipating that reduced local tax burdens would stabilize property markets. Consequently, many states adopted general sales taxes and established “minimum foundation” aid programs to guarantee baseline per pupil funding for districts. As a result, the state share of education revenues rose sharply, more than doubling between 1930 and 1940 (Urban & Wagoner, 2013; Reese, 2007).

In the 1960s, the federal role in K-12 education expanded, beginning with targeted programs like the National Defense Education Act and the School Lunch Program. A more pronounced increase came with the Elementary and Secondary Education Act (ESEA) of 1965, which provided federal funds to support low-income students and under-resourced schools. Though the federal share remained modest, federal spending was often found to displace existing local or state funds (Casco et al., 2013; Gordon, 2004). Despite evidence of fiscal substitution for federal funds, the state share continued to increase, beginning notably with the *Serrano v. Priest* rulings in 1971, which aimed to close wealth-based funding disparities (Goldstein, 1971). After *Serrano*, the state share increased from about 40 to 50 percent of total revenues, from which it stayed until the Great Recession of 2008.



Note: This figure shows the proportion of total public elementary and secondary school revenues provided by local, state, and federal sources from 1920 to 2020, as reported by the U.S. Census of Governments and compiled by the National Center for Education Statistics (NCES, 2023). See Urban and Wagoner (2013) chapters 8–10 for Great Depression overview.

In the decades after 1980, many additional lawsuits were brought against states, coinciding with new legislative rulings and interpretations of state-level constitutional obligations (Shores, et al., 2023). The state share of education remained largely unchanged during this period. Similarly, the federal government passed sweeping legislation in 2001 with the No Child Left Behind Act and, later in 2015, the Every Student Succeeds Act, yet these barely affected the federal share of total revenues post-1980. The only notable shifts to both the state and federal share of K-12 revenues stemmed from the Great Recession, which devastated state budgets (Evans, et al., 2019; Shores & Steinberg, 2022) and resulted in an unprecedented temporary federal stabilization in education via the American Recovery and Reinvestment Act (ARRA) of 2009, distributing nearly \$50 billion to schools. The federal revenue share returned to its pre-recession levels (though the state revenue share did not) until the COVID-19 pandemic, where again the federal government acted to provide temporary stabilization via Elementary and Secondary School Emergency Relief (ESSER) funds. Despite these changes, local funding remains important, primarily through property taxes, bond measures, and voter-approved funding.

3. How Is Education Funded Today?

Local and state revenues together account for about 90 percent of public school funding in the U.S., with each contributing roughly equal shares nationally. However, this balance is not a coincidence; rather, it reflects a complex, state-led system of regulations that governs how much revenue local districts are permitted or required to raise and how much the state provides to equalize or supplement that local effort.

3.1 State role

State governments, though equal contributors to school funding, exert much broader control over the structure and equity of education finance. States raise revenue from a combination of income and sales taxes, and in many cases, also from lottery funds (McNeil & Candelaria, 2024). These revenues, in turn, flow to districts through foundation aid models, guaranteed tax base systems, or hybrid approaches. These formulas are the primary levers for determining how much spending students receive and whether student needs are included in the per pupil amount, the latter largely responsible for whether a given state's distribution of spending is progressive (i.e., favoring a high need student group) or regressive (i.e., disfavoring that group). In addition, state policy often regulates local fiscal behavior. Most states set tax floors to guarantee a minimum level of local effort (Fischer & Duncombe, 2024), and many set ceilings that cap the extent to which districts can raise supplemental funds (e.g., as in Massachusetts' Proposition 2½, which limits property tax increases, or Texas's "Robin Hood" plan, which recaptures local funds from wealthy districts to redistribute statewide).

3.2 Local role

Local revenues are derived primarily from property taxes, thus tying the local share of school budgets directly to property wealth. Historically, the economic justification for local funding of public schools followed a Tiebout framework. Namely, education is a local public good with heterogeneous tastes and costs, and local finance therefore helps match spending to preferences. However, now that states regulate district effort and often guarantee a base amount to all districts, that tax-benefit rationale has been substantially weakened. Nevertheless, local contributions still serve

distinct purposes. First, property taxes are less sensitive to economic shocks, which helps stabilize school budgets when state revenues fall (Chakrabarti, et al., 2014; Dye & Reschovsky, 2008; Shores & Steinberg, 2019). Moreover, voters can approve extra money for schools through operating overrides and bond elections, which raise annual funds or finance buildings and are repaid with future property taxes (Cellini et al., 2010; Biasi et al., 2024; Rauscher, 2020). Lastly, keeping some local taxation makes the cost of additional spending visible to residents and requires approval at the ballot box, which supports accountability and limits excess spending (i.e., soft budget problems) that can occur under full state financing (Kornai, Maskin, and Roland, 2003; Matsusaka, 2005).

3.3 Federal role

Federal funding, while a smaller proportion of total K–12 revenues, plays a disproportionately important role in supporting historically underserved students. Title I (roughly \$16 billion in 2019, prior to emergency relief funding for the COVID-19 pandemic) of the Elementary and Secondary Education Act (ESEA) provides aid to districts with high concentrations of low-income students. Other major federal programs include the Individuals with Disabilities Education Act (IDEA; roughly \$13 billion in 2019) and bilingual or English learner supports. Federal aid is categorical, meaning it is restricted to specific uses and populations. Empirical work has shown that federal dollars often crowd out state and local funds, reducing their net effect on total school budgets (Cascio et al., 2013; Gordon, 2004). Lastly, during the last two crises of the Great Recession and the COVID-19 pandemic, the federal government has provided emergency stabilization via the American Recovery and Reinvestment Act (ARRA; roughly \$50 billion) during the Great Recession and the Elementary and Secondary School Emergency Relief (ESSER; roughly \$190 billion) funds during the COVID-19 pandemic.

3.4 Non-governmental role

Finally, a small but visible share of education funding now comes from non-public sources, including philanthropic foundations, education-focused nonprofits, and school-specific “friends” groups or booster clubs. While this funding can provide useful funding for programming and capital needs not covered by the primary formula, it is small in magnitude and tends to reinforce existing disparities in school resources (Reckhow & Snyder, 2014).

4. The function and purpose of state funding systems

4.1 Functions of state funding systems

Modern state formulas share three core functions: (1) setting a baseline for adequate spending (adjusted for student needs and costs), (2) defining districts’ required local contributions based on fiscal capacity, and (3) determining state cost-sharing above the baseline. These functions manifest differently across the two main funding models: Foundation Programs and Guaranteed Tax Base (GTB) (or power equalization).

4.1.1 Guaranteeing a baseline

Every system sets a per-pupil target. Flat grants do so with a single dollar amount. Foundation programs set an adequacy target that can vary by grade span or student need, and the state fills any gap between that target and required local revenue. GTB designs imply a baseline as well since

the state promises a revenue yield at any chosen tax rate up to a guaranteed wealth level. Weights and cost indices act here by raising the effective baseline for specified students or places. A weight that raises the per-pupil target for multilingual learners in a foundation formula does the same job at the funding floor as raising the state guarantee for those learners in a GTB formula. Both deliver more dollars for those students before any extra local taxing happens.

For example, with a weight in a foundation formula, suppose the floor is \$10,000 per pupil. A 20 percent weight for multilingual learners makes the floor \$12,000 for those students. With a GTB formula, suppose the state guarantees enough revenue per tax rate to reach \$10,000. For multilingual learners, the state could raise the guaranteed wealth base so that districts receive an extra \$2,000 per such student. Here, the GTB effect is the same. However, differences come later when a district wants to spend above the floor, since a GTB formula can also lower the local price of extra spending while a plain foundation formula usually does not.

4.1.2 The required local effort

The second core function is to define a district's local fiscal capacity (i.e., property wealth) and regulate their required baseline contributions. In a foundation formula, the state measures districts' equalized property base per pupil and applies a reference tax rate to determine required local revenue. Required local revenue equals that rate times the base. The state then pays the difference between the adequacy target and this required amount. When assessed values rise, state aid falls by the same amount at the floor, so floor spending does not change unless the state resets the target or the rate. Some states require a dollar contribution rather than a rate, which is equivalent at the baseline.

In a GTB formula, the state sets a guaranteed wealth level (e.g., \$10K per pupil) and promises a revenue yield per unit from this guarantee. If a district chooses a 1% tax rate, the state ensures that district will have full revenue generated from that rate (\$100 in this example), regardless of its actual property wealth. Both designs make the baseline contribution an explicit function of capacity and both use state aid to close the remaining gap to the floor. The practical difference is who moves the lever. Foundation plans usually enforce effort with a required rate at the floor and treat extra effort as purely local. GTB plans let districts choose their rate and then match the resulting effort up to the guarantee, which builds the incentive into the aid formula. In rare cases, states employ a fully state-funded model (Lovenhien & Turner, 2018).

4.1.3 The marginal price of local spending above the baseline

State funding mechanisms typically diverge with respect to function three. In a simple foundation plan without additional components, the next dollar above the floor has a local price near one, meaning that the district pays for all of it. In this setup, there is no state match to help districts increase spending for students outside what is established by the base formula itself, which may set additional funding for students based on need (e.g., economic disadvantage) or cost (e.g., rurality). In a GTB system, the state promises a common revenue per unit of tax rate up to a guaranteed wealth level. For districts with wealth below the guarantee, the state adds to each locally raised dollar, so the local price of an extra dollar is less than 1. Conversely, if policy also recaptures revenue in very wealthy districts, the local price can be greater than 1 for them because part of what districts raise is taken back.

4.2 Commonalities and differences across funding mechanisms

Foundation plans and GTB are similar in that they set baseline spending amounts, determine district and state capacity to meet required baseline contributions, and differentiate cost differentials based on a mixture of student need and regional factors. However, they differ in three ways. First, they choose different marginal price schedules above the floor. A foundation plan without a power-equalized component makes any additional spending above the baseline funded via district effort. In contrast, GTB lowers the local price for low-wealth districts. For high-wealth districts, it can raise the cost of providing additional funding when the state introduces recapture. Second, they differ in administrative simplicity. Though both designs depend on current property assessments, GTB plans tie aid to the district's actual tax rate up to the guaranteed amount, whereas a foundation plan uses a reference rate and leaves above-floor tax rates up to local policy, which simplifies projections. Third, they interact differently with capital finance. Most formulas equalize operating budgets but leave facilities to separate state programs or local bonds, so equal operations can co-exist with unequal buildings unless the state runs a parallel capital equalization policy.

Given these differences many states adopt hybrid plans combining elements from multiple approaches. For example, Texas's Guaranteed Yield model integrates both foundation and GTB programs through a two-tiered structure. In Tier one, the formula functions as a foundation program, and Tier two operates as a GTB, ensuring that every district receives the same financial yield per student for each additional penny of local tax effort (Texas Education Agency, 2020).

4.3 What factors are relevant for choosing a specific funding mechanisms

States choose one funding mechanism over the other to meet their spending priorities, fiscal incentives, and administrative realities. If the priority is to compress spending inequality above the floor, GTB is attractive because it lowers the local price of the next dollar in low-wealth districts and can raise it in very high-wealth districts through recapture. If the priority is a clear, enforceable floor with simple forecasting, a foundation plan is the natural pick because aid at the floor depends on a reference rate rather than on the district's chosen rate. While both the foundation plan and GTB can achieve identical baseline spending per pupil, they produce different spending patterns based on local price incentives. States that want the same tax effort will choose a GTB or a hybrid model, whereas states that want the next dollar to be purely local will use a foundation plan. Administrative capacity is relevant because GTB requires districts and states to coordinate for tax collection and reporting, while a foundation plan can be run with less oversight once the target and reference rate are set.

4.4 The effects of different funding mechanisms

Research documents four key effects of funding mechanism choices. The first line of research examines how these funding mechanisms affect total spending and spending inequality. Foundation plans that raise the baseline give more dollars to low-wealth districts and narrow cross-district spending differences. The effect for wealthier districts is usually small, so when baselines are increased total state-level spending often goes up (Card and Payne 2002; Cullen and Loeb 2004; Papke 2005). Under the GTB system, the state matches each marginal dollar to ensure that districts with the same tax rate end up having similar levels of funding. Generous guarantees lift low-wealth spending, while strong recapture can pull down high wealth spending and may even reduce

statewide totals. This illustrates the “leveling down” effect in the tax price framework (Hoxby 2001). Two-tier hybrid systems combine these ideas. They equalize within the matched range and allow local differences outside it. Evidence from Texas and Vermont fits this pattern, with tight compression where matching applies and weaker effects in other states with different mechanisms (Hoxby 2001; Chakrabarti & Roy 2017).

Others focus on how these funding schemes change the housing landscape, particularly by influencing property values. Recapture reduces how much local taxes translate into local school quality, at least as measured by spending, in wealthier districts. Because recapture raises the local tax price of each spending dollar, the payoff to living in that district falls and property values are less responsive to higher local spending. Foundation floors that raise levels without heavy recapture tend to show smaller effects on housing prices (Papke 2005; Hoxby 2001; Chakrabarti & Roy 2017).

A third area of research focuses on how these funding structures protect school resources from market shocks. Local property taxes tend to adjust slowly because assessed values lag markets, so districts can partly offset revenue losses when state revenues decline. Both foundation and GTB formulas allow for fiscal stability because the stabilizer is the property tax base and whether the state keeps the floor or the baseline amount intact (Dye & Reschovsky 2008; Chakrabarti et al., 2014). That said, because state-collected revenues are more responsive to market fluctuations than local revenues, funding mechanisms with less requirements for local support will be more vulnerable to fiscal downturns (Sobel and Wagner, 2003; Evans et al. 2019; Jackson et al., 2021).

Lastly, researchers have studied how funding mechanisms have changed income-based segregation across district boundaries. By decoupling school spending from property wealth, strong equalization weakens incentives for residential sorting based on spending. General equilibrium models predict with some empirical evidence to support it that neighborhood composition changed after large school finance reforms (Nechyba 2003; Chakrabarti & Roy 2017).

5. What has caused education finance policy to change over time? The school finance reform movement

Changes to the structure of school funding mechanisms were not just driven by technical design improvements but also by litigation that filtered through to state tax politics (Lafortune, et al., 2018). Over five decades since 1970, three waves of court cases have changed the fairness standard and pushed states toward different funding strategies based on the shared architecture described above (Enrich 1995; Heise 1995; Rebell, 2009).

5. 1. The First Wave: Equal Protection Law

U.S. public schools were historically funded via local property taxes, resulting in large cross district disparities in K-12 revenues and tax burdens. In the early 1970s plaintiffs argued that heavy reliance on local property taxes violated equal protection because wealthier districts could raise more for the same tax effort. *Serrano v. Priest* in California held that large wealth-based disparities were unconstitutional under the state constitution’s equal protection guarantees (Serrano v. Priest 1971; Enrich 1995). The U.S. Supreme Court was asked to determine whether Texas’s funding mechanism violated the Fourteenth Amendment’s Equal Protection Clause. In *San Antonio ISD v. Rodriguez*, they concluded that education is not a right enshrined by the U.S. Constitution, which

redirected litigation to state courts. The opinions in this period pointed to statewide finance and district power equalizing as plausible cures, foreshadowing foundation and power equalization designs (San Antonio ISD v. Rodriguez 1973; Sutton 2008).

5.2. The Second Wave: State Equity Argument

After *Rodriguez*, plaintiffs turned to state education clauses arguing that large wealth-related differences violated those clauses and required state remedy (Robinson v. Cahill 1973; Horton v. Meskill 1977; Washakie v. Herschler 1980). States responded by adopting systems like foundation programs or power equalization to reduce extreme inequities. These choices reduced wealth-driven dispersion in current spending without establishing a single statewide spending level or funding model (Heise 1995; Rebell 2009). By the late 1980s, equity-based arguments were met with skepticism by the courts, as few state constitutions explicitly contained equality guarantees. Thus, several high courts rejected wealth equalization or tax-base pooling. Litigants then pivoted to adequacy-based arguments, as nearly every constitution has an education clause that can ground a minimum standard, standards-based reform supplied judicially manageable benchmarks, and emerging cost studies linked resources to those standards (Clune 1994; Heise 1995; Enrich 1995; Rebell 2009; Hanushek & Lindseth 2009).

5.3. The Third Wave: State Adequacy Argument

Beginning with *Rose v. Council for Better Education* in Kentucky, courts shifted from comparative equity to adequacy defined by student capacities that schools had a responsibility for developing. For example, *Rose* articulated seven capacities a constitutional system must enable—including oral communication skills, vocational skills, and knowledge and understanding of political processes and government systems—and pushed states to cost out what it would take to meet them, which moved policy toward higher baselines, explicit student weights, and geographic cost adjustments, as described above (Rose v. Council 1989; Baker & Green 2008; Rebell 2009; Hanushek & Lindseth 2009). Though equity claims continued, adequacy became the dominant frame for changing funding targets and need-based weights.

5.4. Contemporary Reforms: Cases of Washington, Tennessee and California

Though court cases have driven many of the changes in state funding formulas, it is likely that these lessons in school finance reform have spilled over to states without litigation. Here we present three contemporary examples, one where the state's funding mechanism changed directly because of a lawsuit, and two where the formula was substantially altered based on more traditional political process.

McCleary v. State (2012) held that Washington had not met its constitutional duty to provide an adequate education. The legislature responded by raising state support, tightening limits on local levies, and increasing the state share of operating costs. This is a court-driven move toward a higher baseline and more centralized control of above-floor effort, with direct monitoring of compliance (McCleary 2012; Finne 2014). To date, this ruling resulted in a \$1.6 billion budget increase for the 2013-2015 biennium (Finne, 2014) and increased teacher salaries (Sun, et al., 2025).

In California, the Local Control Funding Formula (LCFF) was passed in 2013 and replaced numerous categorical programs with a student-based foundation system that includes base grants by

grade span, supplemental grants for high-needs students. While districts receiving greater LCFF funding showed increased achievement (Johnson, 2023), implementation challenges exist. Spending is often diluted across mixed-need schools and high-need districts increasingly relied on less-experienced, low-paid teachers to meet class-size expectations (Hill & Ugo, 2014; Lafortune, 2019). In 2022, Tennessee passed the Tennessee Investment in Student Achievement Act (TISA), which replaced the Basic Education Program (BEP) with a student-weighted formula. As in California, researchers have pointed to the dilution of formula-intended dollars due to the cross-income integration of students within districts and the formula's routing of dollars to districts but not within them (Tennessee Public Chapter 1119 2022; Candelaria et al. 2024).

6. Evaluating System: Efficiency vs Equity

Many of the reforms described above reflect joint concerns about securing sufficient funding to ensure students will meet learning standards while also guarding against inequalities in resources stemming from different levels of local funding available from wealth disparities. Undergirding these goals are two questions that have long interested education finance scholars: do investments in education matter for learning, do they have other positive externalities, and are educational resources distributed equally?

6.1 Effects of educational revenues

Here we synthesize what is known about the effects of revenue changes with attention to identification and mechanism. Research has shifted from correlations to designs that exploit exogenous variation from state reforms, tax and bond elections, and formula rules.

6.1.1 Money and achievement

Earlier literature reported weak or inconsistent links between spending and achievement because most designs could not separate cause from correlation (Coleman et al., 1966; Hanushek 2003; Hedges, Laine, and Greenwald 1994). Modern quasi-experimental work reaches a different conclusion. Studies that exploit school finance reforms and local fiscal votes find that increases in operating resources raise test scores, graduation, years of schooling, and adult earnings, with especially large gains in lower-income districts (Card & Payne 2002; Papke 2005; Roy 2011; Jackson et al. 2016; Lafortune et al., 2018; Candelaria & Shores, 2019; Martorell, et al., 2016). A recent meta-analysis synthesizes this evidence and reports positive average effects of school spending on achievement, especially in disadvantaged settings (Jackson & Mackevicius 2024).

Open questions remain concerning heterogeneity and mechanisms. Effects vary with how funds are used, for example between personnel hires and capital (Baron, 2022). Returns are higher when resources relax staffing frictions. For example, financial incentives improved teacher retention and student achievement in North Carolina and Texas (Clotfelter et al., 2008; Hendricks, 2014). Similarly, pay flexibility in Wisconsin drew higher value-added teachers, and increased student achievement (Biasi, 2021). In general, because teacher turnover itself reduces achievement, spending that reduces teacher turnover yields academic gains (Sorensen & Ladd 2020).

6.1.2 Positive externalities

Education produces social returns beyond test scores. Schooling reduces crime and incarceration, increases civic participation, and improves health markers, with credible identification in multiple settings (Lochner and Moretti 2004; Dee 2004; Milligan, Moretti, and Oreopoulos 2004; Lleras-Muney 2005). These externalities mean private willingness to pay understates social value.

6.1.3 Capitalization and underinvestment

Families pay to live in places with better schools, so improvements that raise measured school quality are capitalized into housing prices. Quasi-experimental studies show that facility investments and observable quality measures such as test scores and accountability ratings increase house prices (Black 1999; Figlio & Lucas 2004; Bayer et al., 2007; Cellini et al., 2010). However, house prices do not seem to be influenced by unobserved measures of school quality, such as measures like value-added (Imberman & Lovenheim, 2016; Ainsworth, et al., 2023). The same logic applies to operating spending. When tax-financed increases in school outlays raise housing values by more than the tax cost, spending is inefficiently low and additional investment is equity-enhancing rather than wasteful. Evidence from bond and levy shocks supports this pattern, especially when funds improve inputs that households value, including smaller classes, facility upgrades, and program expansions (Cellini et al., 2010; Martorell et al., 2016).

6.2. The distribution of educational revenues

This section asks how evenly educational revenues are distributed and why inequality persists. The legal history is treated in section 5, so here the focus is on measurement, decomposition, and funding categories.

6.2.1 Concepts and measurement

Equity has two classic meanings: horizontal (same resources for all students) and vertical (more resources for high-need students). Early empirical work, using measures like the Gini Index, emphasized horizontal equity. However, this approach is poorly aligned with modern formulas since high cross-district variation can now reflect intended progressivity (vertical equity) by providing more resources to high-needs students, rather than problematic inequality (Berne & Stiefel, 1984; Corcoran & Evans, 2010). Modern analysis therefore measures this progressivity directly using two main approaches: estimating progressivity slopes (regressing revenue against poverty) or comparing revenue gaps across income groups (Baker et al., 2018; Lee et al., 2022). For these measures to be accurate, analysts must correct for geographic costs (Taylor & Fowler, 2006) and compositional differences in student need (Lee et al., 2022).

6.2.2 Decomposing inequality: Geography, comparators, and measurement

Measuring distributional equity is complex, as conclusions can depend on both the unit of analysis and choice of comparator. Geographically, inequality conclusions change with the unit of analysis (between-states, within-states, and within-district). The main empirical result is that many states look mildly progressive on a within-state basis, while interstate gaps dominate national inequality, and within district progressivity can be less than cross district progressivity (Candelaria, et al., 2024; Lee et al. 2022; Gordon & Reber 2022). Similarly, the choice of comparator matters. State formulas typically target economic disadvantage rather than race, so within-state estimates by poverty may show mild progressivity, while race-based comparisons look neutral or regressive (Ladd

& Murray 2001; Poterba 1997; Lee et al. 2022). The measurement of poverty relying on free or reduced-priced lunch can also be biased, so alternatives such as the Census-based Small Area Income and Poverty Estimates or direct certification provide more reliable poverty measures for distributional work (Chingos, 2016; Domina et al., 2018; Fazlul et al., 2023).

6.2.3. Revenues outside the formula

Distributional equity is also shaped by factors other than state formulas. Outside revenue streams are one factor. Federal Title I, for example, increases within state equity but only modestly affects cross state funding differences due to the small federal share and Title I tying federal aid amounts to mean state spending, the latter of which results in more funding going to already higher spending states (Gorden & Reber, 2023). Private donations from nonprofits also create regressive funding patterns, as these funds flow disproportionately to wealthier districts (Nelson & Gazley, 2014; Morphy et al., 2015; Murray et al., 2019). Finally, capital outlays often remain regressive even when operating budgets are progressive, as they are typically funded by local bonds that favor high-wealth districts (Biasi et al., 2021; Rauscher, 2020).

6.2.4 Frictions converting educational revenues to high quality inputs

The conversion from dollars to inputs is imperfect. For example, because higher-poverty districts face tighter labor markets, higher non-wage costs of work, and greater risk of turnover, the same dollar in those districts does not translate to equivalent gains in instructional quality. There is considerable evidence pointing to this phenomenon, as more effective and more experienced teachers sort toward schools serving fewer low-income and fewer minority students, while novice teachers and midyear vacancies concentrate in disadvantaged schools (Lankford et al., 2002; Goldhaber et al., 2015). Policy solutions for the unequal distribution of teacher quality inputs include targeted financial incentives and salary policies, which has been shown to improve teacher retention and induce teacher transfer to low-performing schools (e.g., Clotfelter et al., 2008; Protik et al., 2015; Hendricks, 2014). However, the costs for these effects are substantial, and the per-pupil cost of effective incentives exceeds currently observed progressivity in salary spending (Lee et al., 2022), suggesting current policies and school funding mechanisms are insufficient to meaningfully reallocate high quality teachers to high-need schools.

7. Conclusion

This chapter treats modern K-12 finance as a shared architecture of state and local responsibility. The state's role is to equalize operating dollars, recognize need and cost through weights and indices, and, where policy aims require it, share or recover part of the next dollar of local spending. The local role persists because it smooths revenue over business cycles, preserves visible local choice, and finances facilities through bonds; these responsibilities include raising baseline contribution through property taxes and deciding on spending above that floor. Litigation moved policy from equal protection claims to state equity and then adequacy, and recent reforms mix court orders with legislation. On effectiveness, quasi-experimental evidence shows that more operating dollars raise achievement and long-run outcomes, especially in lower-income settings, and capitalization results imply that many communities value these investments above their tax cost. On distribution, measurement matters. Vertical equity is better captured by direct measures of progressivity than by dispersion alone, within-state distributions are now often mildly progressive,

interstate differences dominate national inequality, and private giving plus capital finance are regressive, though the dollar amounts are not sufficient to overturn overall progressivity assessments. Lastly, because equal dollars do not ensure equal services, states that seek equal opportunity need adequate and weighted floors for operations, a strategy for facilities, and staffing policies that reduce turnover and improve access to quality teachers where needs are highest.

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