

BRIEF



SCHOOL SPENDING DATA

A New National Data Archive

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School Spending Data: A New National Data Archive

The National Comprehensive Center

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Introduction

Our nation spends approximately \$650 billion per year on our K–12 education system. To understand how those dollars impact students, we need to examine spending where it reaches them: at the school level. Yet while many studies explore spending differences between districts, and between states, analyzing spending differences *within* districts has been very challenging, requiring forensic financial expertise to unearth and explore expenditures by school.¹ The field has been missing that key piece of the education finance data puzzle—school-by-school expenditures—hampering efforts to explore the relationship between spending and outcomes, and addressing fundamental challenges like equity, productivity, school leadership, and innovation.² Now, the school-by-school expenditure data required by the Every Student Succeeds Act (ESSA) will provide that long-missing piece of the puzzle.

What is ESSA’s financial transparency requirement?

It requires that SEAs report:
“The per-pupil expenditures of Federal, State, and local funds, including actual personnel expenditures and actual non-personnel expenditures of Federal, State, and local funds, disaggregated by source of funds, for each local educational agency and each school in the State for the preceding fiscal year” (Elementary and Secondary Education Act of 1965, 2015).

Much has been made of the need for better school-level financials; in 1997, the *Journal of Education Finance* devoted an entire volume to the topic. There have been several efforts to push districts to track at least some school-by-school expenditures and expand access to spending data by school. The biennial, federal Civil Rights Data Collection (CRDC) asks states to assemble some expenditures by school, mostly teacher salaries.³ The NCES School-Level Financial Survey (SLFS) essentially expands the School District Finance Survey (F-33) with select variables at the school level. However, the SLFS does not capture data from all states (participation is voluntary) or even all districts and schools in participating states, nor does it capture all types of expenditures. While these efforts are promising and important, each stops well short of yielding larger-scale, research-ready datasets that can fuel cross-state explorations. (See Table 1.)

¹ Roza & Hill, 2004; Roza, Guin, Gross, & Deburgomaster, 2007.

² Atchison, Baker, Boyle, Levin & Manship, 2017.

³ The U.S. Department of Education has proposed eliminating the school finance portion of the CRDC.



Table 1. All existing financial datasets or data structures have different limitations

Dataset or Data Structure	Key Features	Current Limitations
NCES School District Finance Survey: F-33: Mandatory federal collection of LEA-level financial data.	Includes annual district-level data for ALL districts on expenditures and revenues by source, object, and function. The F-33 captures total current district spending.	No school-level figures are included. Public release of data is very delayed.
School-Level Finance Survey (SLFS): An optional NCES initiative that serves as an extension of the F-33.	States and LEAs opt in to report selected spending tracked to the school level by standard function and object codes. The object and functions codes follow standard definitions and are consistent with F-33 district data.	Because it is optional, some district/states do not participate, or do not report data in all fields, or for all schools. Participating districts may choose to report only selected expenditures, so expenditure data is incomplete.
Civil Rights Data Collection(CRDC): A biennial initiative from the U.S. DoEd to collect data on key civil and education issues.	The key purpose is to explore inequity in selected inputs, and that dataset focuses on those selected inputs across schools.	Data are available every other year. Because CRDC request selected expenditures (e.g., for teacher salaries, aides) only those costs are reported.
Every Student Succeeds Act (ESSA) Financial Requirement: New federal law requires all states to report per-pupil expenditures on all schools.	Expenditures per school for every school will be made public on district report cards annually starting with 2018-19 school year.	The law includes little language on how to count expenditures.
Interstate Financial Reporting (IFR): A reporting structure designed by SEAs participating in FITWiG to allow for cross-state comparisons of ESSA financials.	The coding structure specifies that conforming SEAs ensure that all current district expenditures are captured in school-level totals, and break out central vs. school-level costs. The resulting total includes all current LEA spending (not just the school-level portions). Currently 40 states have committed to trying to meet the IFR.	The structure does not permit cross LEA or state comparison of PPE breakouts, since LEAs and states may differ in how much spending is attributed, although total PPE can be compared.
School Finance Indicator Dataset: Database created by Albert Shanker Institute and Rutgers Graduate School of Education.	A collection of 130 state-by-state school finance measures, including a set of district-level measures for all U.S. public school districts used to assess the adequacy and fairness of each state’s revenue, spending, and resource allocation.	No school-by-school spending figures are included. No data beyond 2016 are included.



Some worry that ESSA's 50 different state collections won't yield reliable data, and instead prefer a federal collection similar to CRDC or SLFS. However, federal collections standardize the reported variables at the expense of accuracy if state and district accounting structures don't align with the federal reporting categories.

This problem has plagued the CRDC financial components. Many districts' financial accounting systems aren't equipped to report spending on the variables as they are articulated in the federal survey. The problem is that many state accounting systems don't isolate dollars and staff counts in the way CRDC asks. For instance, CRDC asks districts to isolate full-time equivalent (FTE) counts and salaries for support personnel in each school that is funded by state and local dollars, but many district accounting systems only count dollars (not FTEs) or don't isolate expenditures in this way.

This absence of standardized tracking for the survey variables has left some 14,000 local administrators (one in each school district in the country) guessing at how to complete it. Should they use budget data instead of expenditures? Should a school consider reading coaches as teachers when they instruct small groups? What should a school do when some instruction happens via districtwide contracts that enable students to take AP classes online? The result in many states is that the data is neither clean nor comparable. Sometimes, they are downright wrong.

Because each state has its own financial accounting system, the solution isn't to replace the federal CRDC variables with a different universal set of variables and send those directly to districts. Rather, each state would need to cross-walk the targeted variables to its own accounting structure, thereby translating the variable into the local accounting language. The challenge for CRDC is that state education agencies (SEAs) are not involved. The requirement is that districts respond, but CRDC does not assign any responsibility to states in the collection.

The flexibility of the ESSA requirement allows states to leverage their existing accounting structures. Because ESSA assigns the reporting responsibility to states rather than districts, SEAs play a vital role in auditing district data, a critical step often bypassed in federal collections. And under the current ESSA process, states publish financial data from the preceding school year, a significantly faster timeline than most federal datasets.

While the ESSA-mandated school-by-school expenditures represent a promising data revolution, several challenges threaten to limit their usefulness. Seeking to address these issues, Edunomics Lab has developed the School Spending Data Archive, where the emerging data is captured from separate state reports; aggregated, normed, and made comparable; publicly accessible; and aligned with other national-scale datasets, including those with student demographics and outcomes. This resulting dataset will sharpen financial analyses, including equity assessments, program impact assessments, educational productivity, and student subgroup analyses.



Challenge 1: Building Apples-to-Apples Comparisons Across Districts, States, and Years

Although a significant move toward spending transparency, ESSA does not dictate a uniform process for school-by-school expenditure calculation that would enable “raw” state-reported figures to be cross-walked across states, or possibly even across districts.⁴ States have latitude regarding which expenditures are excluded, meaning school-by-school finance data in different states may capture different expenditures. For example, Washington State’s school-by-school expenditure figures include transportation costs. These costs will vary significantly between districts, because Washington has a mix of urban districts (high density, short routes, low transport cost) and rural districts (low density, long routes, high transport cost). If we were to compare a school in Washington with a peer school in Maine, it would not be an apples-to-apples comparison because Maine *excludes* transportation. Without this context, it may appear that Maine spends less on its students, when it is actually the result of different calculation methods.

In the absence of a uniform calculation method across states, the Financial Transparency Working Group (FiTWiG), a professional community of district and SEA leaders convened monthly by the Edunomics Lab, developed the Interstate Financial Reporting (IFR) system. Based on a set of voluntary, minimal reporting criteria, IFR is designed to produce data that has common meaning and can be used to make valid, apples-to-apples comparisons of school-by-school per-pupil expenditures across states nationwide. For example, the IFR calls for separating and reporting the school’s share of central spending (such as the district human resources department or the superintendent’s salary) and spending at the school site itself. The School Spending Data Archive will include all elements of the IFR.

The School Spending Data Archive further controls for methodological differences by adjusting school-by-school per-pupil figures to reflect a set of standardized, included expenditures. In cases where the state provides IFR-compliant reporting detail, we use those data to calculate standardized figures. In the absence of this detail, we adjust figures on a percentage basis based on the state’s included/excluded expenditures. Researchers will be better able to identify spending patterns at the unit of the school, separate from variation, due to differing calculation methods between states.

These IFR requirements maximize the value of the data archive. If more states adhere to IFR, their data increasingly has a common meaning and format across states. Compiling IFR-compliant data reduces many comparability challenges, allowing for faster archive updates and fewer data notices. (See appendix for how state reporting compares to IFR.)

⁴ Every Student Succeeds Act of 2015.



Table 2. IFR enables apples-to-apples comparisons of school-by-school spending data

		District 1			
Criteria		Elementary School #11	Elementary School #12	Middle School #17	Criteria Descriptions
A	Enrollment	375	511	992	Students are counted at the school that serves them, regardless of district of origin. The counts reported here are not weighted. The method of student count (ADA, ADM) is up to each individual state.
Site-Level Expenditures					Expenditures accounted for at the school site included at a minimum the <u>actual</u> salary and benefit costs of the school site’s full-time staff (as ESSA requires). These three numbers represent expenditures directly assigned to school sites. D is the sum of B and C.
B	Federal	\$456	\$209	\$164	
C	State/Local	\$6,111	\$4,756	\$5,998	
D	Site-Level Total <i>(Sum of B+C)</i>	\$6,567	\$4,965	\$6,162	
Site Share of Central Expenditures					Any shared expenditures accounted for at a central level, but reattributed to the site level via state- or district-preferred method go here. Whether to prescribe the site- versus central-level accounting and, if so, what methods to use to separate the two are decisions left to each state. For schools where all public funds are reported at school level, fields E, F and G can be zero. In this example, we have evenly distributed central expenditures across all schools using a per-pupil basis.
E	Federal	\$161	\$161	\$161	
F	State/Local	\$5,378	\$5,378	\$5,378	
G	Site Share of Central Total <i>(Sum of E+F)</i>	\$5,539	\$5,539	\$5,539	
H	Total School Expenditures <i>(Sum of D+G)</i>	\$12,106	\$10,504	\$11,701	This is the number states can use to make apples-to-apples comparisons across states. Critically, the sum of D and G represents the total public funds expended on behalf of students at the school.
I	Total District Exclusions/ Total District Expenditures	\$2,416,986 \$21,514,686			These are total excluded expenditure amounts at the district level, remaining total district expenditures, and the list of excluded expenditures. IFR excludes certain expenditures and permits (but does not require) exclusion of others. See page 4 for chart listing IFR exclusions and optimal exclusions and related NCES codes. If transfers are included in PPE reporting, student counts should be captured at the level of accountability. Effort should also be made to ensure funds are not counted twice: once at point of origin of transfer and again at level of transfer receipt.
J	Excluded Expenditures	<i>Debit, capital, equipment, special education transfers to private schools, adult education, community service.</i>			
K	Enrollment Count Procedures	<i>ADA, student count Oct. 1</i>			Each state determines its count method used for Criteria A.

Challenge 2: Research-ready Data That Can Easily be Merged With Existing Datasets

There is no ESSA requirement for states to publish their data in digitally accessible files. States could choose to report spending figures on separate webpages for each school in their state. For example, Alabama currently publishes their ESSA-compliant school-by-school expenditure figures in a separate PDF document for each school. In PDF and similar formats, the data is virtually unusable for applied researchers, policymakers, and practitioners. But by converting the data into downloadable, research-ready files, the School Spending Data Archive streamlines the data compilation process.

To maximize the usefulness of the dataset, it will include NCES School and District IDs, allowing for simpler merging with data from the F-33, SLFS, Stanford Education Data Archive (SEDA), and other national datasets such as CRDC, *EdFacts*, National Teacher and Principal Survey (NTPS), and the School Finance Indicators Database. As a result, all currently collected school-level data could be analyzed in terms of school-by-school spending.

Table 3. Shared variables with other national datasets improve school-spending data usefulness

Other National Datasets ¹	Common Variable(s) with School Spending Data Archive	Data Obtained from Merge	Analyses Possible from Resulting Dataset
Public Universe Survey	NCES School ID	FRL counts Student Teacher Ratio; Teacher Count; Locale Designation	Equity Resource Allocation
F-33	NCES District ID	Spending by object	Cost-Effectiveness
School-Level Finance Survey (SLFS)	NCES School ID	School-by-school spending by object	Cost-Effectiveness & Innovation
Civil Rights Data Collection (CRDC)	NCES School ID	Racial Demographics; IEP and 504 counts; Indicators of Gifted and Talented, AP Courses, Law Enforcement Actions at the School	Equity Cost-Effectiveness
<i>EdFacts</i>	NCES School ID	Outcomes	Productivity

Other National Datasets ¹	Common Variable(s) with School Spending Data Archive	Data Obtained from Merge	Analyses Possible from Resulting Dataset
National Teacher and Principal Survey (NTPS)	State; School Type	Teacher Experience, Education, & Certification; Pedagogy; Class Size	Cost-Effectiveness
School Finance Indicators Database	District ID, State	Poverty Incidence & Severity; Race & Disability Demographics; Revenue & Expenditures by Source and Object; Employee Wages; State School Finance Litigation	Equity Cost-Effectiveness State Funding
Stanford Education Data Archive (SEDA)	NCES School ID	Standardized Outcomes, Learning Growth	Productivity & Innovation
American Community Survey	County or Metropolitan Statistical Area	Family Nativity, Employment and Income, Housing, Poverty, Teen Dropout, Young Adult Post-Secondary Outcomes, Health Indicators	Equity, Productivity, & Innovation

¹ The School Spending Data Archive contains the previous school year’s school-by-school expenditures. Third-party datasets may lag by 1–3 years.

Challenge 3: Preserving Longitudinal or Cross-state Data

ESSA requires that states report school-by-school per-pupil spending data publicly on their state report cards, but the data can be removed within the year. There is no requirement that the data be submitted to a federal office or any other cross-state group. Without a unified data repository, researchers are burdened with the time-consuming task of joining data across states. The absence of multi-state and multi-year capture inhibits cross-state or longitudinal analyses.

The archive will serve as the national repository for school-by-school per-pupil expenditures, eliminating the time-intensive search for data across 50+ websites and ensuring data is captured for longitudinal analyses.

The Next Generation of Education Research

The ESSA-required data opens the doors to many new research and policy applications. Because some states previously required the collection of school-by-school expenditures, we have examples to support the relevance of this data. ⁵ Florida has released school-by-school expenditures since the

⁵ National Center for Education Statistics, 1996.



early 1990s. Since then, researchers in state government and university settings have conducted empirical research on administrative costs, segregation and equity, class size, and educational efficiency.⁶ This research had direct impacts for policy, including legislation that requires public reporting of district-level administrative expenditures.⁷

Some research previously conducted at the state or district level will be refined and made more applicable through the use of school-by-school financial data. By linking spending data with other datasets, the archive greatly expands possible research areas. This paper focuses on five areas: cost-benefit analyses, equity, productivity and innovation, state finance formulas, and leadership training.

IES-required cost-benefit analysis: Previously, cost-benefit analysis required the costly and time-consuming steps of securing expenditure data for individual schools and engaging in deep forensic financial analysis to accurately calculate an intervention's full costs.

With school-by-school financial data, researchers can:

- » More easily and accurately conduct cost and benefit analyses
- » Improve the interpretability of these analyses for school leaders, policymakers, and other stakeholders.

Equity: Much existing research on resource equity could be improved by using school-by-school financial data. Since at least some portion of the variation in school spending occurs across schools *within* districts (and not just across districts), equity assessments can be improved using school-by-school expenditure data. Though intra-district equity is of paramount interest, without large datasets of school-by-school expenditures, it can only be explored in more narrow settings.

This new data can help:

- » Clarify how expenditure types, district policies, or leadership structures affect the distribution of dollars across schools.⁸
- » Engage principals, parents, and school boards around methods to equitably distribute resources that account for students' differing needs.

Productivity and innovation: School-by-school per-pupil expenditures allow outcomes to be analyzed in the context of schools' varying access to financial resources. For the last decade-plus, the federal government has required districts to report student *outcomes* by school, but this new data provides comparable information on the inputs: expenditures at the unit of the school.⁹

⁶ Odden, Monk, Nakib, & Picus, 1995; Owens & Maiden, 1999; Borman et al., 2004; Normore & Ilon, 2006; Conroy & Arguea, 2008.

⁷ Florida Department of Education, 2016.

⁸ McCoy, 2016.

⁹ Lloyd & Harwin, 2019.



With aligned spending and outcomes data, researchers and education leaders can:

- » Explore what kinds of spending work best with different student populations and in different schooling contexts (for example, in a rural school with many English learners).
- » Investigate whether the locus of control affects the relationship between spending and outcomes.
- » Learn from schools across the country that look both fiscally and demographically similar.

State finance formulas: State finance systems deliver roughly half of all school funding—frequently with significant strings attached. Detailed school-by-school expenditure data coupled with revenue data could lead to compelling analyses on what kinds of state finance formulas yield the most equitable and/or most productive systems.¹⁰

School-by-school per-pupil expenditure data can refine our understanding of:

- » How various funding methods (student-based formulas, resource-based models, staffing models) affect resources delivered to schools, particularly high-need schools.
- » How non-formula allocations (block grants, categorical allocations, competitive grants, reimbursements, hold-harmless provisions) affect resources delivered to schools, particularly high-need schools.

Leadership training: The ESSA data release will be the first time that most school leaders see the total dollars expended on behalf of the students in their school. This is also the first time that parents, policymakers, teachers, the media, and other taxpayers see this data. Existing finance training for school and district administrators is very limited; it typically does not include expenditure evaluation or exploration of patterns across systems or types of schools.

This initiative's dataset could help applied education research inform training to:

- » Help principals effectively lead with the new data.
- » Inform school and district leaders on how best to use the data for management and improvement purposes, including analysis of spending tradeoffs and cost-benefits of various school investments.¹¹

Looking Ahead: Improving Data Collection and Sharing

Financial data alone will not yield the information needed to drive improvements for students. The school-by-school expenditure data needs to be put in context by marrying it with other school and student information. Knowing how much is spent on behalf of a school, on which types of students, and to what effect will allow stakeholders at all levels to investigate patterns in resource equity,

¹⁰ Levin et al., 2016.

¹¹ Roza & Stewart, 2017.



drive productivity improvements, and uncover innovative practices. Following the first annual release in June 2020, there are opportunities for states and districts to make the data more useful.

With the addition of a few variables on state and district report cards, users will easily be able to answer key questions about the productivity and equity of spending in their schools and districts:

- » Spending arrayed for all schools in a district to examine district allocation decisions.
- » Student demographics alongside school-by-school expenditure data to understand funding in the context of student population needs.
- » Student outcomes data to show what dollars are doing for student achievement.
- » School or district narratives for context to understand factors that might determine spending.

States could also improve report card features and design to enable stakeholders to engage with the data and leverage it for management and improvement:

- » Tool to compare spending between schools within a district.
- » Tool to compare spending between schools across districts.
- » Link to calculation methodology.
- » Single, downloadable data file that contains all schools in the state.
- » User question/feedback tool.

The federal government may have a limited role in the future of this data, potentially providing a central data storage solution or even a collection survey once reporting school-by-school spending is routine, states are aligned to IFR, and reporting variables are common. For those invested in the long-term success of financial transparency, keeping the focus on state efforts should yield high-quality, timely, school-by-school spending data.

ESSA required, for the first time, school-by-school expenditure data reported in per-pupil terms. The School Spending Data Archive makes this data research-ready for impactful analysis and data-driven decision-making. This includes compiling data from education agencies in all 50 states, Puerto Rico, and U.S. territories into one multi-state, multi-year dataset; and normalizing and validating to account for the various calculation methods used across districts and states for apples-

With the first round of school-by-school spending data now published, the FiTWiG has shifted focus from transparency reporting to using the data in decisionmaking. This new working group, FiDWiG, hosted by the National Center, is a collaboration with Edunomics Lab, State Education Agencies (SEAs), and Regional Comprehensive Centers (RCs). This group will explore frameworks, tools, and strategies to support SEAs and RCs in making the most of their school-by-school financial data.

Part of this work will track states' efforts to improve the quality and usefulness of school-by-school spending reporting.

To join the FiDWiG email: Hannah.jarmolowski@georgetown.edu or view the tracker, visit: <https://compcenternetwork.org/national-center/our-work/collection/6276>



to-apples comparisons between schools. With these collection metrics in place, educators, policymakers, and academics will be able to combine this data with compatible datasets and better explore how to make dollars go further for students.

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