$$(\ln)\mathbf{SCHOOL} = b_0 + b_1 State_i + b_2 LaborMarket_{ij} + b_3 CWI_{ij} + b_4 \mathbf{FINANCE}_{ij} + b_5 PopulationDensity_{ij} + b_6 Enrollment_{ij} + b_7 \mathbf{INDICATORS}_{ij} + b_8 Scale_{ij} + b_9 Poverty_{ij} + b_{10} SchlType_{ij} + b_{11} \mathbf{DATABASE}_{ij} + e$$

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RUTGERS Graduate School of Education

STATE INDICATORS DATABASE

USER'S GUIDE

2022 RELEASE (PUBLISHED DECEMBER 2021)

This School Finance Indicators Database (SFID) system is a collection of data and analysis focused on the adequacy and fairness of K-12 education finance and resources. The purpose is to provide a single source of data for policymakers, the public, and researchers working in the fields of education finance and economics.

This **State Indicators Database** (SID) is one of two public datasets published annually by the SFID project team (this is the fourth release of the SID). The SID contains a set of state-level equity, spending, salary, staffing, and contextual measures for each state from 1993 to 2019 (not all variables are available in all years). These indicators are generated using school-, district- and state-level data from over a dozen sources described herein. This accompanying documentation is written to be accessible to all stakeholders, regardless of their background knowledge levels.

The full dataset (in Stata and Excel format), as well as reports, state profiles, online data visualizations, and other resources are available at the SFID project webpage: http://schoolfinancedata.org.

SECTIONS OF THIS GUIDE

1. **Data use agreement**
2. **Data sources**: a list of data sources used in the SID
3. **Guide to variables**: a non-technical description of the variables included in each of 13 categories of SID indicators, and how they might be used and interpreted
4. **List of variables and methods**: a list of all variables in the SID, the years in which they are available, special notes, and technical details
5. **Changes to the dataset**: a record of significant changes since the original 2019 release

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DATA USE AGREEMENT

The School Finance Indicators Database (SFID), as well as the contents of this guide, are the sole property of the authors. Public use of the datasets and results is encouraged, with proper attribution. Any alternative use of the data, models, or methods of the SFID must be approved by the authors.

You agree not to use the data sets for commercial advantage, or in the course of for-profit activities (with the exception of journalists). Commercial entities wishing to use the data should contact the Albert Shanker Institute at info@ashankerinst.org.

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> Baker, Bruce D., Di Carlo, Matthew, Srikanth, Ajay, and Weber, Mark A. 2021. *School Finance Indicators Database: State Indicators Database 2022 (4th Release).* Washington, DC: Albert Shanker Institute/Rutgers Graduate School of Education. Retrieved from: http://www.schoolfinancedata.org.

Subject to your compliance with the terms and conditions set forth in this Agreement, Rutgers University and the Albert Shanker Institute grant you a revocable, non-exclusive, non-transferable right to access and make use of the Data Sets.

DATA SOURCES

The external data sources used in the SID are:

- American Community Survey
- Bureau of Economic Analysis
- Education Comparable Wage Index (ECWI)
- National Center for Education Statistics (NCES) F33 District Fiscal Data, reduced
- NCES F33 School District Fiscal Data, full
- NCES Common Core of Data: local education agency (LEA) level
- NCES Common Core of Data: school level (aggregated to LEA level)
- NCES Schools and Staffing Survey
- NCES National Teacher and Principal Survey
- Stanford Education Data Archive (SEDA)
- U.S. Census Bureau Annual Survey of State and Local Finances
- U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE)
- U.S. Census Bureau Decennial Housing and Income Data
- U.S. Census Bureau Decennial District and County Population Density, 2000/2010

The school-, district-, and state-level data from the sources above are used to construct the SFID District Indicators Database, which in turn is used to construct most of indicators in the SID, as described below in the “List of Variables and Methods” section.

GUIDE TO VARIABLES

The variables in the State Indicators Database are divided into 13 categories. In this section, we briefly describe the types of variables within each category and how they might be interpreted and used. The complete list of variables in each section, and technical details about the methods used to generate these measures, can be found in the next section ("List of Variables and Methods").

CATEGORY 1: GEOGRAPHY

The identification variables in this category indicate state (full name and two letter abbreviation), state FIPS code, Census region (four categories), and Census division (nine categories).

CATEGORY 2: FISCAL EFFORT

These are two indicators measuring total state expenditures (direct to K-12 schools) as a proportion of state economic capacity, with the latter represented by either gross state product (GSP) or aggregate personal income (thus generating two separate variables). Effort gauges how much states devote to K-12 education as a proportion of their capacity to raise revenue for public services—i.e., as a proportion of their total "economic pies." States that contribute a larger share of their "economic pies" can be viewed as exhibiting more "effort" toward their schools.

The two versions of the variable — i.e., spending as a proportion of GSP and spending as a proportion of aggregate personal income — are highly correlated, which means if one is relatively high or low in a given state the other will also tend to be relatively high or low.

Whereas most of the other measures in the SID focus on levels and allocation of school funding, effort is about state funding as a proportion of *potential* state funding. Users might, for instance, compare state effort with other SID variables, such as adequacy (described below). Policymakers in states with inadequate funding and low effort levels are in many respects making a deliberate choice to underfund their schools.

Bear in mind, however, that states with larger economies, such as New York and California, can put forth less effort than states with smaller economies, such as Mississippi and Alabama, but still contribute the same amount of resources. Of particular concern, then, are low capacity states in which funding is low but effort is high, as these states' smaller economies make it more difficult to raise revenue.

CATEGORY 3: REVENUE/SPENDING BY DISTRICT POVERTY (PROGRESSIVITY)

This group of indicators are revenue and spending adjusted for student and district characteristics. Specifically, the variables in this section represent predicted revenue or spending per pupil, within a given state in a given year, at four different (U.S. Census) district child poverty levels (0, 10, 20, and 30 percent), controlling for population density, district size, and labor market costs.

(*A note on Census poverty rates:* when interpreting the measures in this category and those described in other sections using Census poverty rates, one may regard 30 percent as a high district poverty level [typically equivalent to about 85 percent free-/reduced-price lunch eligibility].)

These statistical controls account for differences in factors, such as district size and the cost of hiring teachers and other personnel, that affect the cost of providing a given level of educational quality. Without these adjustments, comparisons are highly problematic (which is why the SID does not include raw, unadjusted per-pupil spending/revenue variables). Districts with higher costs of living, for instance, have to spend more on salaries than lower cost of living districts; any differences in raw, unadjusted spending between these districts will at least partly reflect the cost of living differences rather than the generosity or adequacy of funding levels. Adjusted values, in contrast, permit more valid comparisons of revenue and spending, within and between states (and over time), since they allow one to compare otherwise *similar districts* within and between those states.

There are sets of four variables (predicted values at 0, 10, 20, and 30 percent district poverty) for each of the following revenue/spending types: per-pupil federal revenue, per-pupil state revenue, per-pupil local revenue, per-pupil state and local revenue, and per-pupil current spending.

The variables in this section are particularly useful for measuring the "substantial progressivity" (or "fairness") of revenue or spending—i.e., the degree to which higher-poverty districts receive more resources than do lower-poverty districts. The dataset includes a "built-in" progressivity measure for each of the five types of revenue/spending listed above. These five variables are ratios of per-pupil revenue/spending between high poverty (30 percent) districts and zero poverty districts (i.e., they divide the 30 percent poverty amount by the 0 percent poverty amount, for each state and year).

For example, do high poverty districts in one state receive/spend more resources than otherwise similar zero poverty districts (0 percent) in the same state? Values above 1 indicate progressive funding - i.e., high poverty districts receive more funding than zero poverty districts. These progressivity variables are important because districts serving higher poverty student populations must spend more to provide the same quality of education as districts serving lower poverty populations.

Users can also calculate substantial progressivity ratios (or percentage differences) between any two of the poverty levels (e.g., whether low and medium poverty districts [10 or 20 percent] spend/receive more resources than the lowest poverty [0 percent] districts in the same state). These measures can be compared between states and over time.

The SID includes an additional progressivity measure, "systematic progressivity." Rather than comparing adjusted revenue/spending between districts at different poverty levels ("substantial progressivity"), this measure represents the consistency of the relationship (correlation) between (labor market-centered) district revenue and district poverty within each state. In states where higher poverty districts tend to receive more revenue than lower poverty districts, this number will be positive. Negative numbers indicate the opposite — i.e., higher poverty districts actually tend to receive less revenue, and vice versa. Note, however, that while substantial and systematic progressivity are fairly strongly correlated, states with positive systematic progressivity values might be substantially regressive (i.e., fairness ratios less than one), and vice-versa.

Finally, the variables in this section can also be used to compare spending/revenue between states at a given poverty level. For example, do high poverty (30 percent) districts in one state spend more than high poverty districts in another state? This is one very simple way to assess adequacy — i.e., against the standard of other states' adjusted levels.

CATEGORY 4: SPENDING ADEQUACY (RELATIVE TO COMMON OUTCOME GOALS)

The variables in this section are our primary measures of the adequacy of states' educational spending. In short, they compare how much states actually spend with how much they *would have to spend* to achieve a common "benchmark" goal — i.e., national average test scores.

All these estimates come from the National Education Cost Model (NECM), which is part of our system. The NECM defines adequacy in terms of testing outcomes, but this of course is not meant to imply that test scores are anything but imprecise and incomplete performance measures. The purpose of testing outcomes in the NECM, rather, is to serve as a common outcome goal or benchmark that can be compared between all 50 states and D.C.

It bears mentioning that the actual benchmark level or "bar" that we use — national average test scores — may be a rather modest goal, particularly for lower-poverty states and districts. If a given state is spending above our estimated adequate levels, this does not mean that the state is "overspending" in any absolute sense, only that it is spending more than we estimate is required to meet this particular (modest) outcome goal. Adequacy is a relative concept.

In addition, it goes without saying that our estimates of required spending are imperfect, not only because we cannot possibly control for every factor that affects the relationship between spending and testing outcomes, but also because the variables we do include are subject to measurement error (a problem that becomes particularly salient in our model, which includes data from all 50 states and D.C.). Despite such (inevitable) imprecision, the NECM provides reasonable, useful, and previously-unavailable estimates allowing one to assess spending adequacy within and between all U.S. states.

Our estimates of actual and required spending (per pupil) are provided statewide, and also separately by district poverty quintile (that is, for the 20 percent lowest poverty districts, 20-40 percent, 40-60 percent, and so on). For example, how much would a given state have to spend (per pupil) for its highest poverty districts (i.e., the top 20 percent highest poverty districts in each state) to achieve national average testing outcomes, and how does this compare to how much that state *actually* spends on these districts (i.e., is spending adequate to achieve average test scores)?

Most SID users are best served making these actual/required spending comparisons by district poverty level, but the SID also includes actual required spending across entire states—i.e., all districts combined, regardless of poverty level. When viewing these results, bear in mind that, in some states, actual statewide per pupil spending is greater than required spending because funding is dramatically above our targets in lower-poverty districts, even though spending is below adequate levels.

These measures are designed primarily to assess adequacy on a state-by-state basis, and especially to compare adequacy between states, with a couple of minor caveats. First, poverty quintiles are defined state-by-state, which means, for example, that the highest poverty districts in one state may be more or less poor than the highest poverty districts in a different state. This will affect the estimates of required spending, since districts serving larger proportions of disadvantaged students will have to spend more than their counterparts in other states serving lower proportions of these students. Second, the NECM calculates required (adequate) spending levels in terms of the estimated amounts that would be necessary to achieve national average test scores. This means that a state with test scores far

below the U.S. average will have higher required levels than a different state with scores closer to the average, even if those states are similar in terms of the students they serve, labor market costs, etc. Adequate spending in one state may not be adequate in a different state.

Also included in this category of SID indicators are two additional variables, again statewide and by poverty quintile. The first is enrollment, which can be used, for instance, to calculated weighted averages. Note that these variables represent total enrollment from the districts included in our models (this does not include, for example, many independent-operated charter schools, child care centers, specialized schools, etc.). They are not comprehensive "official" enrollment figures.

The second is a measure of the gap between “target” (national average) test scores and actual test scores (with this gap expressed in standard deviations). This allows users, for example, to compare spending adequacy with actual testing outcomes. Insofar as the NECM calculates adequate spending based on testing outcomes, states and poverty quintiles with more adequate spending will also tend to have better testing outcomes, and states and poverty quintiles with larger gaps will require more spending to achieve the target outcomes. But users might, for instance, be interested in identifying states that are exceptions to that aggregate relationship, or in comparing these testing outcome gaps to other measures in the SID.

(Note: Users can also find adequacy estimates for over 12,000 individual public school districts in the **District Cost Database**, which is the other major dataset published annually by the SFID team. These data, along with documentation, are available at the SFID website, including an online data visualization tool with which users can view all the results for a single district without downloading the full dataset.)

CATEGORY 5: STAFFING RATIOS BY DISTRICT POVERTY

The measures in this category are similar to the predicted revenue/spending variables in category 3. In this case, however, the measures are of teachers per student (i.e., staffing ratios), adjusted for student and district characteristics. As such, this is a measure of how states and districts *spend* resources, vis-à-vis similar districts in other states. Education is a labor-intensive enterprise — compensation accounts for a larger share of school budgets than any other type of expenditure.

As is the case with the revenue/fairness indicators, the variables in this section represent average staffing ratios, within a given state, at four different Census district poverty levels (0, 10, 20, and 30 percent), controlling for population density, district size, and labor market costs.

Once again, these statistical controls account for differences in factors, such as district size and labor market costs, that affect the cost of providing a given level of educational quality (in this case, the cost of hiring and retaining additional teachers). They therefore allow for more valid comparisons of staffing ratios, within and between states, since they mean you are comparing *similar districts* within and between those states. For example, do high poverty (30 percent) districts in one state employ, on average, more teachers per student than similar high poverty districts in another state?

These variables are also used to calculate progressivity/fairness indicators *within* states – i.e., whether high poverty districts in one state have higher/lower staffing ratios than otherwise similar low poverty

districts in the same state. The dataset includes a variable comparing staffing ratios between the highest and lowest poverty districts (ratio of 30 to 0 percent poverty) but users can calculate ratios between any two of the poverty levels.

CATEGORY 6: EARLY CHILDHOOD EDUCATION COVERAGE AND INCOME-BASED GAPS

This small group of variables is focused on how many of states' young children (3- and 4 year olds) are enrolled in early childhood education programs, and how these enrollment rates vary by poverty. There are two variables representing the number of young children in each state and the number of low-income young children in each state, and two variables measuring the number of young children and young low-income children who are enrolled in early education programs.

These two sets of variables are then used to calculate the percentage of all young children and the percentage of young low-income children who are enrolled. Finally, the SID includes a variable measuring the ratio of the low income enrollment rate to the overall enrollment rate (lower values indicate larger enrollment gaps between low income children and all children).

Like staffing ratios (category 5), this too is a measure of how states and districts spend their resources, in this case the degree to which they invest in access to early childhood education. Moreover, the comparison of enrollment rates between all young children and low income young children is a rough measure of the equality of access to early childhood education programs (or lack thereof).

CATEGORY 7: TEACHER/NON-TEACHER WAGE COMPETITIVENESS

These indicators compare teacher wages with those of similar non-teachers in each state, by teacher age. For example, do young teachers in one state earn more than their young counterparts in other states, all else being equal?

This resource allocation measure is important because, put simply, teachers are important, and how teachers are paid, while far from the only factor that matters, does influence the quality of applicants into the profession, and their retention. Note that these estimates include both public and private school teachers, though the inclusion of the latter does not substantially affect results, as private school teachers constitute only a small share of the teacher workforce, and public/private teacher pay gaps tend not to vary widely between states.

These comparisons of teacher with non-teacher wages are derived from models that control for various factors that affect wages, such as education, hours, and age. These controls allow for better comparisons within and between states. The SID includes variables measuring both teacher and similar non-teacher wages for four age ranges (25-30, 31-40, 41-50, and 51-60), and there are four variables that calculate the teacher/non-teacher ratio at specific ages (25, 35, 45, and 55). The breakdown by age, which is a rough proxy for teacher experience, is important because the teacher/non-teacher wage gap in many states varies by how long teachers stay in the profession.

CATEGORY 8: CLASS SIZE BY DISTRICT POVERTY

This group of variables measures average class size by district poverty (poverty is calculated as a percentage of average district poverty within the districts' labor markets), calculated separately for

departmentalized and self-contained classes, controlling for labor market (i.e., class sizes compared between classes in schools in the same labor market).

This too is a measure of how states spend their resources. For example, do relatively high poverty districts (160% of their labor market's district average) in one state have larger classes than comparable districts in another state? The focus on district poverty stems from the fact that more affluent districts tend to have more resources to hire additional teachers, and thus offer smaller classes. Moreover, because these models use teacher-level data (from the Schools and Staffing Survey prior to 2018 and its successor, the National Teacher and Principal Survey, in 2018), the estimates represent actual reported class sizes (predicted at different poverty levels), rather than approximations based on aggregate staffing ratios.

These variables are also used to calculate progressivity/fairness indicators – i.e., whether relatively high poverty districts in one state, all else being equal, have higher class sizes than otherwise similar low poverty districts in the same state (with, to reiterate, poverty defined relative to the labor market in which districts are located). The dataset includes a variable comparing only the highest/lowest ratios (ratio of 160 to 60 percent of the average district poverty rate in the labor market), but users can calculate ratios between any two of the poverty levels.

These indicators are only available in the SID every 4-6 years due to data availability, and the latest year in which they are available is 2018. Estimates are not available for Hawaii, Nevada, and Wyoming in any year.

CATEGORY 9: TEACHER SALARY COMPETITIVENESS BY DISTRICT POVERTY

Rather than assessing competitiveness by comparing teachers with non-teachers (category 7), these measures assess competitiveness by comparing the salaries of teachers in districts with different poverty levels *to those of similar teachers* working in the same labor market, controlling for other factors that affect earnings, such as degree and teaching experience. Note that these models include public school teachers only.

Like the class size estimates (category 8), there are variables at different district poverty levels, with poverty again expressed as a percentage of average district poverty within the labor market. For example, how do the salaries of teachers working in districts with high relative poverty rates (160 percent of the labor market average) compare to the salaries of similar teachers in the same area (regardless of district poverty)?

This is important because higher poverty districts tend have more trouble than lower poverty districts recruiting and retaining teachers, and the former also tend to have less funding with which to pay teachers.

These indicators are also used to calculate a progressivity/fairness measure – i.e., the ratio of the competitiveness of teacher salaries in high poverty districts (160% of labor market) to that of teacher salaries in lower poverty districts (60% of the labor market).

The SID includes a variable comparing only the highest/lowest ratios (ratio of 160 to 60 percent of the labor market poverty rate), but users can calculate ratios between any two of the poverty levels.

Estimates are only available in the SID every 4-6 years due to data availability, and the latest year in which they are available is 2018.

CATEGORY 10: FAMILY INCOME ABOVE/BELOW FRPL THRESHOLDS

This small group of contextual variables reports average income of families with incomes above and below two important income thresholds, both of which are based on the federal poverty line. The two thresholds are 130 percent of the federal poverty line (i.e., income no more than 30 percent higher than the poverty line) and 185 percent of the federal poverty line. The former (130 percent) is the eligibility cutpoint for free school lunch, and the latter (185 percent) is the cutpoint for reduced-price lunch.

Free and reduced-price lunch eligibility rates are widely used in education research as proxies for student poverty, but they are highly imperfect proxies since the actual incomes of families above or below these thresholds can vary widely between states (and districts and schools). In other words, the families below the 130 or 185 percent threshold in one state may have far lower incomes, on average, than families below the threshold in a different state. And, conversely, the incomes of families *above* the thresholds may vary as well.

Accordingly, the indicators in this group report the average income of families above and below the two thresholds, as well as the ratios of the averages of below to above for each threshold. Lower ratios indicate larger gaps — more inequality — in income between families above and below the subsidized lunch eligibility thresholds.

CATEGORY 11: PUBLIC SCHOOL COVERAGE AND CHARTER MARKET SHARE

The two simple contextual variables in this category are both "coverage" variables. The first is the proportion of each state's 6- to 16-year-olds enrolled in public schools and the second is the statewide share of public school students enrolled in charter schools.

Both of these coverage measures can have important implications for school finance. For example, charter school proliferation affects revenue (which is based on enrollment), and it may cause other finance-related complications related to school building utilization, transportation costs, and other areas.

CATEGORY 12: PUBLIC/NON-PUBLIC SCHOOL FAMILY INCOME GAPS

Like the measures in category 10, this set of three variables compares average incomes between two groups of families in each state: those with children attending public schools and those with children attending non-public (i.e., private) schools. These two variables are also used to calculate a ratio of average income among public school families to that of non-public school families (ratios closer to 1 indicate smaller gaps in income between public and non-public school families).

If, for instance, private school families tend to be much more affluent than public school families, this may reflect greater demographic sorting of students into sectors, which in turn may affect school

funding. In addition, some states have enacted tax credits in an effort to shift more students to private schools.

CATEGORY 13: STATE SCHOOL FINANCE LITIGATION

These non-numeric variables list major state finance adequacy and equity court cases and outcomes in a given state and year. Users might, for example, examine the relationship between these cases and the other indicators in the database. Note that these variables have not been updated since 2013.

LIST OF VARIABLES AND METHODS

The table below provides a list of all variables in the State Indicators Database, along with descriptions, notes, and the years in which they are available. Below the headers for each of the 13 categories are data sources and technical details. With the exception of the state, region, and the finance litigation variables (category 13), all variables are continuous (numeric).

Variable	Description	Years	Notes
year	Year of Data	1993-2019	Year refers to the spring of the school year. For example, 2019 refers to the 2018-2019 school year (or the 2019 fiscal year).

1. GEOGRAPHY

Variable	Description	Years	Notes
stabbr	State abbreviation	1993-2019	
state_name	State	1993-2019	
statefip	State FIPS code	1993-2019	
region4	Census region	1993-2019	U.S. Census Bureau regional codes (four categories)
region9	Census division	1993-2019	U.S. Census Bureau division codes (nine categories)

2. FISCAL EFFORT

Data source(s): U.S. Census Bureau Annual Survey of State and Local Finances; U.S. Bureau of Economic Analysis

Effort is calculated by dividing total state and local expenditures (direct to K-12 education) by Gross State Product (*effort*) or aggregate state personal income (*inc_effort*) in a given state and year. GSP and aggregate income are from the Bureau of Economic Analysis.

ADDITIONAL NOTES: *Effort is not calculated for the District of Columbia in all years or for Vermont in 2018 and 2019 due to data irregularities in that state.*

Variable	Description	Years	Notes
effort	Fiscal effort (% GSP)	1997-2019	
inc_effort	Fiscal effort (% personal income)	1993-2019	

3. REVENUE/SPENDING BY DISTRICT POVERTY (PROGRESSIVITY)

Data source(s): District Indicators Database

Predicted values based on regression model using district level panel data. Dependent variable in the model below ($lnRESOURCES_{dy}$) can represent, for district *d* and year *y*, state revenue PP, local revenue PP, current expenditures PP, state & local combined revenue PP, or federal revenue PP, each yielding separate sets of predicted values by poverty level.

$$lnRESOURCES_{dy} = b_0 + b_1State + b_2PovRate_{dy} + b_3State \times PovRate_{dy} + b_4ECWI_{dy} + b_5PopDens_{dy} + b_6\ PopDens_{dy} \times Enroll{<}100_{dy} + b_7PopDens_{dy} \times Enroll101to300_{dy} + b_8PopDens_{dy} \times Enroll301to600_{dy} + b9PopDens_{dy} \times Enroll601to1200_{dy} + b_{10}PopDens_{dy} \times Enroll1201to1500_{dy} + b_{11}K12District_{dy} + e_{dy}$$

Models weighted by district enrollment. Each year estimated separately. Predicted values for lnRESOURCES in a K–12 district with x% Census poverty (0/10/20/30), 2,000 or more students, in an average wage labor market (1.0 ECWI).

CHANGES IN THIS RELEASE: *For this release of the SID we have made an adjustment to the construction of the state and local revenue per-pupil dependent variable, which is used to construct the variables predicted_slocrev0_, predicted_slocrev10_, predicted_slocrev20_, predicted_slocrev30_, and fairness (the new calculations are reflected in all years of this SID release). Specifically, we had previously calculated total state and local revenue as a sum of state aid, local aid, and impact aid, divided by enrollment. This calculation is now the sum of state, local, and impact aid minus tuition to other districts, charter payments, and other transfers to districts, divided by enrollment in district-run schools. This affected some states' estimates compared with prior releases of the SID.*

ADDITIONAL NOTES: *The variables in this section are not available for the District of Columbia and Hawaii in all years, as they both contain only one government-run school district that reports finance data to the U.S. Census Bureau. In addition, due to what appear to be missing zeroes in some states' revenue figures, there are about 35 states with drastically inflated predicted state and local revenue estimates (the four variables with the prefix predicted_slocrev*) in 1993 and/or 1996. These per-pupil dollar amounts obviously cannot be compared with other states' or with other years within any of these states, but this issue does not affect states' progressivity calculations in these years (including the "fairness" variable). We therefore do not eliminate these inflated estimates from the database in case users wish to calculate revenue progressivity comparing different district poverty levels within these states. Estimates for New Jersey in 1997 have also been excluded due to clear irregularities in that state's data in that year. Finally, estimates for Vermont on all variables in this section should be interpreted with caution, especially those after 2014.*

Variable	Description	Years	Notes
predicted_fedrevpp0_	Predicted federal revenue PP at 0% district poverty	1993-2019	
predicted_fedrevpp10_	Predicted federal revenue PP at 10% district poverty	1993-2019	
predicted_fedrevpp20_	Predicted federal revenue PP at 20% district poverty	1993-2019	
predicted_fedrevpp30_	Predicted federal revenue PP at 30% district poverty	1993-2019	
fairness_fedrevpp	Federal revenue progressivity (30:0% poverty ratio)	1993-2019	
predicted_strevpp0_	Predicted state revenue PP at 0% district poverty	1993-2019	
predicted_strevpp10_	Predicted state revenue PP at 10% district poverty	1993-2019	
predicted_strevpp20_	Predicted state revenue PP at 20% district poverty	1993-2019	
predicted_strevpp30_	Predicted state revenue PP at 30% district poverty	1993-2019	
fairness_strevpp	State revenue progressivity (30:0% poverty ratio)	1993-2019	Users can also calculate 20:0 and 10:0 ratios using the variables above.
predicted_locrevpp0_	Predicted local revenue PP at 0% district poverty	1993-2019	
predicted_locrevpp10_	Predicted local revenue PP at 10% district poverty	1993-2019	
predicted_locrevpp20_	Predicted local revenue PP at 20% district poverty	1993-2019	
predicted_locrevpp30_	Predicted local revenue PP at 30% district poverty	1993-2019	
fairness_locrevpp	Local revenue progressivity (30:0% poverty ratio)	1993-2019	Users can also calculate 20:0 and 10:0 ratios using the variables above.

predicted_slocrev0_	Predicted state/local revenue PP at 0% district poverty	1993-2019	See note above about inflated estimates in 1993 and 1996.
predicted_slocrev10_	Predicted state/local revenue PP at 10% district poverty	1993-2019	
predicted_slocrev20_	Predicted state/local revenue PP at 20% district poverty	1993-2019	
predicted_slocrev30_	Predicted state/local revenue PP at 30% district poverty	1993-2019	
fairness	State and local revenue progressivity (30:0% poverty ratio)	1993-2019	Users can also calculate 20:0 and 10:0 ratios using the variables above.
syst_prog	Systematic progressivity	1999-2019	Correlation of district state and local revenue and labor market-centered Census poverty within each state and year (weighted by enrollment). Estimates are not available for Hawaii and D.C. in all years, for New Jersey in 1997, and for Vermont in 2018 and 2019.
predicted_curexpp0_	Predicted current spending PP at 0% district poverty	1993-2019	
predicted_curexpp10_	Predicted current spending PP at 10% district poverty	1993-2019	
predicted_curexpp20_	Predicted current spending PP at 20% district poverty	1993-2019	
predicted_curexpp30_	Predicted current spending PP at 30% district poverty	1993-2019	
fairness_curexpp	Spending progressivity (30:0% poverty ratio)	1993-2019	Users can also calculate 20:0 and 10:0 ratios using the variables above.

4. ADEQUACY (RELATIVE TO COMMON OUTCOME GOALS)

Data source(s): District Indicators Database; nationally-normed outcome measures from the Stanford Education Data Archive (SEDA); various other data sources (see documentation below)

Estimates from the **National Education Cost Model** (NECM). The NECM is constantly being adjusted and expanded to improve the estimates, and so results from this SFID release may differ somewhat from those in previous SFID releases. For example, this latest iteration of the model incorporates district racial composition. The NECM uses nationally-normed outcomes (combined math and reading test scores) from the SEDA to model how much state and local spending would be required in order to achieve national average test scores from the previous year, by state-specific poverty quintile (in the list below, these are the five variables NECM_PREDCOST_Q1-Q5) and statewide (NECM_PREDCOST_STATE). These estimates can then be compared to actual spending, again by state-specific poverty quintile (NECM_PPCSTOT_Q1-Q5) and statewide (NECM_PPCSTOT_STATE). For each poverty quintile and statewide, we also include variables measuring the gaps in testing outcomes, expressed in standard deviations (NECM_OUTCOMEGAP_Q1-Q5 and NECM_OUTCOMEGAP_STATE), enrollment (NECM_ENROLL_Q1-Q5 and NECM_ENROLL_STATE), and the funding gap (NECM_FUNDINGGAP_Q1-Q5 and NECM_FUNDINGGAP_STATE), which is simply the difference ($ per pupil) between predicted required spending and current spending.

For additional details on the methodology of the NECM, see:
Baker, Bruce D., Weber, Mark, Srikanth, Ajay, Kim, Robert, and Atzbi, Michael. 2018. *The Real Shame of the Nation: The Causes and Consequences of Interstate Inequity in Public School Investments*. New Brunswick, NY: Rutgers University.
and
Baker, Bruce D., Weber, Mark, and Srikanth, Ajay. 2021. Informing Federal School Finance Policy with Empirical Evidence. *Journal of Education Finance* 47(1): 1-25.

CHANGES IN THIS RELEASE: *In this release, we are publishing, for the first time, a full set of estimates going back to 2009 (previous SID releases published estimates in this category for the latest year only).*

ADDITIONAL NOTES: *Variables in this section are not available for Hawaii in all years (as the contains only one government-run school district that is geographically isolated from other labor markets) and for Vermont between 2017 and 2019 (due to data irregularities in that state's data in recent years). Estimates are only available for the highest poverty quintile in the District of Columbia. Outcome data (the variables named necm_outcomegap*) are not available for Vermont in any year. Because SEDA (outcome) data are only available up to 2018, required spending estimates for 2019 (necm_predcost*) are forecast based on state trajectories in previous years and other factors, and 2019 outcome gaps (necm_outcomegap*) are simply the same as those from 2018.*

Variable	Description	Years	Notes
necm_predcost_state	Required (adequate) spending PP - statewide	2009-2019	
necm_ppcstot_state	Actual spending PP - statewide	2009-2019	

necm_enroll_state	Enrollment - statewide	2009-2019	Statewide enrollment may differ slightly from the sum of enrollment in the five quintiles due to rounding.
necm_outcomegap_state	Test score gap b/w state and nat'l. avg. - statewide	2009-2019	In standard deviations.
necm_fundinggap_state	Gap between actual and required spending PP - statewide	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables.
necm_predcost_q1	Required (adequate) spending PP - lowest (Q1) poverty districts	2009-2019	Poverty quintile 1 includes the 20 percent of districts in each state with the lowest Census poverty levels.
necm_ppcstot_q1	Actual spending PP - lowest (Q1) poverty districts	2009-2019	
necm_enroll_q1	Enrollment - lowest (Q1) poverty districts	2009-2019	
necm_outcomegap_q1	Test score gap b/w state and nat'l. avg. - lowest (Q1) poverty districts	2009-2019	In standard deviations.
necm_fundinggap_q1	Gap between actual and required spending PP - lowest (Q1) poverty districts	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables for this poverty quintile.
necm_predcost_q2	Required (adequate) spending PP - low (Q2) poverty districts	2009-2019	
necm_ppcstot_q2	Actual spending PP - low (Q2) poverty districts	2009-2019	
necm_enroll_q2	Enrollment - low (Q2) poverty districts	2009-2019	
necm_outcomegap_q2	Test score gap b/w state and nat'l. avg. - low (Q2) poverty districts	2009-2019	In standard deviations.
necm_fundinggap_q2	Gap between actual and required spending PP - low (Q2) poverty districts	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables for this poverty quintile.
necm_predcost_q3	Required (adequate) spending PP - medium (Q3) poverty districts	2009-2019	
necm_ppcstot_q3	Actual spending PP - medium (Q3) poverty districts	2009-2019	
necm_enroll_q3	Enrollment - medium (Q3) poverty districts	2009-2019	
necm_outcomegap_q3	Test score gap b/w state and nat'l. avg. - medium (Q3) poverty districts	2009-2019	In standard deviations.
necm_fundinggap_q3	Gap between actual and required spending PP - medium (Q3) poverty districts	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables for this poverty quintile.
necm_predcost_q4	Required (adequate) spending PP - high (Q4) poverty districts	2009-2019	
necm_ppcstot_q4	Actual spending PP - high (Q4) poverty districts	2009-2019	
necm_enroll_q4	Enrollment - high (Q4) poverty districts	2009-2019	
necm_outcomegap_q4	Test score gap b/w state and nat'l. avg. - high (Q4) poverty districts	2009-2019	In standard deviations.
necm_fundinggap_q4	Gap between actual and required spending PP - high (Q4) poverty districts	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables for this poverty quintile.
necm_predcost_q5	Required (adequate) spending PP - highest (Q5) poverty districts	2009-2019	Poverty quintile 5 includes the 20 percent of districts in each state with the highest Census poverty levels.
necm_ppcstot_q5	Actual spending PP - highest (Q5) poverty districts	2009-2019	
necm_enroll_q5	Enrollment - highest (Q5) poverty districts	2009-2019	
necm_outcomegap_q5	Test score gap b/w state and nat'l. avg. - highest (Q5) poverty districts	2009-2019	In standard deviations.
necm_fundinggap_q5	Gap between actual and required spending PP - highest (Q5) poverty districts	2009-2019	This is the difference between the necm_ppcstot and necm_predcost variables for this poverty quintile.

5. STAFFING RATIOS BY DISTRICT POVERTY

Data source(s): District Indicators Database

Predicted values based on regression model using district level panel data. Dependent variable in the model below is logged Staffing Ratio (lnSR), or the number of teachers per 100 students.

$$lnSR_{dy} = b_0 + b_1State + b_2PovRate_{dy} + b_3State \times PovRate_{dy} + b_4ECWI_{dy} + b_5PopDens_{dy} + b_6\ PopDens_{dy} \times Enroll{<}100_{dy} + b_7PopDens_{dy} \times Enroll101to300_{dy} + b_8PopDens_{dy} \times Enroll301to600_{dy} + b_9PopDens_{dy} \times Enroll601to1200_{dy} + b_{10}PopDens_{dy} \times Enroll1201to1500_{dy} + b_{11}K12District_{dy} + e_{dy}$$

Models weighted by district enrollment. Each year estimated separately. Predicted values for lnSR in a K–12 district with x% Census poverty (0/10/20/30), average density, 2,000 or more students, in an average wage labor market (1.0 ECWI).

ADDITIONAL NOTES: *The variables in this section are not available for the District of Columbia and Hawaii in all years, as they both contain only one government-run school district that reports finance data to the U.S. Census Bureau.*

Variable	Description	Years	Notes
predicted_tchph0_	Predicted teachers per 100 pupils at 0% district poverty	1994-2019	
predicted_tchph10_	Predicted teachers per 100 pupils at 10% district poverty	1994-2019	
predicted_tchph20_	Predicted teachers per 100 pupils at 20% district poverty	1994-2019	
predicted_tchph30_	Predicted teachers per 100 pupils at 30% district poverty	1994-2019	
fairness_tchph	Staffing (teachers per 100 pupils) progressivity (30:0% poverty ratio)	1994-2019	Users can also calculate 20:0 and 10:0 ratios using the variables above.

6. EARLY CHILDHOOD EDUCATION COVERAGE AND INCOME-BASED GAPS

Data source(s): American Community Survey

Tabulations by state and year weighted by sampling probability.

Variable	Description	Years	Notes
count	Census count of all 3-4 year olds	2000-2019	
enrolled	Census count of 3-4 year olds enrolled in school	2000-2019	
lowinc_ec	Census count of low income 3-4 year olds	2000-2019	
lowinc_enrolled	Census count of low income 3-4 year olds enrolled in schools	2000-2019	
ec_enrollshare	Percent of all 3-4 year olds enrolled in school	2000-2019	
ec_lowinc_enrollshare	Percent of low income 3-4 year olds enrolled in school	2000-2019	
ec_enrollgapratio	Ratio of low income to all enrollment rate	2000-2019	

7. TEACHER/NON-TEACHER WAGE COMPETITIVENESS

Data source(s): American Community Survey

Based on regression model of wage income for teachers and non-teachers, weighted for sampling probability. Competitive wage ratio (INCWAGE), or predicted wage of elementary and secondary teachers divided by predicted wage of nonteachers working in the same state, with a master's degree, at specific ages:

$$\ln INCWAGE = b_0 + b_1 State + b_2 K12Teacher + b_3 State \times K\text{–}12Teacher + b_5 Age + b_6 Masters + b_7 lnhours + b_8 Weeks/Year + e$$

Estimated separately for each year, and weighted by sampling probability weight (perwt). Includes only those individuals holding a bachelor's or master's degree. State represents a matrix of state dummy variables, K12Teacher is an indicator denoting that the occupation code is for teacher and the industry code is that for elementary/secondary education. Of particular interest is the estimated differential (b_3) between teachers and non-teachers' income from wages in each state (given the baseline difference b_2 between teacher and non-teacher income from wages). Age is a matrix of dummy variables for each age from 25 to 65. Typical hours per week are logged (lnhours) and weeks per year specified as a matrix of dummy indicators. Note that these models include both public and private school teachers.

Variable	Description	Years	Notes
tchsalary25_30	Predicted teacher annual wage - age 25-30	2000-2019	
nontchsal25_30	Predicted non-teacher annual wage - age 25-30	2000-2019	
tchsalary31_40	Predicted teacher annual wage - age 31-40	2000-2019	
nontchsal31_40	Predicted non-teacher annual wage - age 31-40	2000-2019	
tchsalary41_50	Predicted teacher annual wage - age 41-50	2000-2019	
nontchsal41_50	Predicted non-teacher annual wage - age 41-50	2000-2019	
tchsalary51_60	Predicted teacher annual Wage - age 51-60	2000-2019	
nontchsal51_60	Predicted non-teacher annual Wage - age 51-60	2000-2019	
sal_parity25	Teacher/non-teacher annual wage ratio - age 25	2000-2019	
sal_parity35	Teacher/non-teacher annual wage ratio - age 35	2000-2019	
sal_parity45	Teacher/non-teacher annual wage ratio - age 45	2000-2019	
sal_parity55	Teacher/non-teacher annual wage ratio - age 55	2000-2019	

8. CLASS SIZE BY DISTRICT POVERTY

Data source(s): District Indicators Database; NCES Schools and Staffing Survey (SASS) in 1994, 2000, 2004, 2008, 2012; NCES National Teacher and Principal Survey (NTPS) in 2018

NCES SASS or NTPS school level class size measures for individual teachers merged to district level panel. Regression model estimated to class size measures (full-time teachers only):

$$ClassSize_{tdy} = b_0 + b_1State + b_2POV(ctr)_{dy} + b_3State \times POV(ctr)_{dy} + b_4TchLevel_{tdy} + b_5CBSA_{dy} + e_{tdy}$$

For non-rural schools, where "t" is the individual teacher for whom class size is reported, POV(ctr) is the labor market centered census poverty rate of the district and CBSA is the Core Based Statistical Area fixed effect, so as to compare class sizes across teachers in schools within the same labor market. TchLevel is a categorical variable measuring whether the teacher is an elementary, middle, secondary, or combined school teacher (dummies fit for middle, secondary, and combined, with elementary the reference category).

Regression model used to generate predicted values of departmentalized and self-contained class sizes for a teacher working in a district at 60%, 80%, 100%, 120% 140% & 160% of the labor market average district Census poverty level. Separate models estimated for departmental (variables with a prefix contained "csd") and self-contained class size (variables with a prefix contained "css").

CHANGES IN THIS RELEASE: *Estimates for Nevada are removed for all variables in this section in all years due to irregularities in the models/results.*

ADDITIONAL NOTES: *Estimates are not available for Hawaii, Nevada, and Wyoming. Users should exercise caution in comparing 2018 estimates with those from prior years, as the SASS was discontinued after 2012 and replaced with the NTPS.*

Variable	Description	Years	Notes
pred_csd_pov60	Predicted dept. class size - district at 60% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_csd_pov80	Predicted dept. class size - district at 80% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_csd_pov100	Predicted dept. class size - district at 100% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_csd_pov120	Predicted dept. class size - district at 120% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_csd_pov140	Predicted dept. class size - district at 140% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_csd_pov160	Predicted dept. class size - district at 160% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
csd_ratio	Dept. class size progressivity (160:60% LM poverty ratio)	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov60	Predicted self-contained class size - district at 60% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov80	Predicted self-contained class size - district at 80% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov100	Predicted self-contained class size - district at 100% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov120	Predicted self-contained class size - district at 120% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov140	Predicted self-contained class size - district at 140% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
pred_css_pov160	Predicted self-contained class size - district at 160% of labor market poverty	1994; 2000; 2004; 2008; 2012; 2018	
css_ratio	Self-contained class size progressivity (160:60% LM poverty ratio)	1994; 2000; 2004; 2008; 2012; 2018	

9. TEACHER SALARY COMPETITIVENESS BY DISTRICT POVERTY

Data source(s): District Indicators Database; NCES Schools and Staffing Survey (SASS) in 1994, 2000, 2004, 2008, 2012; NCES National Teacher and Principal Survey in 2018

NCES SASS or NTPS teacher-level salary measures merged to district level panel. Construction of the salary competitiveness index involves a two-step process, the first of which uses a regression model to isolate salary variation at constant degree and experience among teachers in the same labor market. The regression model of teacher base salary (full-time teachers only) is:

$$\ln Salary_{tdl} = b_0 + b_1 Experience_{tdl} + b_2 Degree_{tdl} + b_3 Assignment_{tdl} + b_4 CBSA_{tdl}$$

where salary is the salary for teacher "t" in district "d" in labor market "l." The model's independent variables include: 1) years of experience, coded as dummy variables (one year as the reference category); 2) degree, with masters, specialist, and doctoral degree coded dummy variables (bachelor's degree as the reference category); 3) teacher assignment (2003 classification) coded as dummy variables (see the SASS/NTPS documentation for a full list of categories); and 4) a matrix of CBSA (Core Based Statistical Area) fixed effects, such that the model residuals are the difference in each individual teacher's salary from the labor market average for a teacher of the same degree, assignment, and experience level (for full time classroom teachers). We express this residual as a ratio of the teacher's actual salary to the labor market average (predicted value).

$$Competitiveness\ Ratio_{tdl} = Actual_{tdl} / Predicted_{tdl}$$

In the second step, we use another regression model to determine how the competitiveness of teacher salaries varies with respect to district poverty rates, similar to our class size models above:

$$Competitiveness\ Ratio_{tdl} = b_0 + b_1 State + b_2 POV(ctr)_{dy} + b_3 State \times POV(ctr)_{dy} + b_4 TchLevel_{tdy} + e_{tdy}$$

Where POV(ctr) is the labor market-centered Census poverty rate of district d, and TchLevel is a categorical variable measuring whether the teacher is an elementary, middle, secondary, or combined school teacher (dummies fit for middle, secondary, and combined, with elementary the reference category). For non-rural schools, where "t" is the individual teacher for whom the salary competitiveness ratio is calculated, CTR_POV is the labor market centered census poverty rate of the district. Regression weighted for sampling probability using balanced repeated replication (brr).

Model used to generate predicted values of salary competitiveness ratio for a teacher working in a district at 60%, 80%, 100%, 120% 140% & 160% of the labor market average district census poverty level.

ADDITIONAL NOTES: *Users should exercise caution in comparing 2018 estimates with those from prior years, as the SASS was discontinued after 2012 and replaced with the NTPS.*

Variable	Description	Years	Notes
pred_salratio_pov60	Teacher salary competitiveness ratio (district poverty 60% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
pred_salratio_pov80	Teacher salary competitiveness ratio (district poverty 80% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
pred_salratio_pov100	Teacher salary competitiveness ratio (district poverty 100% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
pred_salratio_pov120	Teacher salary competitiveness ratio (district poverty 120% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
pred_salratio_pov140	Teacher salary competitiveness ratio (district poverty 140% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
pred_salratio_pov160	Teacher salary competitiveness ratio (district poverty 160% of LM poverty)	1994; 2000; 2004; 2008; 2012; 2018	
sal_ratio	Teacher salary competitiveness progressivity (160:60% LM poverty ratio)	1994; 2000; 2004; 2008; 2012; 2018	

10. FAMILY INCOME ABOVE/BELOW FRPL THRESHOLDS

Data source(s): American Community Survey

Tabulations by state and year weighted by sampling probability.

Variable	Description	Years	Notes
ftotinc_under185pov	Average income of families with incomes below 185% federal poverty line	2000-2019	185% of the federal poverty line is the typical cutoff point for eligibility for reduced-price school lunch.
ftotinc_over185pov	Average income of families with incomes above 185% federal poverty line	2000-2019	
ftotinc_under130pov	Average income of families with incomes below 130% federal poverty line	2000-2019	130% of the federal poverty line is the typical cutoff point for eligibility for free school lunch.
ftotinc_over130pov	Average income of families with incomes abve 130% federal poverty line	2000-2019	
inc_gap185_ratio	Ratio of average family income below to above 185% federal poverty line	2000-2019	
inc_gap130_ratio	Ratio of average family income below to above 130% federal poverty line	2000-2019	

11. PUBLIC SCHOOL COVERAGE AND CHARTER MARKET SHARE

Data source(s): American Community Survey (coverage); Common Core of Data Public School Universe Survey (state_chartershare)

ACS tabulations by state and year weighted by sampling probability.

Variable	Description	Years	Notes
coverage	Percent of 6-16 year olds enrolled in public school	2000-2019	
state_chartershare	Charter school coverage	2001-2019	

12. PUBLIC/NON-PUBLIC SCHOOL FAMILY INCOME GAPS

Data source(s): American Community Survey

Tabulations by state and year weighted by sampling probability.

Variable	Description	Years	Notes
inc_pubsch	Average income of families with public school children	2000-2019	
inc_nonpubsch	Average income families with non-public school children	2000-2019	
pubprv_incratio	Ratio of income of public school to non-public school families	2000-2019	

13. STATE SCHOOL FINANCE LITIGATION

Data source(s): Compiled from various sources. **Has not been updated since 2013.**

Variable	Description	Years	Notes
case	School finance litigation - case name	1993-2013	Major cases in a given state and year (where/when applicable)
citation	School finance litigation - case citation	1993-2013	
ruling	School finance litigation - high court ruling	1993-2013	Ruling by high court on major state finance cases – overturned or upheld
casetype	School finance litigation - equity/adequacy	1993-2013	Whether case addressed equity, adequacy, or both

CHANGES TO THE DATASET

This section provides a record of significant changes to the dataset since the initial release of the SFID in 2019. Additional details about the changes made for this release can be found in the "List of Variables and Methods" section.

Fourth release (December 2021)

- Addition of adequacy (category 4) estimates for previous years (going back to 2009).
- Addition (retrospective) of 2018 estimates of predicted class size by district poverty (category 8) and teacher salary competitiveness by district poverty (category 9).
- Minor adjustments to the calculation of state and local revenue that are the basis for adjusted state and local revenue (category 3) and fairness.
- Adjustments to the specification of the NECM model (category 4).
- Minor revisions to category names.
- Removal of estimates for Vermont: all variables in category 2 (in 2018-2019), the systematic progressivity variable (syst_prog) in category 3 (in 2018-2019), and all variables in category 4 (in 2017-2019).
- Removal of estimates for New Jersey: all variables in category 3 (1997 only).
- Removal of estimates for Nevada: all variables in category 8 (all years).

Third release (January 2021)

- Addition of five new variables to category 4: required spending statewide (necm_predcost_state); actual spending statewide (necm_ppcstot_state); outcome gaps statewide (necm_outcomegap_state); funding gap statewide (necm_fundinggap_state) and; enrollment statewide necm_enroll_state).
- New variable descriptions in this guide and Stata dataset (revised for brevity and clarity)
- Reordered variables in category 3
- Removal of 2018 data for Vermont in category 2 (all variables), current spending and systematic progressivity variables from category 3, and category 4 (all variables), due to irregularities in that state's spending data.

Second release (February 2020) - no significant changes