NERD$ DOCUMENTATION
Washington DC
FY 2018-19

Exclusions:

This state's reported expenditures exclude: capital projects fund, community services, debt service, capital outlay, funds from a presidentially declared disaster, and private funds

Listed exclusions were publicly published by the SEA. Additional information gathered from the SEA staff, may be noted.

Limitations:

Because the Every Student Succeeds Act (2015) did not prescribe a uniform accounting procedure for expenditures but instead assigned the responsibility to each state, there are differences in how states compute per pupil expenditures, categorize various expenditures, and make decisions on inclusions/exclusions. Additionally, some states allow for some flexibility in how expenditures are categorized, so there may even exist some differences across districts within a state (e.g., for site-based portions of the spending). To that end, comparisons across states and districts should use the normed variable (***pp_total_norm_NERDS***). The normed variable is modeled after the Interstate Financial Reporting criteria where choices about inclusions/exclusions reflect those outlines for F33's Total Current Expenditures and reflects the most common reporting choices made across states.

Data Sources:

Financial variables with the suffix "***_raw_state abbreviation***" (in this case: "***_raw_DC***") are exactly as published by the state agency. We perform basic checks to identify possible errors or inconsistencies. These are then clarified through operational variables (described below) or in the state-specific data notes. All observations are retained from the state's original file, except for rare cases. These are described in the state notes.

State Education Agencies (SEA) often publish several different enrollment metrics. The ***enroll_raw_DC*** and ***enrollmetric*** variables contain the enrollment data and enrollment metric respectively used by the state for these per-pupil expenditure calculations.

Each state-published dataset is merged with NCES ids and enrollment variables from the National Center of Education Statistics (NCES) Common Core of Data for 2018-2019.

Flags:

If a school has a "1" in the ***flag_NERDS*** variable, our validation checks identified a <u>concerning financial value for the school</u>. We check for unusual values, simple calculation errors and consistency with prior year/other financial data. A flag does not necessarily mean the value is incorrect; it simply means the value appears inconsistent when checked against related figures reported in other datasets. Schools that are flagged have financial data that appears implausible given prior year reported expenditures, or with missing data point(s). User should be cautious when comparing figures for flagged schools with the raw data variables within the district or districts within the state.

If a school has a "1" in the ***flag_F33*** variable, our validation checks identified <u>concerning values for its district</u> (thereby raising a concern for all schools in the district). We check for unusual values and consistency with the district's federally defined total current expenditures in the Census Bureau F33. A flag simply means the

expenditures when summed across schools in a district are inconsistent with the sums reported for the district in the F33, it does not necessarily mean every school value is incorrect.

Variable Creation:

In some states, variables were created, signified by a suffix "*_operational_state*". These calculations are often simple sums or differences. When included, these are described in the state's codebook.

School total variables (*schooltot, schoolfed, schoolstloc*) are created by multiplying the corresponding per-pupil amount by enrollment.

District financial variables (*distexclu, disttotwexclu, disttot*) are occasionally calculated by summing the school exclusions within each district when the state provides a school exclusion amount. The school exclusion amount (*schoolexclu*) is retained in the dataset.

Missing or Non-Applicable Data:

Zeros in this dataset are true zeros, as reported by the state. State or NCES symbols to denote missingness (for example - ☦) are replaced with "NA"s.

"NRD" indicates no reported data i.e., the state did not report data for this school in the data file

CODEBOOK

Variable Name	Variable Type	Description/Value
Identifying Variables		
state	string	two-letter state abbreviation
year	string	2018-2019
distid_stateassigned	string	state assigned unique ID for Local Education Agency (district)
schoolid_stateassigned	string	state assigned unique ID for school
distname	string	district name
schoolname	string	school name
ncesdistid_admin	string	NCES administrative district id
ncesdistid_geo	string	NCES geographic district id
census_id	string	census bureau 14-digit government id
ncesid	string	NCES school id
ncesenroll	numeric	enrollment from NCES Common Core of Data called *students** in the NCES downloadable files
gradespan	string	grade span

level	string	level served code based on the highest grade: 10- 12: High School (4) 7 - 9: Middle/Junior High (3) 2-6: Elementary (2) PK-1: Early Education (1) Ungraded: Other (0)
enroll_raw_DC	numeric	enrollment
enrollmetric	string	enrollment metric used by state
Financial Variables		
pp_stloc_raw_DC	numeric	per-pupil total expenditure state and local
pp_fed_raw_DC	numeric	per-pupil total expenditure federal
pp_total_raw_DC	numeric	per-pupil total expenditure total
pp_site_stloc_raw_DC	numeric	per-pupil site expenditure state and local
pp_site_fed_raw_DC	numeric	per-pupil site expenditure federal
pp_site _raw_DC	numeric	per-pupil site expenditure total
pp_centshare_stloc_raw_DC	numeric	per-pupil site-share of central expenditure state and local
pp_centshare_fed_raw_DC	numeric	per-pupil site-share of central expenditure federal
pp_centshare_raw_DC	numeric	per-pupil site-share of central expenditure total
schoolstloc_raw_DC	numeric	total school state and local expenditures (not per-pupil)
schoolfed_raw_DC	numeric	total school federal expenditures (not per-pupil)
schooltot_raw_DC	numeric	total school expenditures (not per-pupil)
pp_total_norm_NERDS	numeric	adjusted (normed) per-pupil expenditure total to enable cross-state comparison *(methodology below)*
Additional Financial Variables for This State		
disttotwexclu_raw_DC	numeric	district total plus exclusions (not per-pupil)
distexclu_raw_DC	numeric	district exclusions (not per-pupil)
schtype_raw_DC	string	school type
ward_raw_DC	numeric	state assigned identification ward number
Flags		
countenroll	numeric	indicator if state does not use an average enrollment metric (i.e., ADM or ADA)
noaudit	numeric	indicator if state has an explicit message saying they do not audit data

nositecen	numeric	indicator if data is not broken out by site and central - 1 If state does not breakout by site central
adfinvars	numeric	indicator if state provides additional finance variables beyond the 12 variables in the Finance variables section
distflex	numeric	indicator if state allows for district flexibility in calculation methods
flag_nerds	numeric	indicator if our validation checks identified a concerning financial value for the school
flag_f33	numeric	indicator if our validation checks identified a concerning financial value for the district

Starting with FY19, the Every Student Succeeds Act (ESSA) required each state to gather and post school-by-school expenditure data. But for this first year of data reporting, differences in state accounting practices and enrollment count procedures complicate cross-state comparisons. So, to enable cross-state comparisons with FY19 data, NERD$ provides an adjusted (normed) per-pupil expenditure total (labeled ***pp_total_norm_NERDS***).

The norming adjustment involves two steps:

STEP 1: Ensure that <u>financial sums include comparable expenditure categories</u>, particularly in states that have excluded expenditures for activities like transportation, food services, etc. or included atypical expenditures like those that don't involve day-to-day school operations.

STEP 2: Adjust for differences in the way states count enrollment in the denominator of the per-pupil expenditure figure (e.g., attendance count vs membership).

ESSA School-by-School Expenditures Per Pupil Total *(pp_total_raw)*	$+$	District Specific Adjustment Per Pupil **(DSAPP)**	$\times$	State Enrollment Adjustment Factor **(SEF**)	$=$	NERD$ Normed Per-Pupil Total *(pp_total_norm_NERDS)*

The normed variable *(pp_total_norm_NERDS)* includes these two adjustments described below:

Note that both norming steps preserve all spending differences between schools within a district. Neither adjustment will affect either the ranking or the magnitude of differences in expenditure figures between schools in the same district.

For each of the adjustments (described more fully below) we compare expenditures and enrollments to more well-established federal collections of standardized variables.

STEP 1: Comparable Expenditure Data
The goal here is to make sure that each state and district's <u>financial sums include comparable expenditure categories</u>. For a standardized set of categories, we chose those expenditure categories included in the "Total Current Expenditures" variable in NCES F33 *(TCURELSC).* With that refence figure defined for each district, the norming process establishes a per-pupil adjustment for all the schools in a district such that once adjusted, the sum of the normed school expenditures matches the federal NCES F33 district-by-district expenditure totals.

We start by summing the school-by-school expenditures *(schooltot_raw)* in each district to create an expenditure sum for each district.

Because some states did not report financial data on all schools, we designed two norming procedures to establish district specific adjustment (DSA). These procedures are defined below and applied on a district-by-district basis.

1a. **No Missing Schools**: We use this approach for each district where the state reports expenditures for every school included in the NCES universe of schools for that district. We create a district-specific adjustment as the difference between total current expenditures reported by the NCES and the sums of state-reported school-by-school expenditures.

NCES F33 Total Current Expenditures *(TCURELSC)*	$-$	District Sum of School-by-School Expenditures	$=$	District Specific Adjustment **(DSA)**

We **create a per-pupil expenditure figure** for the difference in recorded expenditures by **dividing the difference in expenditures above by total enrollment for that district.** We use the NCES published enrollment *(V33)* for that district, for use in the **DSAPP**

$$\frac{\text{District Specific Adjustment (DSA)}}{\text{F33 Total Enrollment for the District (} V33 \text{)}} = \text{District Specific Adjustment \$ Per Pupil (DSAPP)}$$

We create this figure for every district in the state. We then add **DSAPP** to each school's per-pupil expenditures in the district, <u>so as not to alter the state's reported variations in school-by-school expenditures</u>.

1b. **Missing schools**: We use a per-pupil approach for each district when state-reported figures are missing for one or more schools listed in the NCES universe of schools.

We compute the District Specific Adjustment <u>Per Pupil</u> **(DSAPP)** as the difference in a district's per-pupil expenditures using the state's school-by-school figures and NCES F33.

$$\frac{\text{NCES F33 Total Current Expenditures } (TCURELSC)}{\text{F33 Enrollment } (V33)} - \frac{\text{Sum Total School Expenditures } (schooltot\_raw) \text{ for all schools in a district}}{\text{ESSA Enrollment } (enroll\_raw)} = \text{District Specific \$ Per Pupil (DSAPP)}$$

STEP 2: Enrollment Count Adjustment
The goal here is to adjust for differences in the way states count enrollment, norming to the standardized NCES "membership count" (which can be a larger number than enrollment counts based on attendance counts). For states that **use an attendance count as their enrollment metric** in the denominator of the per pupil expenditure figures, we adjust all school figures in a state with a fixed adjustment factor based on the NCES Common core of Data for enrollments. For states that used membership as their enrollment metric, we do not make any adjustment for enrollment (in other words, their statewide enrollment adjustment factor is 1). *Note: The following states used attendance count as their enrollment metric in FY 19 data: AL, AR, HI, MO, KS, TX and TN.*

To compute the **statewide enrollment adjustment factor (SEF)** we divide the enrollment figure included in the ESSA school-by-school expenditures *(enroll_raw)* by the total enrollment from NCES Common Core of Data *(ncesenroll)*.

$$\frac{\text{Total Enrollment as reported in the ESSA School-by-School Expenditures for the State } (enroll\_raw)}{\text{Total NCES Enrollment for the State } (ncesenroll)} = \text{Statewide Enrollment Adjustment Factor (SEF)}$$

Additional notes

Schools not normed:
- Any schools within a district that received the *flag_f33*
- Any schools in districts with suppressed values in the NCES F33
- Any schools without school spending data with the indicator NRD or NA or schools that reported $0 in expenditures

Any feedback or questions: Please reach out to nerds@georgetown.edu.