

More Money on Learning, Less Learning Loss? Variations in How Rhode Island Districts Spent Federal COVID Relief Funding

An Essay for the Learning Curve by Xiaoyang Ye
October 2022

In 2020 and 2021, the federal government granted local school districts more than \$190 billion from three COVID relief packages under the Elementary and Secondary School Emergency Relief (ESSER) Fund, which was created to address the negative impacts of the COVID-19 pandemic on students from prekindergarten through 12th grade.¹ The ESSER Fund is the largest federal infusion ever provided to K–12 schools—more than 11 times annual Title I spending, almost 5 times the total federal K–12 spending in the previous year, and nearly 4 times the American Recovery and Reinvestment Act grant that targeted the 2008 recession.²

Unlike traditional intergovernmental transfer grants that target specific expenditure items or purposes, state legislatures or departments of education are not allowed to limit how local school districts spend the COVID relief funding. School districts can use it for any activity as long as the uses are within the bounds of federal law, such as individualized instructional supports, summer learning, renovations, updated technology and books, health and cleaning, and mental health supports.³ But we know little about how local school districts spend the relief funding, whether school districts vary in their expenditure patterns, and what impacts the different spending patterns might have on student learning outcomes.

¹ Congress set aside \$13.2 billion of the \$30.8 billion allotted to the Education Stabilization Fund through the Coronavirus Aid, Relief, and Economic Security (CARES) Act for the ESSER Fund. This act was signed into law on March 27, 2020, and the US Department of Education awarded these grants to state education agencies for the purpose of providing local education agencies (LEAs), including charter schools that are LEAs, with emergency relief funds to address the impact COVID-19 has had, and continues to have, on elementary and secondary schools. The Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA) was signed into law on December 27, 2020, and provides an additional \$54.3 billion for the ESSER II Fund. On March 11, 2021, the American Rescue Plan (ARP) Act was signed into law. It is an unprecedented \$1.9 trillion package of assistance measures, including \$122 billion for the ARP ESSER III Fund. Funds are provided to state education agencies and school districts to help safely reopen and sustain the safe operation of schools and address the pandemic's impact on students.

² The American Recovery and Reinvestment Act of 2009 targeting the 2008 recession provided \$100 billion to the education sector, which included \$53.6 billion of aid to local school districts to prevent layoffs and cutbacks.

³ US Department of Education, *Frequently Asked Questions: Elementary and Secondary School Emergency Relief Programs Governor's Emergency Education Relief Programs* (Washington, DC: US Department of Education, 2021).

I investigate these questions in Rhode Island, which received \$646.2 million from the ESSER funds (table 1) and made \$581.5 million in total ESSER allocations to LEAs, resulting in a combined \$1,364 allocation per student-year and accounting for more than 7 percent of annual per student public education spending (\$18,438).⁴ I combined an original database of LEAs' ESSER funding applications, accessed through the Rhode Island Department of Education, with school district information from the Common Core of Data, accessed through the Urban Institute's Education Data Explorer.⁵

This essay focuses only on ESSER I and ESSER II funds because ESSER III fund application data are not available. In general, Rhode Island LEAs' expenditure patterns shifted from facilities (e.g., cleaning and health services) and virtual learning equipment (e.g., laptops and tablets and online curriculum) under ESSER I to instructional support in ESSER II.

I find that districts across the state varied considerably in their spending, but most of the funding was spent on instruction, services, and facilities. In districts that spent more ESSER funding on instruction (versus in other categories, such as upgrading school facilities), students experienced less learning loss than their peers in districts that spent less ESSER funding on instruction and learning.

TABLE 1
ESSER Funds

	ESSER I	ESSER II	ESSER III	Total
Act	The Coronavirus Aid, Relief, and Economic Security Act	The Coronavirus Response and Relief Supplemental Appropriations Act	The American Rescue Plan Act	
Date signed into law	March 27, 2020	December 27, 2020	March 11, 2021	
National K-12 total	\$13.2 billion	\$54.3 billion	\$122 billion	\$189.5 billion
Rhode Island K-12 total	\$46.4 million	\$184.8 million	\$415 million	\$646.2 million
Minimum distribution to Rhode Island LEAs	\$41.7 million	\$166.3 million	\$373.5 million	\$581.5 million
Obligation deadline	September 30, 2022	September 30, 2022	September 30, 2023	

Source: Rhode Island Senate, “Federal COVID Funds: CRRSA ESSER II and ARP ESSER III” (Providence: Rhode Island Senate, 2021).

Note: ESSER = Elementary and Secondary School Emergency Relief; LEA = local education agency.

⁴ Rhode Island public school enrollment in preschool through grade 12 in fiscal year 2020 was 142,148 students. ESSER I and ESSER II funds may be used for eligible costs dating back to March 13, 2020. See the Public Education Spending in Rhode Island section at Melanie Hanson, “U.S. Public Education Spending Statistics,” Education Data Initiative, last updated June 15, 2022, <https://educationdata.org/public-education-spending-statistics#rhode-island>; and Rhode Island Department of Education, “FY2020 Per Pupil Expenditures” (Providence: Rhode Island Department of Education, 2021).

⁵ See the appendix for the data and variables used for analysis.

How Did Rhode Island School Districts Spend ESSER I and ESSER II Funds?

Figure 1 shows the distribution of school expenditure patterns of all 36 school districts in Rhode Island by expenditure function. For ESSER I, because of the COVID-19 outbreak and school closures, a large share of the money was used for health-related equipment or facility improvements (27 percent of the funds were used for personal protective equipment, air filters, HVAC—heating, ventilation, and air conditioning—upgrades, and school nurses) and additional services for helping students and teachers navigate the pandemic (10 percent of the funds were used for student and teacher wellness programs, mental health support, and extracurricular activities). About 32 percent of the ESSER I funds were used for face-to-face teaching and classroom materials from 2020 to 2022; for reference, the nationwide average percentage distribution of elementary and secondary expenditures allocated to instructional costs was 60.4 percent in 2019.⁶

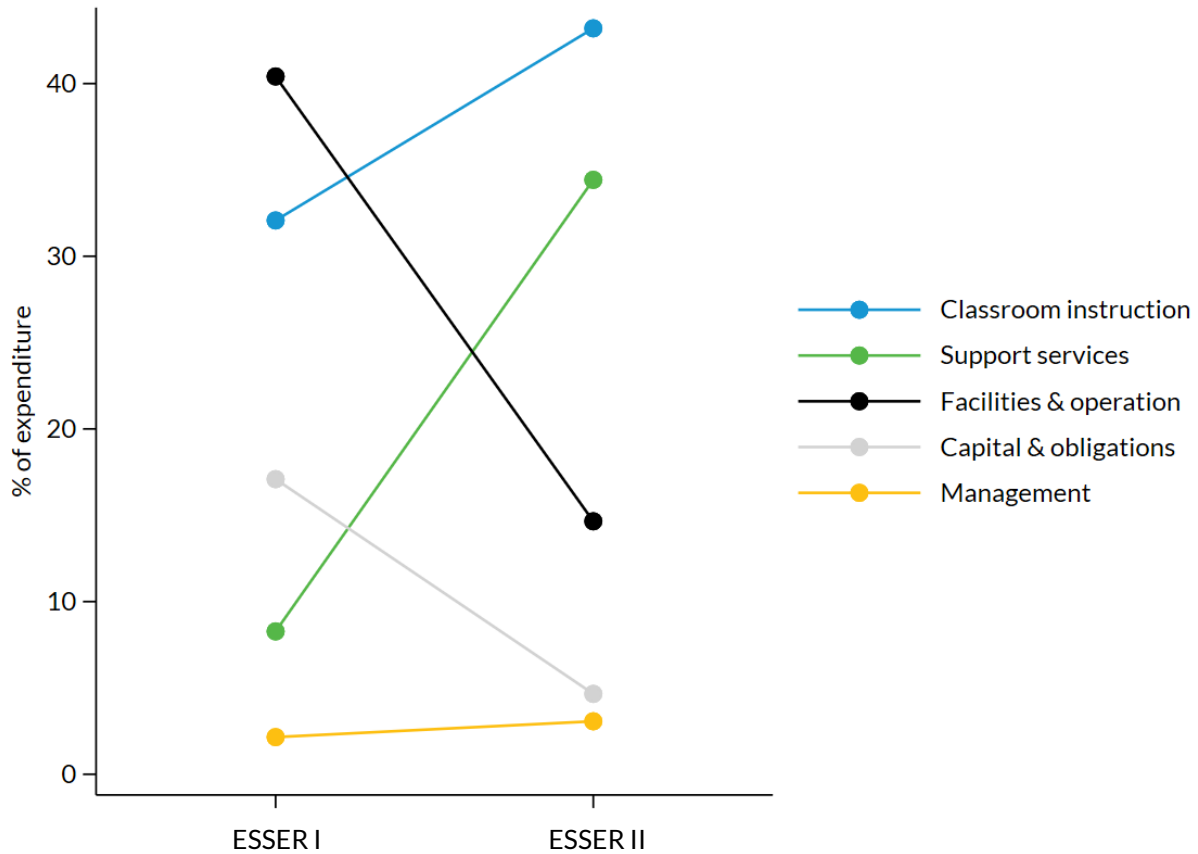
In a subset of districts that faced large, unanticipated revenue declines that resulted from state aid reductions or enrollment declines, the expenditures on teaching mostly went to teacher salaries and compensations. For example, the Providence Public School District (PPSD) noted in its ESSER I application narrative that “PPSD leveraged ESSER funding to continue to employ existing staff (as categorized in salary and fringe expense lines) and to support ongoing cleaning and maintenance of our facilities (as categorized in services line).”⁷

The expenditure patterns in Rhode Island largely shifted to instructional support in ESSER II. ESSER II funds concentrated on classroom instructional needs (43 percent of the funds went toward personnel compensation and benefits, classroom materials, and curriculum supplies, up from 32 percent) and support for teachers and students (34 percent of the funds went toward professional development programs, consultant services, and tutoring services, up from 8 percent), while the percentage distribution on facilities and out-of-district obligations (e.g., supplemental educational services and supplies for participating private schools) largely dropped. Common instructional initiatives in LEAs’ narratives include high-quality instruction (teacher salaries), high-dosage tutoring, expanded learning time, summer learning programs, and targeted investments for improving student and family engagement.

⁶ See Digest of Education Statistics 2021, table 236.20. ESSER I funds can be used by September 30, 2022. In 2020, before school reopening, much of the spending was on virtual learning equipment such as digital devices—most commonly laptops and tablets and hotspots—and online learning resources.

⁷ Schwartz and Bolves noted that PPSD received nearly half of all ESSER I and II funds received by Rhode Island because of its size (more than 16 percent of state public K–12 enrollment), student composition, and level of COVID impact. See Nate Schwartz and Alexander J. Bolves, “[Investing in the Future: How Rhode Island Districts Are Spending Federal COVID-19 Funding and Why It Matters](#)” (Providence, RI: Annenberg Institute for School Reform at Brown University).

FIGURE 1
Expenditure Pattern Shifts from ESSER I to ESSER II



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Source: Author’s calculations based on Rhode Island local education agencies’ ESSER I and II funding applications (open data available from the Rhode Island Department of Education at <https://gms.ride.ri.gov/Default.aspx>).
Note: ESSER = Elementary and Secondary School Emergency Relief.

Did Rhode Island School Districts Vary in How They Spent ESSER I and ESSER II Funds?

In figure 2, I show the distribution of expenditure patterns by function for the 36 public school districts in Rhode Island. For simplification, I sorted the functions into five groups: classroom instruction, support services (for teachers, students, and programs), facilities and operation, capital and out-of-district obligations, and management (at the school, program, and district levels). The figure shows the results for ESSER I and ESSER II expenditures and rank districts by their expenditure patterns separately.

Consistent with figure 1, the overall expenditure patterns shifted from health-related facility improvements and virtual learning-related equipment in ESSER I to instructional support in ESSER II. But districts varied considerably in their expenditure patterns. On average, personnel (in classroom instruction and support services), health (in facilities and operation), and technology (in obligations) were the largest spending categories, but a few school districts spent all their ESSER funding in just one

or two categories. PPSD spent 72 percent of its ESSER I funding on facilities, operations, and business services, such as professional learning, vendor purchases, and COVID supplies. This result is consistent with PPSD’s planned spending, as Schwartz and Bolves documented.⁸ In contrast, Foster, Scituate, North Smithfield, Foster-Glocester, and Little Compton spent all their ESSER I funding on instructional costs, notably in purchases of laptops and tablets and online curriculum for distance learning.

Most school districts spent their ESSER II funds on classroom instruction. Comparing school expenditures under the two waves of COVID relief money, spending on classroom instruction shows the largest correlation—that is, districts that spent more on classroom instruction in ESSER I did the same in ESSER II. Spending in other categories shows smaller correlation or no correlation.⁹ Several school districts still spent more than 40 percent of the funds on facilities, services, or out-of-district obligations. Notable examples are North Providence and Warwick, which spent 35 percent and 44 percent, respectively, on facilities and operations (versus the statewide average 10 percent); they also spent a large share of funding on out-of-district obligations, consisting of additional purchases of laptops and tablets and learning materials, academic recovery programs, and community partners. Smithfield spent 41 percent of its ESSER II funding on management (versus the statewide average 3 percent), including a high school assistant principal of teaching and learning to manage its newly adopted high-quality mathematics and English materials, as well as managing a system to track interventions and services provided within the Multi-Tiered System of Supports model at each elementary school.

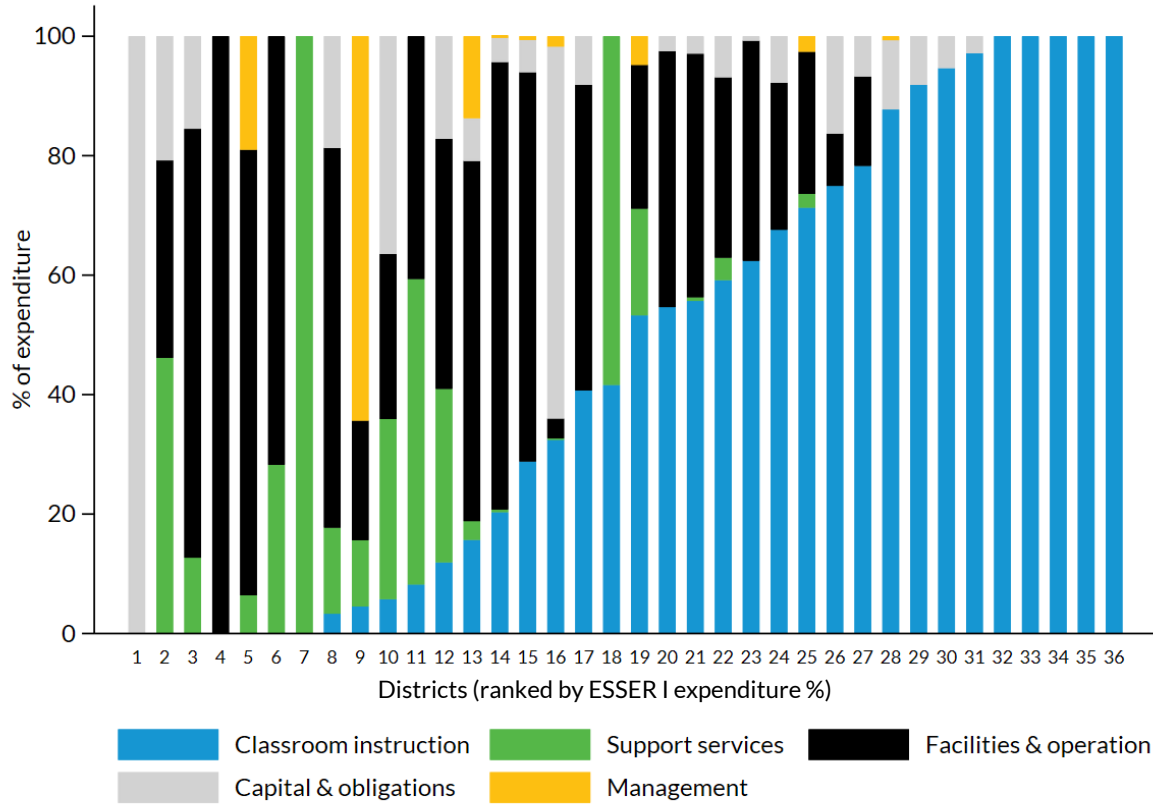
⁸ Schwartz and Bolves, “Investing in the Future.”

⁹ Using district-level observations, correlations are identified by using a bivariate regression between the share spent on each category in ESSER I and that in ESSER II. The coefficients are 0.234, 0.192, 0.065, -0.030, 0.008 for classroom instruction, support services, facilities and operation, capital and obligations, and management, respectively.

FIGURE 2A

District Expenditure Patterns

ESSER I (CARES Act) expenditures

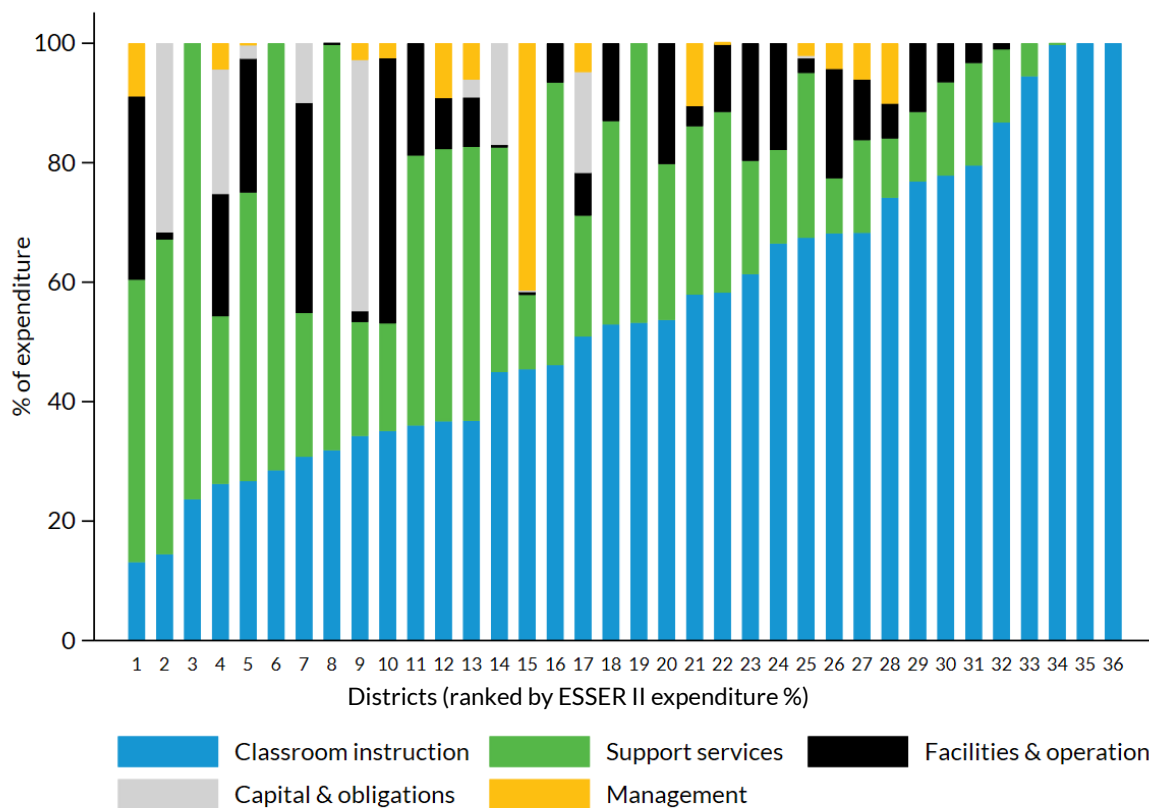


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Source: Author's calculation based on Rhode Island local education agencies' ESSER I and II funding applications (open data available from the Rhode Island Department of Education at <https://gms.ride.ri.gov/Default.aspx>).

Note: CARES = Coronavirus Aid, Relief, and Economic Security; ESSER = Elementary and Secondary School Emergency Relief.

FIGURE 2B
District Expenditure Patterns
ESSER II (CRRSA) expenditures



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Source: Author’s calculation based on Rhode Island local education agencies’ ESSER I and II funding applications (open data available from the Rhode Island Department of Education at <https://gms.ride.ri.gov/Default.aspx>).

Note: CRRSA = Coronavirus Response and Relief Supplemental Appropriations Act; ESSER = Elementary and Secondary School Emergency Relief.

Since state education agencies had to distribute at least 90 percent of ESSER funds based on the Title I formula, the districts with higher shares of high-needs students—that, on average, received more state aid before the pandemic—received more ESSER funding. Those districts also spent more ESSER I funding on backfilling salaries and benefits.¹⁰ This variation is further revealed in LEAs’ narratives. For example, Barrington Public Schools, a high-socioeconomic-status district, allocated its ESSER I funds to “the unanticipated needs and expenses related to COVID” that included digital devices, safety equipment, and individual supplies (e.g., for music, art, and yoga), a majority of which were directed to instruction and learning activities. In contrast, low-socioeconomic-status districts, on average, had

¹⁰ Schwartz and Bolves noted that those districts were also more likely to take on projects aimed at upgrading school facilities such as HVAC systems. See Schwartz and Bolves, “Investing in the Future.”

lower learning-related expenditures in ESSER I. Burrillville Public Schools spent all of its ESSER I funds to replace the loss of state aid. The Central Falls School District used a portion of the funds to backfill salaries and benefits to “not have a year-end deficit and make its last payroll.” The differences between school districts of low and high socioeconomic statuses in their spending on instruction reduced in ESSER II, as most districts turned to focus on classroom teaching, accelerating student learning, and addressing equity gaps in learning opportunities and outcomes.

Were Differences in Local School Spending Associated with Student Learning Outcomes?

The COVID-19 pandemic has had devastating effects on student learning. According to the National Center for Education Statistics (NCES), average scores for 9-year-old American students in 2022 declined 5 points in reading and 7 points in mathematics compared with 2020, which is the largest average score decline in reading since 1990 and the first-ever score decline in mathematics.¹¹ The NCES also documents that high-performing students received greater access to resources, such as remote learning devices and teacher supports. As school districts varied in how they spent the ESSER funding, students may have had differential access to learning resources and thus experienced different degrees of learning loss.

I empirically examined this hypothesis by combining district-level data on ESSER funding and on student statewide standardized assessment results. Because Rhode Island started a new assessment system from the 2017–18 academic year, I used 2017–18 and 2018–19 as prepandemic years and 2020–21 as the postpandemic year.¹² I classified the 36 districts into two groups: districts that spent ESSER I funding on instruction *more than* the statewide median and districts that spent ESSER I funding on instruction *less than* the statewide median.¹³

Figure 3 compares trends in student learning between the two types of districts, before and after the pandemic began. District-level student learning is measured using the share of students meeting or exceeding expectations in mathematics and English in the standardized assessment. The two groups of districts had nearly identical levels and trends in average student learning outcomes before the pandemic.¹⁴

But in districts that spent more ESSER funding on instruction (versus in other categories, such as upgrading school facilities), students experienced less learning loss than their peers in districts that spent less ESSER funding on instruction. The gap is sizable. In math, the raw difference in 2020–21 is 7.5

¹¹ See “NAEP Long-Term Trend Assessment Results: Reading and Mathematics,” The Nation’s Report Card, accessed October 14, 2022, <https://www.nationsreportcard.gov/highlights/ltr/2022/>.

¹² The assessment is held annually in the spring semester in Rhode Island. The assessment in 2019–20 was canceled because of the pandemic.

¹³ Because spending on instruction is highly correlated between ESSER I and ESSER II, results are qualitatively the same when including ESSER II spending.

¹⁴ Some control districts were likely to be low-socioeconomic-status districts, but there were also high-socioeconomic-status control districts that spent less than the state average on instruction.

percentage points while the raw difference in 2018–19 is only -0.6 percentage points; in English, although the raw difference in 2018–19 is also -0.6 percentage points, it increases to 2 percentage points in 2020–21. These postpandemic differential gaps are equivalent to more than half the drops of statewide proficiency rates in Rhode Island.

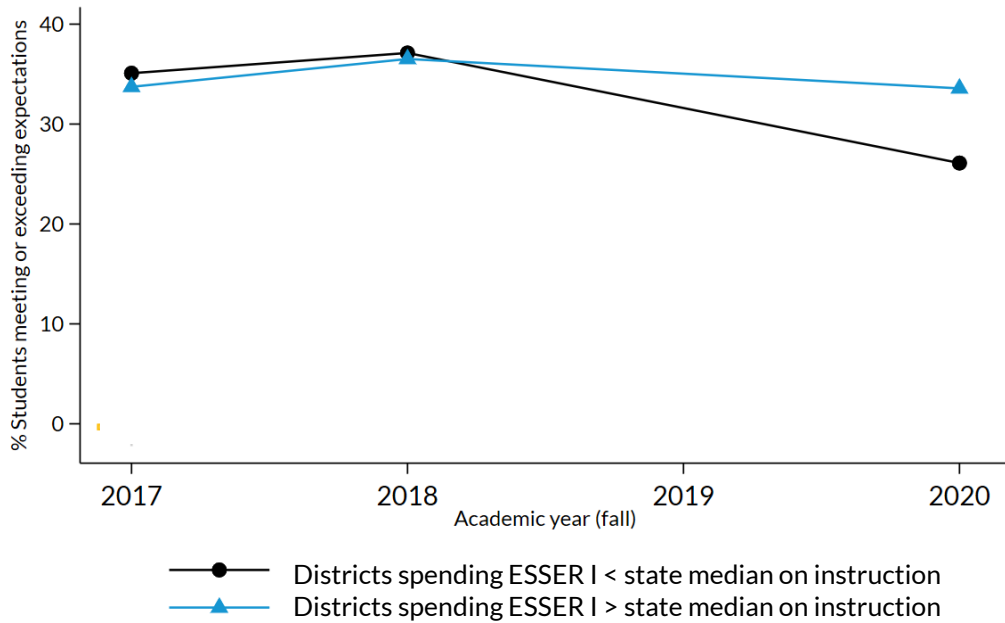
These differences in learning loss could be the result of other differences in how the pandemic affected the two groups of schools, such as the fact that schools spending more on instruction were less likely to enroll high-need students. But the results of a more sophisticated difference-in-differences model that controls for several district characteristics are consistent with the raw data.¹⁵ Additionally, I found that economically disadvantaged students experienced larger gaps in learning loss between the two types of districts; in other words, in districts that spent less ESSER funding on instruction, low-income students experienced greater learning loss.

This evidence is suggestive of spending patterns affecting student learning, but other district-level policies, interventions, and resources may explain these results. Future work is needed to further identify the impacts of school expenditures during the pandemic on student learning outcomes.

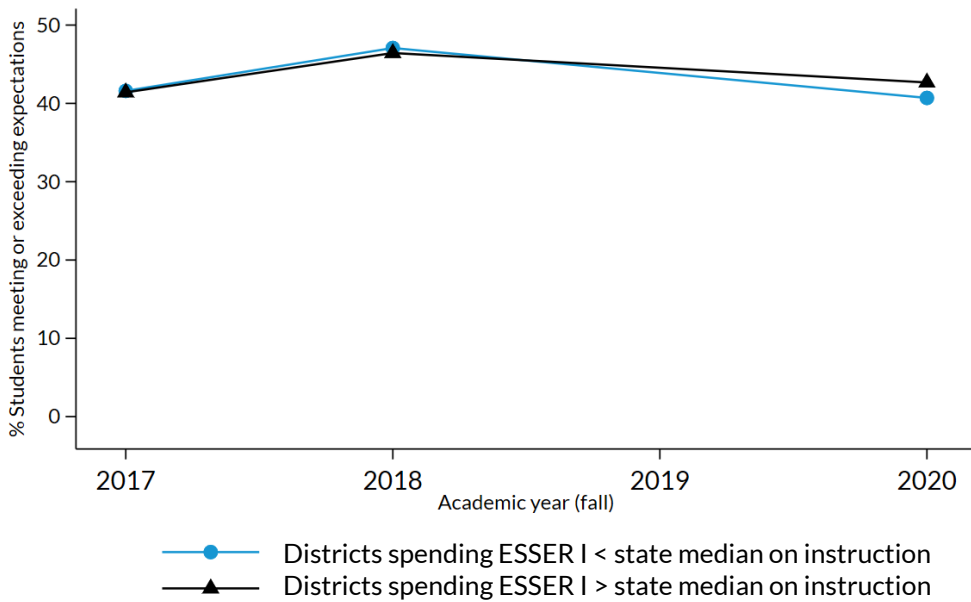
¹⁵ See the appendix for details.

FIGURE 3
ESSER Spending Patterns and Student Learning Loss

Math



English language arts



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Source: Author’s calculation based on Rhode Island local education agencies’ ESSER I and II funding applications (open data available from the Rhode Island Department of Education at <https://gms.ride.ri.gov/Default.aspx>), CCD data (open data available at the Urban Institute’s Education Data Portal at <https://educationdata.urban.org/>), and state test data (open data available at “Assessment Results,” Rhode Island Department of Education, accessed October 19, 2022, <https://www.ride.ri.gov/instructionassessment/assessment/assessmentresults.aspx>).

Note: CCD = Common Core of Data; ESSER = Elementary and Secondary School Emergency Relief.

Policy Implications: Equitable School Expenditures for Equitable Student Outcomes?

The ESSER Fund is a uniquely large-scale intergovernmental transfer program promoting student health and academic success,¹⁶ but its success depends on how local school districts use the money.

Importantly, school districts have considerable flexibility in how they use ESSER funds and are largely driven by their financial situations to pursue different expenditure plans. During the pandemic, the schools that went fully remote were, on average, financially better off than their in-person counterparts in the same state.¹⁷ Similarly, in Rhode Island, high-socioeconomic-status school districts were more likely to be able to spend the ESSER funds on promoting equitable distance learning opportunities, while low-socioeconomic-status school districts were still compensating for school revenue losses. For example, the Central Falls School District identified a need to purchase at least 1,500 devices but were able to purchase only 307 at first, as the district used a portion of the funding to backfill personnel expenditures. These differential expenditure patterns would likely produce different impacts on students and schools. In a simulation study, Gordon and Reber find significant district-level variation in simulated net fiscal impacts of the ESSER funds.¹⁸

The evidence in this essay suggests that students in districts that spent more ESSER funding on instructional activities had less learning loss than students in districts that spent more on other activities and tasks. This result speaks to literature that documents the importance of instructional expenditures,¹⁹ which might be even more important during the pandemic. In reviewing how Tennessee spent the relief money, Evans concluded that “even though education spending has continued to increase year over year, too many of those tax dollars simply did not make it to teachers and into the classrooms serving students”²⁰; Evans recommended a new weighted student funding formula to “direct funding for necessary interventions more specifically to the students and schools that need them.”²¹

¹⁶ Nora Gordon and Sarah Reber, “Federal Aid to School Districts during the COVID-19 Recession,” *National Tax Journal* 73, no. 1 (September 2020), <https://doi.org/10.17310/ntj.2020.3.07>.

¹⁷ Corey DeAngelis and Christos Makridis, “Are School Reopening Decisions Related to Funding? Evidence from Over 12,000 Districts during the COVID-19 Pandemic” (New York: SSRN, 2021), <http://dx.doi.org/10.2139/ssrn.3799694>.

¹⁸ Nora E. Gordon and Sarah J. Reber, *Were Federal COVID Relief Funds for Schools Enough?* (working paper, National Bureau of Economic Research, Cambridge, 2021).

¹⁹ C. Kirabo Jackson, “Does School Spending Matter? The New Literature on an Old Question,” in *Confronting Inequality: How Policies and Practices Shape Children’s Opportunities* (Washington, DC: American Psychological Association, 2020), 165.

²⁰ Victor Evans, “Combating Learning Loss: How Tennessee Is Spending COVID-19 Relief Money” (Washington, DC: American Enterprise Institute, 2022).

²¹ A recent legislative change in Rhode Island’s funding formula resulted in some school districts losing state funds. See Tamara Sacharczyk, “Some Rhode Island School Districts Lose State Funds Due to Legislative Change,” WJAR NBC 10 News, July 7, 2022, <https://turnto10.com/news/crisis-in-the-classroom/smithfield-barrington-east-greenwich-school-district-state-aid-school-funding-formula-fiscal-year-2023-budget-general-assembly-house-finance-committee>.

Money matters, but spending money effectively is more important.²² More than two years have passed since March 2020. Although more districts and schools are spending ESSER funding on teaching and learning, many of them may also face the challenges of spending the money on hiring or purchases. For example, in Massachusetts, school districts had spent less than 30 percent of the total funds as of June 2022 because of a teacher supply shortage and supply chain problems.²³ How best to target ESSER funding on activities that support either classroom or remote learning for all students, especially disadvantaged students and their teachers, remains a challenging but crucial task for school districts to continue expanding equitable access to educational opportunities.

Appendix

Data

I combined an original database of LEAs' ESSER funding applications, accessed through the Rhode Island Department of Education, with school district information from the Common Core of Data, accessed through the Urban Institute's Education Data Explorer. The ESSER funding application data include itemized expenditures and detailed narratives. The narratives correspond to the expenditure items and describe how the LEAs chose to use funds to address the unanticipated needs and expenses resulting from or relating to the impact of COVID-19 since March 13, 2020, and to accelerate students' academic learning and social-emotional wellness.²⁴ LEAs must submit such local applications with the state education agencies to receive the ESSER funds.

Based on the *Financial Accounting for Local and State School Systems* handbook published by the NCES, I classified school expenditures by function and by object. The function classification summarizes how school districts spent the ESSER funds on different tasks and duties, such as instruction, support, operation, and facilities, that best describes how school districts allocate the ESSER funds between in-person schooling and remote learning. The object classification summarizes the variations between school districts in how they spent ESSER funds on personnel (e.g., teacher salaries and benefits).

To measure district characteristics, I also created two district-level variables from the Common Core of Data: the students who are of a race or ethnicity other than white or Asian in K-12 public school enrollment in 2020, and the share of total school revenue that was from state revenue in 2017 (the most recent available year). Moreover, to examine student outcomes, I used district-level data on the Rhode Island's state assessment results, which were recently released for the 2020-21 academic year, the first available year after the COVID-19 outbreak. The data included assessment results in English

²² David S. Knight, Nail Hassairi, Christopher A. Candelaria, Min Sun, and Margaret L. Plecki, "Prioritizing School Finance Equity during an Economic Downturn: Recommendations for State Policy Makers," *Education Finance and Policy* 17, no. 1 (Winter 2022): 188, https://doi.org/10.1162/edfp_a_00356.

²³ "Mass. Schools Have Spent Less Than 30% of Federal COVID Relief Funds: Report," News 10 Boston, last updated July 11, 2022, <https://www.nbcboston.com/news/local/little-of-covid-funding-spent-by-mass-schools/2768439/>.

²⁴ See <https://gms.ride.ri.gov/>.

and mathematics in grades 3 through 8 by grade and student group. The analytical sample is restricted to 36 traditional public school districts in Rhode Island.

Difference-in-Differences Analysis

I used a generalized difference-in-differences model to formally identify the impacts of differential ESSER spending patterns on student learning:

$$Y_{it} = \beta_1 * Treatment_i * Year\ 2017_t + \beta_2 * Treatment_i * Year\ 2020_t + \gamma * X_{it} + \delta_i + \theta_t + \varepsilon_{it}$$

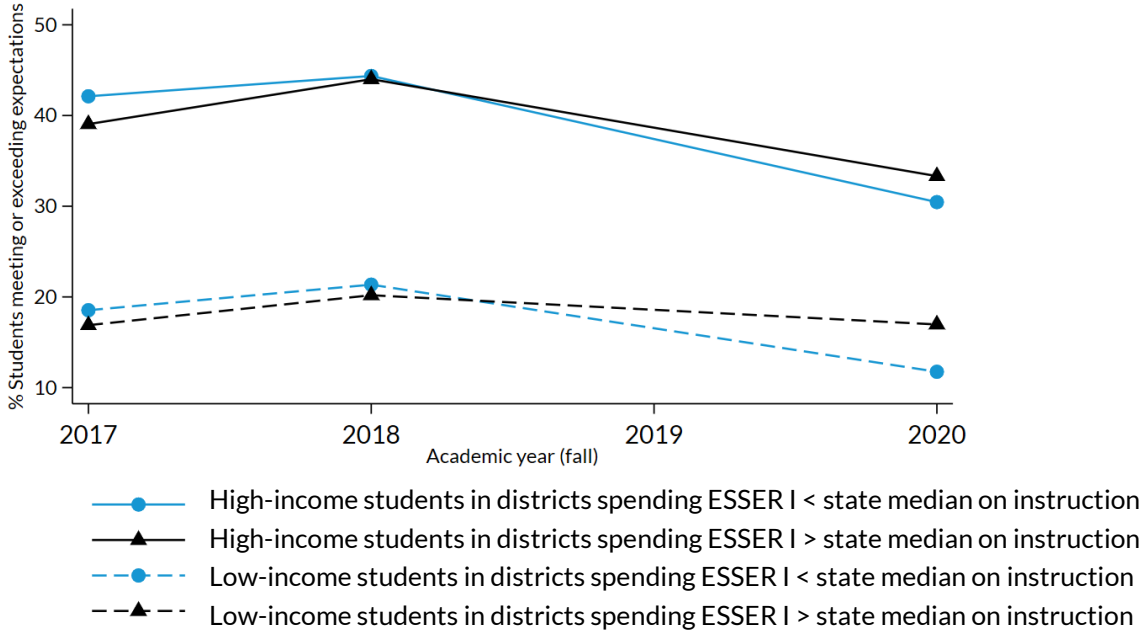
where Y_{it} is the share of students meeting or exceeding expectations in the state assessment in math or English for district i in year t . $Treatment_i$ is an indicator for districts that spent ESSER I funding on instruction *more than* the statewide median. $Year\ 2017_t$ and $Year\ 2020_t$ are indicators for the academic years 2017–18 and 2020–21. The year 2018–19 is omitted as the reference group. X_{it} includes a set of time-varying district-level covariates, including number of students tested and share of students tested, as well as linear trends of baseline values (in 2017–18) in the share of minority students and the share of school spending from state aid. δ_i and θ_t control for district fixed effects and year fixed effects. Standard errors are clustered at the district level.

The estimates shown in figure 3 are consistent with the raw differences. The two groups of districts did not statistically significantly differ from each other in average student performance before the pandemic but had substantial gaps in student performance after the pandemic began, with a larger gap in mathematics. In figure A.1, I further broke down the average performance of all students within a district into low-income and high-income students, classified by the Rhode Island Department of Education. We see similar trends in both groups of students. Economically disadvantaged students experienced larger gaps in learning loss between the two types of districts; that is, in districts that spent less ESSER funding on instruction, low-income students experienced greater learning loss.

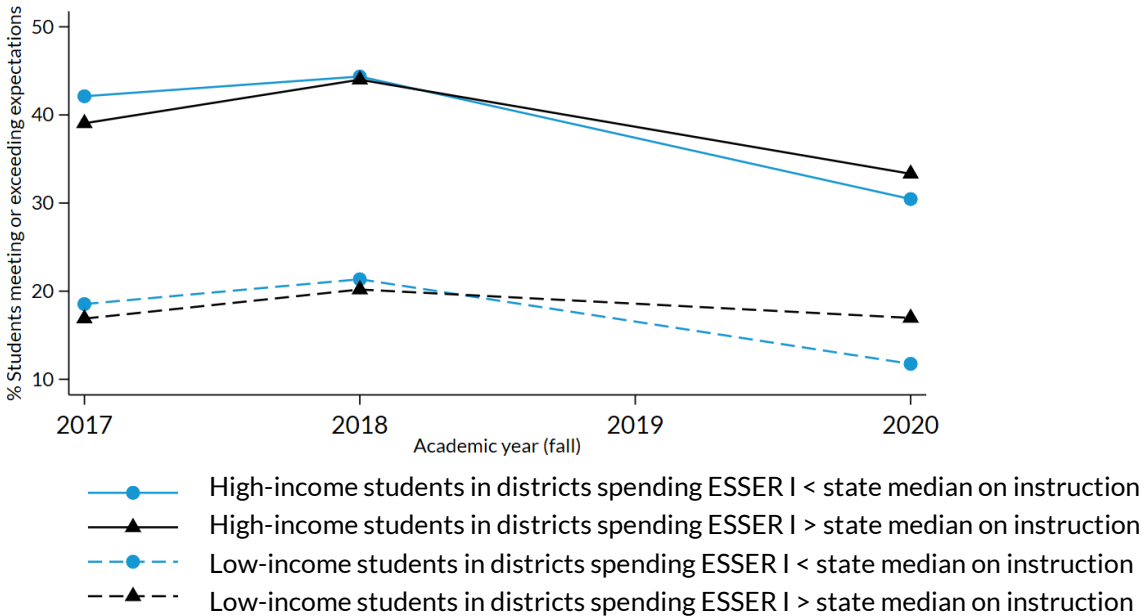
FIGURE A.1

ESSER Spending Patterns and Student Learning Loss between Low-Income and High-Income Students

Math



English language arts



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Source: Author’s calculations based on Rhode Island local education agencies’ ESSER I and II funding applications (open data available from the Rhode Island Department of Education at <https://gms.ride.ri.gov/Default.aspx>), CCD data (open data available at the Urban Institute’s Education Data Portal at <https://educationdata.urban.org/>), and state test data (open data available at “Assessment Results,” Rhode Island Department of Education, accessed October 19, 2022, <https://www.ride.ri.gov/instructionassessment/assessment/assessmentresults.aspx>).

Note: CCD = Common Core of Data; ESSER = Elementary and Secondary School Emergency Relief.

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Acknowledgments

This essay was funded by the Walton Family Foundation and the Bill & Melinda Gates Foundation as part of the Learning Curve essay series. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission.

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The author thanks Susanna Loeb, Nate Schwartz, and Alexander J. Bolves for valuable suggestions.



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