State And Local Funds Distributed To Higher Poverty Schools

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Foreword

In November 2017, the Education Assessment and Accountability Review Subcommittee directed the Office of Education Accountability to examine how state and local funds are distributed to schools in Kentucky. This study examines whether higher poverty schools spent more state and local funds than lower-poverty schools. In addition the study reviews district staffing policies, how state and local funds are allocated by districts to schools, other states' measures of poverty, and student outcomes of students who live in persistent poverty.

Staff would like to thank Kentucky superintendents and district staff for their time and assistance in responding to the survey for this study.

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Summary

Since, the Kentucky Education Reform Act was passed in 1990, the General Assembly has sought to address the achievement gap in Kentucky schools. KRS 157.310 states that it is the intention of the General Assembly to assure substantially equal public school educational opportunities for all students in attendance in the public school of the commonwealth, KRS 158.6451 declares that schools shall expect a high level of achievement of all students, and KRS 160.1591 declares that reducing achievement gaps in Kentucky is necessary for the state to realize its workforce and economic development potential. Research suggests that students who live in poverty do not perform as well as students who are not living in poverty.

Schools with higher-poverty students require more resources to improve their student outcomes. In addition, literature describes how students who grow up living in persistent poverty tend to have greater academic deficiencies than those who do not grow up in persistent poverty. The study examined student level data and determined that students who qualified for free or reduced-price lunch (FRPL) each year between 3rd- and 8th-grade were considered to be in persistent poverty. This report examined the outcomes of 8th-graders living in persistent poverty and their performance to 8th-graders who were not living in persistent poverty. There were 19,180 8th-graders living in persistent poverty. Their math proficiency rate was less than half the rate of students that never qualified for FRPL and their reading proficiency rate was 35.5 percent lower. In Kentucky, 72 districts have 50 percent or more of their 8th-graders living in persistent poverty.

Kentucky's state and local funding formula for districts, Support Education Excellence in Kentucky funding (SEEK), provides extra funds for students considered to be living in poverty because they qualify for the federal free lunch program. Districts are not, however required to take student poverty into account in the allocation of district funds to individual schools. While the difference in school poverty rates among schools is relatively small in many of the state's districts, others have stark differences in FRPL eligibility rates between their highest- and lowest-poverty schools; in one district the difference in FRPL eligibility rates is 87 percent.

While some districts elect to allocate more funding to higher-poverty schools, many do not. This study examines district policies related to the allocation of state and local funds to individual schools. It also analyzes state- and district-level expenditures in higher- versus lower-poverty schools. The study finds that, on average, expenditures are greater in the states' higher- versus lower-poverty schools, but this is not true in many Kentucky districts.

The majority of district general fund revenue is distributed to schools through staffing allocations that are based on pupil/teacher ratios as defined in regulation or district policy. The study finds that, while the majority of Kentucky districts (70 percent) have staffing allocation policies that go beyond the minimum requirements in regulation, only six Kentucky districts have staffing policies that take student poverty into account in the distribution of funds.

^a The SEEK formula also provides additional funds for students have an individual learning plan and for students who are limited English proficient. This report focuses exclusively on allocation of funds for FRPL students.

Districts can also support higher-poverty schools with undistributed revenue, or Section 7, funds which remain after districts budget for district-wide expenses, staffing allocations, and contingencies. Section 7 funds can be distributed based on schools' needs as indicated in school or district comprehensive planning documents. These needs might include additional academic support for students living in poverty. Less than half of Kentucky districts elected to distribute Section 7 funds to schools in 2017. There is no cap in Kentucky on the amount of district revenue that can be held in contingency. Districts held almost \$975 million dollars or 19.2 percent in fund balance for 2017. By allocating more money to the contingency fund, districts allocate less Section 7 funds to schools.

While average spending statewide is greater in higher- versus lower-poverty schools, the same does not always hold true within Kentucky districts. Of the districts with more than one school at the elementary and middle school levels, fewer than half (about 40 percent) have per-pupil expenditures that are greatest at the highest-poverty school, whereas more than half (60 percent) of districts that have more than one high school spend more at the highest-poverty high school.

Like Kentucky, several states fund districts using a weighted formula, however schools in Kentucky are not funded the same way. In order to provide equitable distribution of funds based on student needs, some districts across the nation are starting to change how they allocate funds to schools. One method of distributing funds to schools is based on a weighted student formula (WSF). This type of formula gives each student a base funding amount based on grade level and then will have an additional amount for each student qualifying for FRPL, special education, limited English proficient, gifted and talented, or taking vocational educational classes. In addition, some WSF formulas will include additional funds for students who are off track to score proficient or have poor academic performance.

While Kentucky uses a WSF to fund districts, schools within districts are not funded in this manner. Districts across the United States have been moving toward a WSF distribution for their schools. In 2011, Boston Public Schools started funding their schools based on weights given to pupil characteristics. Baltimore, Indianapolis, New Orleans, and Cincinnati have also started using a similar school funding mechanism.

Using a WSF, schools are able to use the additional resources for staffing and materials that best meet the needs of their students. Using a WSF at the school level also increases the likelihood of the highest need schools receiving more funds than the lower need schools in each district.

The intent of the SEEK funding formula is to equalize funding between high- and low-poverty districts. Districts currently receive additional funds for students qualifying for free lunch, with different levels of disabilities, and for students who have limited English proficiency. While there is great variation in poverty between districts, there is also a great deal of variation within districts. If the intent of the SEEK formula is to ensure students from at-risk backgrounds receive more education funding, Kentucky may want to consider adopting a WSF model at the school level.

Recommendation and Finding

Finding 2.1

School level expenditures are inconsistently coded across school districts and preschool students are not counted in membership totals on the school report card when calculating expenditure results.

Recommendation 3.1

The General Assembly may wish to revisit how districts allocate funds to schools and consider switching to a Weighted Student Formula (WSF) that would provide funds based on the number of students enrolled by grade and those students' needs.

Chapter 1

Introduction And Overview

In the United States poverty is defined based on the amount of income that is available in each household.^a A household could be a single family or include family members and unrelated individuals. Children living in poverty may experience unstable home environments, drop out of school, have impediments to learning, and have poor health, behavioral, and emotional issues.

Kentucky has a high number of persistent poverty counties. Persistent poverty counties are counties in which 20 percent or more of the population has lived in poverty since the 1990 Census. Wolfe County had the highest rate of persistent poverty at 43 percent. Owsley County had the highest decrease in poverty since 1990. The percent of Owsley County residents living in poverty has decreased from 52.1 percent in 1990 to 37.9 percent in 2015. Appendix A includes a list of the 44 Kentucky counties currently labeled as persistent poverty counties.

For this study, the Office of Education Accountability (OEA) sent a survey to all 173 Kentucky school districts. One superintendent discussed the impact of persistent poverty on his district. He stated:

[My district] is in a persistent poverty county and in everything we do, we understand the challenge of poverty and diversity and so we do over-staff and increase SBDM funding to assist in our fight against poverty. By changing our focus in funding, it has assisted in providing necessary funding that has provided higher achievement data including [my district] being a proficient district and [the high school] being a distinguished school.

Due to the lack of household income available at the student level, OEA used free or reduced-price lunch (FRPL) data to measure poverty. While it may overestimate poverty, FRPL is a commonly used measure of poverty in education.

^a The 2017 poverty guideline for eligibility in 2018 for a family of four is \$24,600.

^b A student who lives in a household with an income at or below 130 percent of the poverty income threshold is eligible for free lunch and students living in households with an incomes between 130 percent and 185 percent of the poverty threshold are eligible for reduced-price lunch.

In 2010-2011, the National Center for Education Statistics reported that Kentucky's FRPL eligibility rate was 56.6 percent. Kentucky's FRPL rate was 8.5 percent higher than the national average of 48.1 percent. More than 56 percent of students attending kindergarten through 12th grade received free lunch in Kentucky public schools in the 2016-2017 school year. In addition, almost 5 percent of students received reduced-price lunch.

Research suggests that children growing up in poverty have an increased chance of being chronically absent, do worse on standardized tests and require more educational resources to improve outcomes in school and later in life. ^{1,2} This report examines state and local funds distributed to schools and determines if districts allocate a larger portion of these funds to higher poverty schools in Kentucky.^c

This report also examines the percent of students by district who are living in persistent poverty and the association of persistent poverty with students' reading and math proficiency on Kentucky Performance Rating for Educational Progress (K-PREP) examinations. In addition, a statistical model was used to control for other variables such as gender, race, students with disabilites and limited English proficiency.

The Kentucky Education Reform Act (KERA) was passed in 1990. Support Excellence in Education in Kentucky (SEEK) funding was created as part of the Act. The SEEK funding formula includes extra funding to districts for students who are eligible for the free lunch program; this is referred to as "at-risk funding." The at-risk funding factor is an additional 15 percent of the SEEK guaranteed base funding per at-risk student.

The federal Every Student Succeeds Act (ESSA) requires districts to publicly report per-pupil spending for the previous fiscal year starting with the 2019-2020 school report card. While Kentucky has already been reporting student level spending on school report cards, ESSA requires that the per-pupil spending be more detailed and include what portions of the spending comes from federal, state and local sources. In addition, ESSA requires school report cards to list the amount spent on salaries and benefits versus non-personnel expenses, such as textbooks and classroom supplies.

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^c Federal funds are excluded from this report because those funds are targeted funds for supplemental services to specific groups of children as those in poverty, students with disabilities and English language learners.

Study Objectives And Methodology

Study Objectives. In November 2017, the Education Assessment and Accountability Review Subcommittee requested that the Office of Education Accountability examine how state and local funds are distributed to schools in Kentucky. The study agenda directed OEA to

- describe how poverty is defined in Kentucky and determine what other ways of measuring poverty are being utilized;
- determine whether staffing policies, approved by local boards of education, provide additional state and local funds to schools that have more students living in poverty;
- describe how schools are using section 7 funds that they receive for higher poverty students if they are receiving those funds from their district;
- determine whether districts spend more state and local funds on higher poverty schools compared to lower poverty schools; and
- describe how poverty is structured differently across Kentucky counties and the impacts of persistent poverty on student outcomes.

Data Used For This Study

In carrying out the study agenda, OEA staff reviewed state statutes, regulations, and board polices related to the distribution of state and local funds. Staff also conducted a survey of all Kentucky district superintendents and asked that documentation be sent to OEA. The survey received a 98 percent response rate. Appendix B includes a copy of the survey.

Staff also relied upon data from the Kentucky Department of Education (KDE). Data from KDE included:

- financial data from the MUNIS financial software,
- membership data from preschool enrollment,
- the Superintendents Annual Attendance Report (SAAR) for FY 2017,
- students' 2017 8th-grade K-PREP scores, and
- students' FRPL data.

Unless otherwise noted, school- and district-level data in this report include only Kentucky public school students enrolled in A1 elementary or secondary schools for which student outcomes are

reported in the state's accountability system.^d This report refers to school years (SY) by the year in which the school year ends. For example, the 2016-2017 school year is called the 2017 school year or SY 2017.

Methodology For Quartile Analysis. An analysis of the amount spent per pupil by school poverty quartile was conducted:

- Schools were sorted by the percentage of FRPL students.
- Schools were divided into four quartiles so that each quartile had approximately the same number of students.
- Schools were grouped by education levels of elementary, middle and high.
- OEA calculated the average state and local expenditures in the General Fund (Fund 1) and Special Revenue Fund (Fund 2) per student across all schools in each quartile.
- OEA compared the state and local revenue per student in the highest and lowest FRPL quartiles.

Methodology For Measuring Effects Of Persistent Poverty. An analysis was conducted on the reading and math proficiency rates of 8th-graders based on the number of years students received FRPL. In addition, ordinary least square regression models were used to examine the potential relationship between persistent poverty and student proficiency on math and reading K-PREP exams. The models control for several variables, including gender, LEP, special education status, race/ethnicity, and previous K-PREP proficiency.

Organization Of The Report

The remainder of Chapter 1 includes the major conclusions, followed by relevant statutes and regulations related to the distribution of funds to districts and schools. The chapter concludes with a summary of how poverty is measured in other states.

Chapter 2 describes how state and local funds are distributed to schools. In addition, the chapter reviews local board of education school staffing policies. These analyses include pupil/teacher ratios and discusses the additional funds districts distribute to schools through the Section 7 allocation process.

^d A1 schools are those not operated by or as part of another school. Examples of schools that are not A1 schools are alternative schools or career and technical schools.

^e This calculation included preschool students through secondary education.

Chapter 3 examines whether districts are spending more state and local funds on their highest poverty schools and also looks at the association between persistent poverty and student proficiency. In addition, data is provided on the number of students on FRPL over a six year cycle by district. The chapter concludes with a discussion of the ESSA pilot program on equitable per-pupil funding and concerns with the current school allocation process.

Major Conclusions

- 1. The SEEK funding formula provides districts extra funds for at-risk students; however, districts are not required to allocate these funds to schools based on at-risk membership.
- 2. Only six district staffing policies include funds for schools based on poverty.
- 3. Approximately 70 percent of districts provided classroom teacher allocations above the student/teacher ratios required by law in SY 2017.
- 4. Districts that provided schools classroom teacher allocations above the state minimum allocated more Section 7 funds than districts that provided schools classroom teacher allocations at the state minimum.
- 5. Schools within a district vary greatly in the percent of students qualifying for FRPL. One district had a school with an FRPL rate of 8.6% and another school with an FRPL rate of 95.5%.—a range of 86.9%.
- 6. Statewide, average per-pupil expenditures of state and local funds are greater at every school level in the state's highest-versus lowest-poverty schools; the same does not hold true among schools in individual districts.
- 7. Of the districts with more than one school at each level, the percent in which expenditures of state and local funds were greatest at the highest-poverty school was 40 percent at the elementary school level, 39 percent at the middle school level, and 60 percent at the high school level (Only 25 districts have more than one high school).
- 8. There were 28 districts in Kentucky that had 60 percent or more of their 8th-grade students qualifying for FRPL each year between 2012 and 2017.
- 9. In 2017, the 8th-grade reading and math proficiency rates for students who qualified for free or reduced-price lunch each year was approximately 35 percent lower than for students who had never qualified for free or reduced-price lunch between 3rd and 8th grade.

Statutes And Regulations

Table 1.1 contains a list of relevant statutes and regulations, pertaining to the allocation of state and local funds to schools with a brief description of each.

Table 1.1
Statutes And Regulations Related To State And Local Funding

Statute Or Regulation	Summary
KRS 156.496	Discusses design, core components, location, and grant program for
	family resource and youth services centers.
KRS 157.360	Discusses base funding and how adjustments will be made by the General Assembly. Also establishes the maximum number of pupils enrolled in a class in primary and secondary schools and the allotment of program funds.
KRS 158.6453	School report card requirements that include student academic achievement, nonacademic achievement, school learning environment and other school performance data required by the Everyone Student Succeeds Act of 2015, or its successor. Starting in 2018-2019 school year, districts will report per-pupil spending by school and must include the amount of money spent on staff versus other expenses and what proportion of that spending comes from federal, state, and local sources.
KRS 158.792	Establishes the reading diagnostic and intervention fund to help teachers and library media specialists improve reading skills in the primary program. Furthermore, directs how grants shall be allotted for the reading intervention programs, the administrative regulations to be followed, and that an annual report on use of grant funds and costs of intervention programs be submitted to the Interim Joint Committee on Education no later than September 1 of each year.
KRS 160.345	Establishes that each local board of education shall adopt a policy for implementing school-based decision making (SBDM).
702 KAR 3:246	Establishes the school council allocation formula.
702 KAR 3:250	Establishes and sets the requirements for preschool grant allocations.
703 KAR 5:140	Further defines the requirements for school and district report cards.
704 KAR 3:390	Defines the extended school services program including the
	instructional programs to be created, student selection, and funding. Furthermore, it defines how the programs will be evaluated by the Kentucky Department of Education.

Source: Staff compilation of material from Kentucky Revised Statutes and Kentucky Administrative Regulations.

Poverty Funding Measures Across The Nation

A 2016 study conducted by the Education Commission of the States found that policymakers in 43 states plus the District of Columbia provide additional funding to school districts for at-risk students. There are 23 states and the District of Columbia that distribute at-risk student funding through their state's primary funding formula and 20 states that distribute at-risk student funding through grant programs outside of their primary funding formula. The eight states that are not listed in the appendix include Alaska, Delaware, Idaho, South Dakota, and West Virginia. Those states currently do not have programs funding at-risk students. Kansas is currently using a block grant system to fund K-12 education, but this system was found unconstitutional by the Kansas Supreme Court. Therefore, a new system is currently being drafted by the Kansas General Assembly. Pennsylvania, is also transitioning to a new funding formula, which, when fully implemented, will provide funding for economically disadvantaged students. Wisconsin has a program for at-risk children in statute, but the program is currently unfunded.³

States vary in the method by which they identify at-risk students. Kentucky and Arkansas provide two different examples of how of at-risk student funding is determined. Kentucky provides an additional weight of 0.15 in its formula for students who receive free lunch based off the National School Lunch Program. Therefore, at-risk students receive an additional 15 percent more funding than their classmates who have not been identified as at-risk students. Arkansas uses a categorical program to fund at-risk students, which provides funding to districts on a sliding scale based on the percentage of students who qualify for the National School Lunch Program; the higher the percentage of students who qualify, the more money the school receives per economically disadvantage student.

While a majority of states (35) identify at-risk students by their eligibility for the National School Lunch Program, 5 states only provide funding based on whether a student is eligible for "free" lunch under the National School Lunch Program. Other methods include providing funding to schools based unsatisfactory academic performance (six states). Oregon bases its funding on the U.S. Census Bureau's Small Area Income Poverty Estimate, which is a statistical model that estimates poverty in small population sizes such as the Oregon school districts, and Vermont uses the Supplemental Nutrition Assistance Program but has adjusted the

f There is no additional funding for reduced-price lunch students.

federal amount to include more students.⁴ At-risk funding by state can be found in Appendix C.



Chapter 2

State And Local Funding Formulas

Introduction

This chapter describes the major sources of state and local revenue that flow to districts for at-risk students and analyzes how districts take poverty into account in allocating funds from those revenue streams to individual schools within the district. Responses to the OEA survey show only a small minority of districts have policies or practices that systematically take school poverty levels into account in the allocation of state and local funds.

The chapter is divided into two sections. The first section examines how districts allocate money from the General Fund, which contains the additional SEEK funding associated with at-risk students. The second section examines how districts allocate funds from state and local grants that are specifically intended to serve at-risk students.

Through Title I and other programs, many districts receive substantial federal funding for students living in poverty. Based on federal regulations, the majority of those funds are distributed to schools, not districts. Because those funds are regulated at the federal level, they are not included in this report.

General Fund -SEEK

District Revenue

Districts' primary source of funding from the state comes from the SEEK funding program. One major component of SEEK is the base SEEK funding amount, which is often referred to as the perpupil guaranteed base. The per-pupil guaranteed base funding amount is set by the General Assembly during the budget process. The per-pupil guaranteed base is a combination of both state and local dollars. The per-pupil guaranteed base amount in FY 2017 was \$3,981.00.^b

^a The General Fund is also referred to as Fund 1.

^b Other components of the SEEK funding formula include a calculation for transportation funding, Tier 1 and Tier 2 funding, and additional funds for districts that raise tax revenues above the minimum required local effort. In addition, the formula has a January growth factor and gives districts \$100 per student based on average daily attendance for capital outlay purposes.

Since the inception of the SEEK funding formula in SY 1991, Kentucky has included an at-risk add-on or additional weight for students living in poverty. This calculation is based on the prior year average daily membership of students in each school who qualify for free lunch under the National School Lunch Program. The average daily membership is multiplied by 15 percent of the base amount. Table 2.1 shows the at-risk funding calculation for a sample district.^c

Table 2.1
Sample SEEK At-Risk Calculation
FY 2017

Guaranteed Base for SY 2017	\$3,981
At-Risk Weight Factor	$\times 0.15$
Prior Year 8-Month Average Free Lunch	× 1,225
Total At-Risk Add-On Amount	\$731,508.75

Note: Prior Year 8-Month Average Free Lunch= prior year average daily membership of students in each school who qualify for free lunch under the National School Lunch Program.

Districts also receive additional SEEK funding for limited English proficiency students, special education students, and students receiving home or hospital instruction in accordance with KRS 157.360.

While districts receive add-ons for specific types of students, the current law does not specify whether or how funds from the add-ons should be passed on to schools that are educating those students. KRS 157.360(2)(a) states that districts may use SEEK funds for at-risk students to pay for alternative programs for students who are at risk of dropping out and a hazardous duty pay supplement to teachers who work in alterative programs with students who are violent or assaultive.

Allocation Of District Funds To Schools

School-Based Decision Making (SBDM) councils were created during the 1990 legislative session as part of the KERA reform. Local school boards must have a policy for implementing school-

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^c If an at-risk student had perfect attendance for 2017, the district would receive an additional \$597.15 for that at-risk student. If an at-risk student had 90% attendance, the district would receive an additional \$537.44 for that at risk student.

based decision making according to KRS 160.345. KRS 160.345 includes council membership requirements and describes how SBDM councils determine the number of staff to be employed in each job classification once the district has provided them with their funding allocation for the next year. There are three ways a school can be exempt from implementing an SBDM councils in their A-1 school:

- It is the only school in its district.
- The school is performing above its achievement goals and the majority of the staff in that school vote not to have an SBDM council.
- The school is a priority school and its SBDM council was removed.

In the SY 2017, 13 school districts were exempt from having an SBDM council and 17 schools within districts had their SBDM councils removed because the school was labelled a priority school.

702 KAR 3:246 specifies the due dates by which school councils receive their SBDM allocation from the local school board. This allocation includes funding for

- certified and classified staff,
- instructional materials, and
- professional development.

There may be additional funds that the district has left over after all other funds are distributed. These additional funds are called Section 7 funds.

The section that follows focuses on allocation of funding for certified staff and Section 7 funds. The process regulating the distribution of staffing and Section 7 funds is described, followed by an analysis of the number of districts that take school poverty into account in the distribution of state and local funds to schools.

Staffing Allocation

The majority of state and local dollars that are distributed from districts to individual schools are determined through staffing formulas that allocate district funds to SBDM councils. Districts allocate funds to schools in accordance with class size requirements described in KRS 157.360. SBDM councils determine staffing needs, but do not have to comply with class size requirements in KRS 157.360.

Table 2.2 shows the maximum number of pupils in a class allowed by KRS 157.360. While KRS 157.360 exempts school councils from following these class size requirements, the district must still fund schools based on these minimum class sizes or in another manner their local board of education has approved in their policies and procedures.

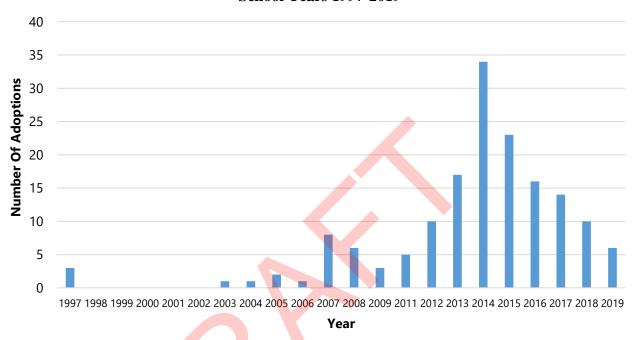
Table 2.2 Maximum Number Of Pupils By Grade Level

	Maximum Number Of Pupils
Grade Level	Enrolled In A Class
Kindergarten – 3 rd Grade	24
4 th Grade	28
5 th – 6 th Grade	29
7th – 12 th Grade	31

Source: KRS 157.360.

District staffing policies and procedures must be approved by the local board of education (BOE). The school council allocation process is detailed in 702 KAR 3:246. Any changes to district staffing policies must be adopted by the BOE by May 1st of each year. Districts are required to submit staffing policies to KDE anytime the BOE updates their policies.

Figure 2.A Number Of Current District Policies Adopted By Year School Years 1997-2019



Note: Thirteen districts are exempt from having an SBDM council. Figure contains the remaining 160 districts. Source: Staff compilation of data from the Kentucky Department of Education.

Figure 2.A reflects all district staffing policy changes that KDE had on file. There are 13 districts that do not have SBDM councils and therefore do not have to submit polices to KDE. Since 2015, 69 districts have updated their district staffing policy. Another 34 districts updated their policies in SY 2014. Three districts have not updated their staffing policy since 1997.

Consideration Of School Poverty In Staffing Allocations

The OEA survey asked superintendents if their staffing allocations provided funds to schools based on poverty. Six districts reported providing funding for higher poverty schools. Table 2.3 includes information on how these districts allocate these funds. While most of the districts mentioned reducing class size, one district actually allocates an extra \$18.00 per FRPL student to schools in that district. There are several districts that allocate extra staff to high-poverty schools as a way to support students living in poverty; however, this was not reflected in the survey responses.

Table 2.3
District Allocations For At-Risk Students;
FY 2017

District	Poverty Allocations
Boone County	Assistant principal and teacher allocations are increased above the standard formula when poverty, inequality and/or low performance issues exist. Elementary schools with 500-674 students do not receive an assistant principal; however, Title I elementary schools with 500-674 students are allocated an assistant principal.
Covington Ind.	The district adjusts staffing allocations to help reduce class sizes of the high risk population. The district provides district services to schools through nurses and psychologists. The district allocates administrative support to schools. The middle school maintains a 23:1 student/teacher ratio instead of the 29:1 or 31:1 ratio permitted by statute. The high school maintains a 19:1 student/teacher ratio instead of the 31:1 permitted by statute.
Eminence Ind.	The district hired math and reading specialists based on school needs.
Fayette County	The district staffing policy allocates staff at a ratio of 2 students below that of other A1 schools in schools that have 75 percent or more of their students receiving free or reduced-price lunch.
Fulton County	The high school has a 25:1 student/teacher ratio instead of the 31:1 permitted by KRS 157.360. The high school also gets 1.5 discretionary teachers for art, physical education, or music; an agriculture teacher above the staffing allocation; and an additional teacher based on council needs. The 7 th and 8 th grade middle school students have a 25:1 student/teacher ratio instead of the 31:1 permitted by statute. The middle schools also get 2 discretionary positions for art, physical education, or music and an additional classroom teacher based on council needs.
Owensboro Ind.	Each school receives an additional \$18.00 per student receiving free or reduced-price lunch.

Source: Staff compilation of data from the OEA survey.

School Council Allocation Formula. Districts must provide three SBDM allocations to schools each year. The tentative allocation is due by March 1st, an updated allocation by May 1st and a final allocation by September 15th.

The process for allocating school council funds starts with districts estimating the total amount of revenue coming to the General Fund. Then districts subtract all districtwide expenses, including

the budgeted contingency amount.^d Next districts calculate the amount of funds needed for schools' certified and classified staff based on board approved staffing policies. Finally, districts will subtract Section 6 funds for instructional materials allocated to the schools. 702 KAR 3:246 requires that school councils receive a minimum of 3.5 percent of the guaranteed SEEK base funding for Section 6 purposes. In the 2016-2017 biennial budget, the General Assembly reduced the minimum Section 6 funding to \$100 per pupil in average daily attendance.

Allocation Of Section 7 Funds. According to 702 KAR 3:246 sec. 7, districts are required to distribute any remaining revenues to schools. Districts have four options for distributing the remaining Section 7 funds:

- Based on prior year final average daily attendance
- Based on pupil needs identified by school councils in their comprehensive school improvement plans (CSIP)
- For specific instructional purposes based on student needs identified by the board from disaggregated student achievement data
- A combination of the three options mentioned above

The OEA survey asked districts if they provided Section 7 funds to schools in the 2017 fiscal year. If a district provided Section 7 funds, they were asked to also provide the amount sent to each school, and how the school spent it, along with a copy of the board minutes approving the Section 7 funds.

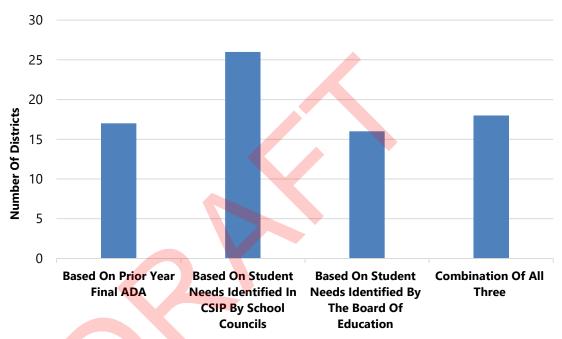
Some districts are not following the correct procedures in allocating Section 7 funds. In responding to the OEA survey, several districts did not know what Section 7 funds were or whether they were distributing Section 7 funds to schools. Other districts responded that their board had approved the allocation of Section 7 funds previously, and the funds were distributed in subsequent years without annual board authorization, as required by 702 KAR 3:246.

There were 77 districts that stated that they allocated Section 7 funds. Of the 77 districts that allocated Section 7 funds, 26 districts stated that they allocated these funds based on needs identified in the CSIP by school councils. Figure 2.B shows that 23 percent of districts distributed Section 7 funds based on a combination of all

^d The fiscal year 2017 audited fund balance for all school districts in the General Fund was \$974,945,392.90, which equated to a 19.2 percent fund balance percentage.

three options and another 22 percent allocated funds based on the prior year final average daily attendance.

Figure 2.B
Allocations Of Section 7 Funds As Decided By
Local Boards Of Education
School Year 2017



Note: There were 77 districts that distributed Section 7 funds; ADA= average daily attendance; CSIP= comprehensive school improvement plan.

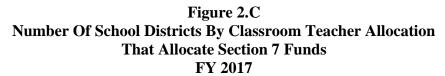
Source: OEA Survey.

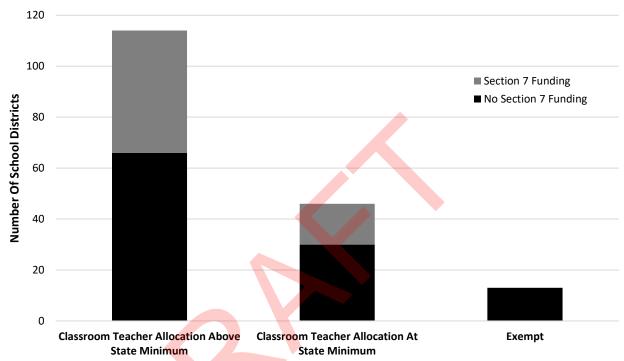
Amount Of Section 7 Funds And Usage. Districts that allocated Section 7 funds were asked to submit how much each school received and how the schools spent these funds. Currently, there is no way to capture the amount of Section 7 funds a school spends on the annual financial report. In order to capture this information, OEA asked that the data be submitted during the OEA survey collection period. Of the 77 districts that distributed Section 7 funds, 42 districts submitted information; however, the information may not have been complete. Some districts submitted a total amount that was allocated with no breakdown of how much each school received. Other districts submitted how much each school received, but did not disclose how the schools spent it. In addition, other districts provided a breakdown of the extra staff they provided to schools, but did not disclose the exact cost. For these reasons, a complete analysis will not be provided in the report, but some examples of the amounts and use of Section 7 funds will be discussed. Below is a brief description of how some districts used their Section 7 funds.

- Some districts gave all schools a flat amount from \$5.00 up to \$50.00 per pupil. These funds were used at schools to provide extra services to students receiving FRPL as well as to help pay for field trips and extracurricular trips for students.
- Several districts allocated textbook and technology funds.
- One district provided all students in grades 2-8 a world language teacher and purchased Chromebooks for middle and high schools. In addition the district provided a career counselor to the high school. The district allocated approximately \$2.5 million of section 7 funds.
- Other districts provided full-day preschool and kindergarten was covered by Section 7 funds.
- One central Kentucky district allocated almost \$2.1 million for additional certified and classified staff, credit recovery staff, social workers and students' extracurricular needs.
- Another central Kentucky district provided each school with one or more assistant principals and counselors.

Section 7 Funds And Staffing Policies. Due to a large number of districts allocating Section 7 funds for additional staff, OEA analyzed district staffing policies to determine if the districts that were allocating certified teachers above the state minimum were also allocating less Section 7 funds. As shown in Figure 2.C, this was not the case. There were 114 districts with staffing polices that allocated more than the state minimum and 48 of these districts also gave Section 7 funds to their schools in FY 2017. Of the 46 districts with staffing policies allocating the state minimum, 16 gave additional Section 7 funds to schools the same year.^e

^e Thirteen districts have only one school in their district and opted not to have an SBDM council.





Note: All 173 Kentucky school districts are represented in this figure.

Source: Staff compilation of data from the Kentucky Department of Education and OEA survey.

State And Local Grants

Some of the grants KDE awards to districts may only be spent for a specific purpose. Some of these grants are formula driven and others can be competitive. Districts record the revenue and expenditures of these grants in the financial accounting software in the Special Revenue Fund.^f

In regards to grants in the SBDM allocation formula, "categorical programs" are defined in 702 KAR 3:246 as programs under which funding and uses for funding are specifically set by the funding authority and are not in the General Fund. For the most part, these are grants that are in the Special Revenue Fund. 702 KAR 3:246, sec. 8 requires districts to provide professional development (PD) allocations to schools within 30 days of districts receiving the total allotment of revenue from KDE. 702 KAR 3:246, sec. 9 requires school councils to review the budgets for all categorical programs

^f The Special Revenue Fund is often referred to as Fund 2.

and provide comments to the BOE prior to the adoption of the budgets.

The KDE chart of accounts, which is incorporated by reference in 702 KAR 3:120, states that local grants are to be recorded using a project code that starts with a zero and state grants must start with the number one. An OEA analysis of these grants uncovered several project codes that are all alphabetical characters in the project field. Staff was able to review these individual records and determine whether they were local or state grants. In addition, some of the records were activity fund accounts that should have been coded to Fund 21 or Fund 22. Furthermore, some districts were not coding grant expenditures at the school level. For example, the extended school services grant (ESS) is used to provide services to struggling students. Some one-school districts were coding all expenditures to the district instead of to the school in that district. Finally, OEA's analysis revealed that only 32 percent of districts across the state had any General Fund expenditures coded to program code 460—English Language Learners—in the 2017 audited annual financial report.

Finding 2.1

School level expenditures are not being captured correctly on annual financial reports.

State Grants

There are several state grants that KDE allocates to districts. State grants that are allocated to districts include technology grants, safe schools grants, and grants for gifted and talented students. Most state grants are allocated to districts based on a per-pupil allotment and do not have a funding factor based on poverty. The following state grants are allocated to districts with a poverty measure built in; however, districts are not required to then divide these funds up to schools based on the same criteria.

Extended School Services. The Extended School Services (ESS) grant was originally created by KERA. ESS provides additional instructional time to students in kindergarten through the 12th grade who are falling behind in their educational goals. Schools can offer ESS before or after school, weekends, during breaks throughout the school year, and during summer. In addition, schools can get a waiver to provide ESS services during the day.

The ESS funding mechanism is described by 704 KAR 3:390, sec. 4. KDE is appropriated 2 percent of the total grant to administer the grant to districts. The remainder of the grant is divided into three equal parts and then distributed to districts based on:

- the most current average daily attendance (ADA),
- the most current rates of economic deprivation, and
- the most current state assessment overall score.^g

Family Resource/Youth Service Centers. The Family Resource/Youth Service Centers (FRYSC) grants were originally created by KERA and are also distributed based on poverty. The FRYSC grant is administered by the Cabinet for Health and Family Services, with KDE providing technical and educational support. KRS 156.496 established FRYSCs "to meet the needs of children and their families by providing services to enhance a student's ability to succeed in school." These funds are used to coordinate a network of services such as: community collaboration; parent involvement; medical and dental support; and clothing and nutritional assistance.

Schools, not districts, are eligible to apply for FRYSC funds. KRS 156.496 requires family resource centers to be located in or near each elementary school where 20% or more of the student body is eligible for FRPL. KRS 156.496 also requires youth service centers to be located in or near each school, except elementary schools, where 20% or more of the student body are eligible for FRPL. While students eligible for reduced lunch are included in the calculation for the school to qualify for FRYSC funding, the funding formula is based on the number of students eligible for free lunch on December 1st of each year. According to the Kentucky Family Resource and Youth Service Centers administrators' guidebook, each school's minimum allocation is calculated on a minimum of 165 students receiving free lunch and the maximum allocation is based on 450 students receiving free lunch.

Preschool. The preschool program grant was also originally created by KERA. The preschool program is available to all four-year-old children whose family income is no more than 160% of the federal poverty level. In addition all 3- and 4-year-old students

^g Economic deprivation in this formula refers to students who qualified for free and reduced price lunch the previous year.

^h All students who qualify for free lunch and some, but not all, students who qualify for reduced-price lunch, qualify for state-funded preschool.

with a disability, regardless of income, qualify for state-funded preschool. Districts are required to offer developmentally-appropriate programs. This means that the preschool program must focus on the student's social and emotional development, including interpersonal, intrapersonal, socialization, physical and intellectual skills. The Kentucky Board of Education (KBE) sets the funding weights for preschool students based on the following classifications:

- number of at-risk 4-year-old students,
- number of students with speech/language disorders,
- number of students with developmental delays, and
- number of students with severe and multiple disabilities.

Local Grants

Local grants are typically any grants that are not state or federal grants. The United Way, whose mission is connecting communities for the common good, offers local grants to schools. Two districts reported receiving grants from the United Way. One United Way grant is a community investment grant and another grant funds the Born Learning Academy. The Born Learning Academy helps families take a more active role in preparing their children for kindergarten. To accomplish this, local schools provide six user-friendly workshops and learning activities to families and caregivers of low-income students.

Districts' Distribution Of State Or Local Grants By Poverty

As previously stated, while some state or local grants may be awarded to districts based on poverty, districts do not necessarily have to distribute the funds to schools based on that same funding formula. The OEA survey asked districts if they distribute any state or local grants to their schools based on poverty.

Only 16 districts reported that they were allocating at least one state or local grant to their schools based on poverty. The two most common grants mentioned were FRYSC and ESS. One district said that they give each school a block grant for ESS and the school with the highest poverty students gets an additional allocation. Another district stated that they gave their highest poverty school a larger portion of ESS funds.

ESSA Equitable Per-Pupil Funding Pilot Program

Title I Part E sec. 1501 of the Elementary and Secondary Education Act of 1965 (ESEA) as amended by the Every Student

Succeeds Act (ESSA) allows the U.S. Secretary of Education to enter into agreements with school districts to consolidate state and local funds with federal funds to pilot a single student-centered funding system based on weighted per-pupil allocations. Eligible federal funding comes from the following programs

- Title I, Part A: improving basic programs operated by LEA;
- Title I, Part C: education of migratory children;
- Title I, Part D, Subpart 2: local prevention and intervention programs for children and youth who are neglected, delinquent, or at risk;
- Title II: preparing, training, and recruiting high-quality teachers, principals, or other school leaders
- Title III: language instruction for English learners and immigrant students;
- Title IV, Part A: student support and academic enrichment grants; and
- Title V, Part B: rural education initiative.

The pilot program will select up to 50 districts to participate in the equitable per-pupil funding. The program would not only require these districts to allocate federal grants by weighted per-pupil allocations, but districts would have to allocate the state and local funds to schools in the same manner. According to Secretary of Education DeVos, the student-centered funding or weighted student funding is widely considered to be a modern, transparent and quantifiable way to allocate resources to the students most in need.⁵

Districts had the option to apply and use this flexibility in the current 2017-2018 school year or the 2019-2020 school year. If selected, the US Secretary of Education could approve the district to use this for no more than three years with a renewal clause of not more than three additional years. The OEA survey asked if any districts in Kentucky planned on applying for this pilot program and seven county districts and one independent district responded that they were going to apply. As of July 15, 2018 deadline, no Kentucky district had applied for this flexibility. Districts from California, Indiana, Oregon, Pennsylvania, Puerto Rico and Arizona have already applied.

Chapter 3

Spending Differences Between High-Poverty And Low-Poverty Schools And Outcomes Related To Students Living In Persistent Poverty

Introduction

The chapter begins with a geographic map showing the percentage of students in each Kentucky district who are eligible for FRPL and continues with a discussion of persistent poverty, which some researchers have suggested is a better measure of student poverty than FRPL eligibility in a single year. Data show a stronger negative effect of persistent poverty on educational outcomes versus FRPL in a single year.

The chapter then highlights districts that have large gaps among schools in the percentages of FRPL-eligible students. After analyzing per-pupil spending at higher- versus lower-poverty schools in the entire state, the chapter looks within Kentucky districts to see how many spend more on the highest-poverty school at the elementary, middle, and high school levels.

While average spending statewide is greater in higher- versus lower-poverty schools, the same does not always hold true within Kentucky districts. Of the districts with more than one school at the elementary and middle school levels, fewer than half (about 40 percent) have per-pupil expenditures that are greatest at the highest-poverty school, whereas more than half (60 percent) of districts that have more than one high school spend more at the highest-poverty high school. The chapter then concludes with a recommendation for funding schools within districts.

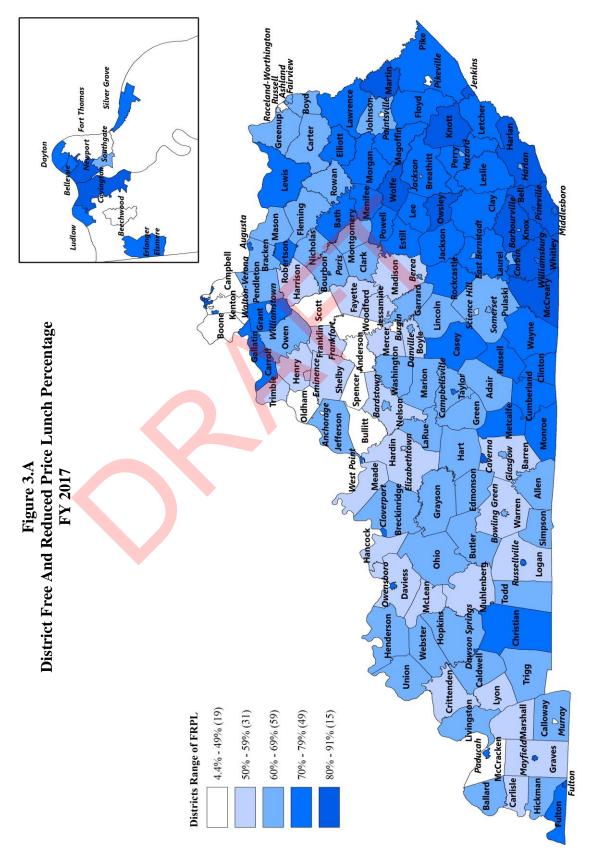
Measures Of Poverty

This study uses data from the National School Lunch Program as a proxy for poverty. While an imperfect measure, researchers and policy-makers often use the free and reduced-price lunch data as a proxy to measure student poverty. As mentioned previously, districts get additional SEEK funding for each student who qualifies for free lunch. Because of the nature of the FRPL data, there may be some potential drawbacks for using FRPL data for policy decisions.

Percentage Of Students Eligible For Free Or Reduced-Priced Lunch By Kentucky District

Figure 3.A shows the percentage of FRPL students by Kentucky district in FY 2017. Percentages range from a low of 4.4 percent to a high of 92 percent and 154 of 173 districts have rates of 50 percent or higher. Of the 15 districts in which FRPL rates exceed 80 percent, the majority are in the eastern part of the state.





Source: OEA analysis of data from the Kentucky Department of Education.

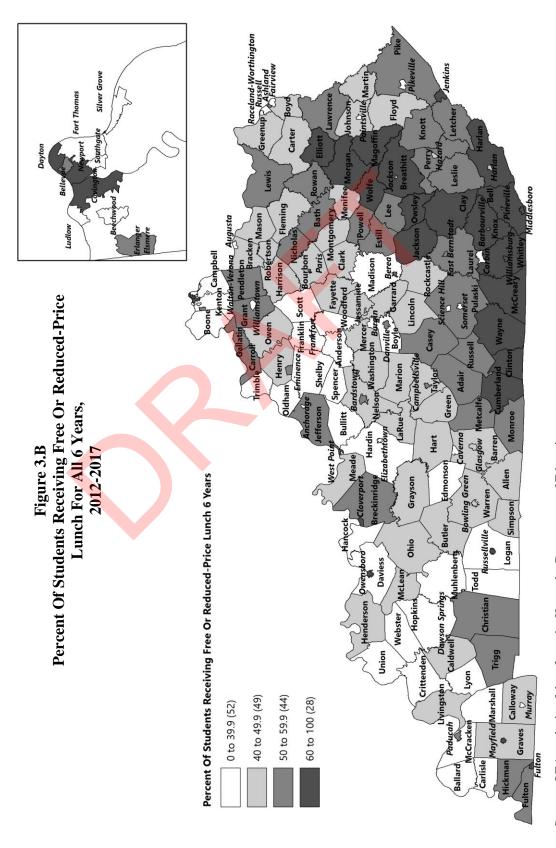
Persistent Poverty

While FRPL data is able to show economic disadvantage for a particular year, it is data from one point in time and may not adequately differentiate between students whose economic disadvantage is temporary versus chronic. The literature describes how students who grow up in persistent poverty tend to have greater academic deficiencies than those who do not grow up in persistent poverty.⁷

Previous studies have indicated that there is a strong correlation between family income and number of years qualifying for FRPL.⁸ One goal of this study was to measure the impacts of persistent poverty on student achievement and determine if persistent poverty may be a better measure to use in determining student funding.

Definition Of Persistent Poverty For This Study. For this study, a student is considered to be living in persistent poverty if they qualified for FRPL each year from 3rd- to 8th-grade. OEA analyzed student-level FRPL data collected by KDE; however, the FRPL data had several errors made at the district level that rendered those FRPL data unreliable.^a As an alternative, OEA used students' FRPL status as recorded in the K-PREP test file submitted by KDE in determining the number of years students qualified for FRPL. Because the analysis required several years of student-level FRPL-eligibility data, the scope of the analysis was limited to students who were in the 8th-grade in 2017. Figure 3.B includes a map showing persistent poverty by district. In Kentucky, 72 districts have persistent poverty rates that are 50 percent or greater. For more information concerning the number of years students qualified for FRPL by district, please see Appendix D.

^a Some districts in the file that KDE sent to OEA had FRPL-eligibility rates of 0 percent for some years despite those districts having much higher FRPL-eligibility rates in the preceding and following years.



Source: OEA analysis of data from the Kentucky Department of Education.

Relationship Between Persistent Poverty And FRPL.

The number of at-risk students determines districts' SEEK funding. Because of the high correlation between districts' at-risk population and persistent poverty, the current method of determining at-risk funding will not be improved by using persistent poverty as a measure. However, OEA analysis did uncover differences at the student level, which were strongly associated with student achievement.

Math And Reading Outcomes By Years of FRPL

Table 3.1 shows 2017 8th-grade math and reading proficiency rates by the number of years students received free or reduced-price lunch between 2012 and 2017. There were 11,889 8th-grade students that never qualified for FRPL from 2012-2017; those students had a math proficiency rate of 72.0 percent and a reading proficiency rate of 79.2 percent. Students that qualified for FRPL for only one year during this timeframe had proficiency rates that were 11 percent lower in math than students who had never qualified for FRPL; the proficiency rate for this group was 9.4 percent lower in reading than for those who never qualified for FRPL.

Table 3.1
8th-Grade Math And Reading Proficiency Rates
And Number Of Students By Number Of Years Receiving
Free Or Reduced-Price Lunch, 2017

	Years	Math	Reading	Number of
<u>_</u>	FRPL	Proficiency Rate	Proficiency Rate	Students
	0	72.0%	79.2%	11,912
	1	61.0	69.8	2,183
	2	55.8	64.2	1,734
	3	53.9	61.8	1,753
	4	48.7	57.4	2,065
	5	42.0	51.3	3,801
	6	35.2	43.7	19,180
	Total	50.0	58.1	42,928

Note: FRPL = free or reduced-price lunch. Table only includes students who took the K-PREP examinations each year 2012-2017.

Source: Staff analysis of data from the Kentucky Department of Education.

Proficiency Rates Of Persistent Poverty Students. There were 19,123 students who qualified for FRPL all 6 years reviewed. Their math proficiency rate was less than half the rate of students that never qualified for FRPL. While the reading proficiency rate for this same group of students was better than the math rate, the proficiency rate still decreased 35.5 percent.

Additional Years Of Poverty And Student Achievement.

Ordinary least square regression models were used to examine the potential relationship between persistent poverty and student proficiency on math and reading K-PREP exams. The models controlled for several variables, including gender, LEP, special education status, race/ethnicity, and previous K-PREP proficiency. When controlling for students that were proficient in reading in 3rd-grade, the likelihood of scoring proficient in 8th-grade reading decreased about 2.8 percent per year qualifying for FRPL. In math, after controlling for the same covariates, the likelihood of scoring proficient decreased by 3.0 percent each year a student qualified for FRPL. See Appendix E for details.

School-Level Differences At The District Level

As noted earlier, districts can differ greatly in their percent of high-poverty students. This can have a substantial impact on student achievement in those districts. The SEEK funding formula attempts to equalize the funding disparities between districts in order to address poverty and other student characteristics. 702 KAR 3:246 addresses how funds are allocated from districts to schoolsbut does not address student needs other than through Section 7.

Range Within Districts Of FRPL Students By School

Within districts, schools can vary greatly in the percentage of students considered to be living in poverty. This is especially true in districts in which residential housing patterns are associated with residents' socioeconomic status and with school attendance zones.^b

Table 3.2 shows examples from a sample of Kentucky districts of the differences that can exist among schools in the percentage of FRPL-eligible students. For instance, at 75 percent, Breathitt County has a high percentage of FRPL-eligible students and a relatively small range of 7.5 percent between the schools with the highest and lowest percentages of FRPL-eligible students. In Breathitt County, all the schools are relatively high-poverty schools. In Fayette County, by contrast, there is a gap of almost 87

^b Local school boards set school boundaries that establish student school attendance zones. Often shifts in residential buildings, growth, or economic decline in another area of the county may force the local board to redraw boundaries to alleviate under/overcrowding in specific schools. Another way districts may handle crowding is to bus students to other schools that may not be the closest school to where a student lives.

percent between the schools with the highest and lowest percentages of FRPL-eligible students. At 54 percent of students that are FRPL-eligible, Fayette County is a relatively lower-poverty district by state standards; but because of its large size and residential housing patterns, Fayette County contains within it some of the highest-poverty schools in the state. See Appendix F for a complete list, by district, of the ranges between the highest-and lowest poverty schools.

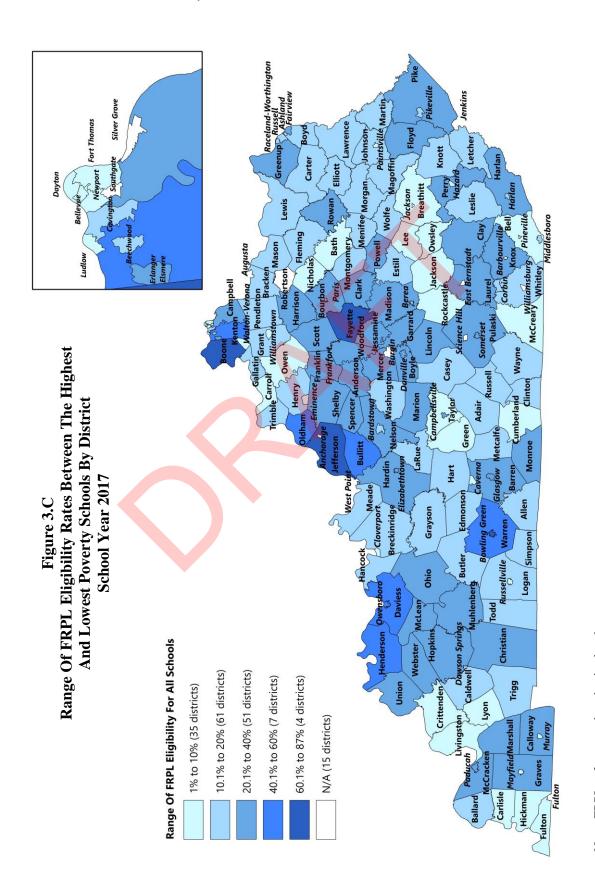
Table 3.2
Difference In FRPL Eligibility Percentages
Of Highest- And Lowest-Poverty School, Select Districts, 2017

	District FRPL	Number Of	Range Of School FRPL
District	Percentages	Schools	Percentages
District	reiteiltages	30110013	reiceillages
Ashland Independent	65%	7	36.2%
Boone County	40	23	71.3
Breathitt County	79	5	7.5
Covington Independent 89 7		7	12.4
Fayette County	54	53	86.9
Jefferson County	65	134	85.0
McCreary County	83	5	7.7
Warren County	57	22	59.4
Whitley County	81	9	13.2

Source: Staff compilation of data from the Kentucky Department of Education.

Figure 3.C shows differences among Kentucky districts in the range of FRPL eligibility rates between the highest- and lowest-poverty schools within each district. The map shows four districts (Jefferson, Fayette, Boone, and Bowling Green Independent) in which the ranges of FRPL eligibility among schools exceed 60 percent. It also shows that in just over one fifth of Kentucky districts (35 districts), the range of FRPL eligibility rates among schools is less than 10 percent. Fifteen districts, most of which are independent districts, are marked N/A because they contain only one school.

The question examined in this study—distribution of state and local funds to higher-poverty schools—is most relevant to districts with greater ranges of FRPL eligibility. The distribution of state and local funds to higher-poverty schools is less relevant in districts with relatively similar FRPL eligibility rates among schools.



Note: FRPL = free or reduced-price lunch. Source: OEA analysis of data from the Kentucky Department of Education.

State-Level Expenditure Gaps Between High- And Low-Poverty Schools

This section examines differences in per-pupil expenditures of state and local funds among higher- and lower- poverty schools across the state. As explained in Chapter 2, this analysis does not represent total per-pupil expenditures but rather expenditures from the state and local funds over which districts have some discretion and which contain the additional funding generated by the SEEK formula for FRPL-eligible students. To control for services provided for special education, these expenditures were removed from state and local fund calculations.

Schools are grouped first by school level and then separated into quartiles as determined by the percentages of students eligible for FRPL and total membership in each school. The percentages of FRPL-eligible students are lowest in quartile 1 and highest in quartile 4. The quartile analyses are performed separately by school level because, as explained below, school-level expenditures are influenced by staffing considerations that affect all schools, regardless of student poverty levels.

Staffing Requirements Affect Expenditures

On average, school-level expenditures are greatest in high schools and lowest in middle schools. Statewide, average per-pupil 2017 spending from the state and local funds included in this analysis were \$6,170 for high schools, \$5,923 for elementary schools and \$5,739 for middle schools.

School-level differences in per-pupil expenditures are caused in part by the staffing requirements of high schools and elementary schools. While high schools are permitted by regulation to have larger pupil/teacher ratios than are elementary schools, they usually have lower pupil/teacher ratios because they must employ teachers separately certified to teach many of the classes required for high school graduation. Elementary pupil/teacher ratios are generally higher than they are in middle schools because of lower required pupil/teacher ratios and requirements to employ instructional aides to support preschool and kindergarten teachers. Elementary schools also tend to be smaller than middle or high schools. Small schools are less efficient than large schools and tend to have higher per-pupil expenditures.

High schools tend to have lower percentages of FRPL-eligible students than do middle or elementary schools. High school FRPL

rates may understimate the actual percentage of FRPL-eligible students. High school students are known to be less likely than their younger peers to submit documentation required to receive FRPL, even when they are eligible, because of the social stigma associated with receiving free lunch.^c

Expenditures Gaps Among FRPL Quartiles

The data that follow show average per-pupil spending, by school level, for schools that are grouped into quartiles based on FRPL. The analysis at each level shows that, while the highest-poverty quartile (4) has the highest average per-pupil expenditures, spending does not increase consistently from quartiles 1 through 3.

As will be explained following the analysis, the inconsistent progression of average per-pupil spending from the lowest- to the highest-poverty quartiles is explained, in part, by differences in district wealth among the quartiles; a disproportionate number of highest- and lowest-poverty schools are located in quartiles 1 and 4 versus 2 and 3.

Elementary Schools. Table 3.3 shows that, on average, per-pupil expenditures in the state's highest-poverty elementary schools (quartile 4) are \$6,273, which is \$337 greater than the average expenditure of \$5,936 in the state's lowest poverty elementary schools. Quartile 4 has 82 percent of its students eligible for FRPL, while 39 percent of quartile 1 students are FRPL-eligible. As the table shows, however, per-pupil expenditures do not increase consistently with school poverty. Average per-pupil expenditures are actually lower in the relatively higher-poverty quartile 2 and 3 elementary schools than they are in the lower-poverty quartile 1 schools.

^c The superintendent in one small, independent district reported in this study that this social stigma affects many students in the district's K-12 school, thus depressing SEEK funding for the district.

Table 3.3
Average Per-Pupil Gaps In State And Local Expenditures
By Elementary School FRPL Quartile, FY 2017

	School		Percent		Average Per-Pupil	Difference Between	Percent Of
Quartile	Count	Membership	FRPL	Expenditures	Expenditures	Quartile 4	Quartile 4
1	155	87,081	39.0%	\$516,917,155	\$5,936	\$337	95%
2	187	87,576	59.5	482,696,629	5,512	761	88
3	199	87,635	68.4	483,634,436	5,519	754	88
4	208	87,316	81.8	547,716,228	6,273	N/A	N/A

Note: FRPL = Free and reduced price lunch; N/A = not applicable; Expenditures = includes all General Fund expenses and local and state grants in special revenue fund, less special education expenditures. Some figures may not sum due to rounding.

Source: Staff analysis of data from the Kentucky Department of Education.

Middle Schools, Table 3.4 shows that the state's highest-poverty middle schools spend, on average, \$6,117, which is \$428 per-pupil more than the \$5,689 spent at the state's lowest-poverty middle schools. As with elementary schools, average spending does not increase consistently with poverty quartile; the average per-pupil expenditures are higher in quartile 1 than they are in quartiles 2 or 3.

Table 3.4
Average Per-Pupil Gaps In State And Local Expenditures
By Middle School FRPL Quartile, FY 2017

					Average	Difference	Percent
	School		Percent		Per-Pupil	Between	Of
Quartile	Count	Membership	FRPL	Expenditures	Expenditures	Quartile 4	Quartile 4
1	57	43,249	39.3%	\$246,036,872	\$5,689	\$428	93%
2	81	43,254	58.4	236,817,174	5,475	642	90
3	84	43,245	68.2	236,365,988	5,466	651	89
4	95	43,828	80.1	268,083,603	6,117	N/A	N/A

Note: FRPL = Free and reduced price lunch; N/A = not applicable; Expenditures = includes all General Fund expenses and local and state grants in special revenue fund, less special education expenditures. Some figures may not sum due to rounding.

Source: Staff analysis of data from the Kentucky Department of Education.

High Schools. Table 3.5 shows that the average per-pupil expenditure of \$6,586 per pupil in the state's highest-poverty quartile 4 high schools is \$786 greater than the average of \$5,800 spent at the lower-poverty quartile 1 high schools. While per-pupil expenditures increase from quartile 1 to quartile 2, they decrease from quartile 2 to quartile 3.

Table 3.5 Average Per-Pupil Gaps In State And Local Expenditures By High School FRPL Quartile, FY 2017

					Average Per-	Difference	Percent
	School		Percent		Pupil	Between	Of
Quartile	Count	Membership	FRPL	Expenditures	Expenditures	Quartile 4	Quartile 4
1	39	48,813	34.1%	\$283,115,140	\$5,800	\$786	88%
2	48	49,287	50.8	295,283,801	5,991	594	91
3	68	49,098	61.1	288,338,543	5,873	713	89
4	73	48,958	75.7	322,420,630	6,586	N/A	N/A

Note: FRPL = Free and reduced price lunch; N/A = not applicable; Expenditures = includes all General Fund expenses and local and state grants in special revenue fund, less special education expenditures. Some figures may not sum due to rounding.

Source: Staff analysis of data from the Kentucky Department of Education.

Per-Pupil Expenditures In Highest-Poverty Schools Within Districts

Although average per-pupil spending is greater statewide in higher- versus lower-poverty schools, the highest-poverty schools in individual districts often spend fewer state and local funds per pupil than do schools with lower poverty rates.

Table 3.6 indicates the number and percentage of districts at each school level in which the per-pupil expenditures in the district's highest poverty school exceed the per-pupil expenditures at other schools in the district. It includes only those districts that have at least two schools at the level examined. While 129 (about 75 percent) of the state's 173 districts are included in the elementary analysis, only 38 districts (22 percent) are included in the middle school analysis and 25 districts (14 percent) are included in the high school analysis.

The table shows that at the elementary and middle school levels, less than half of districts (40 percent for elementary and 39 percent for middle) have greater per-pupil expenditures at the district's highest poverty school than in other schools at the same school level. Table 3.6 shows that, of the 25 districts analyzed, most (60 percent) have greatest per-pupil expenditures at their highest-poverty high schools.

Table 3.6
Number Of Districts, By School Level
In Which Per-Pupil Expenditures Of State And Local Funds Are Greatest In
The Highest-Poverty School

	Number of Districts With	Total Number	
	Greatest Funding At	of Eligible	Percent of Eligible
School Level	Highest-Poverty School	Districts	Districts
Elementary School	52	129	40%
Middle School	15	38	39
High School	15	25	60

Source: Staff analysis of data from the Kentucky Department of Education.

Table 3.7 uses actual 2017 data from two Kentucky districts to illustrate apparent diffferences in the way state and local funds are distributed to higher- versus lower-poverty elementary schools. In District 1, the per-pupil expenditure in its highest-poverty elementary school (74 % FRPL) was \$1,243 greater than the expenditure in a lower-poverty elementary school (49% FRPL). In District 2, by contrast, per-pupil expenditures in the district's highest-poverty elementary school (80 percent FRPL) were \$595 less than those in its lowest-poverty elementary school (47 percent FRPL). Appendix G shows similar contrasting examples at the middle and high school levels.

Table 3.7
Examples Of Per-Pupil Expenditures
In A Higher- Versus Lower-Poverty Elementary School
In Two Kentucky Districts

				Per-Pupil
· ·	Percent		Per-Pupil	Spending
District/School	FRPL	Membership	Spending	Difference
District 1: Higher-poverty school	74%	241	\$6,949	¢1 242
District 1: Lower-poverty school	49	206	5,706	\$1,243
District 2: Higher-poverty school	80	479	5,649	(FOF)
District 2: Lower-poverty school	47	510	6,244	(595)

Source: Staff analysis of data from the Kentucky Department of Education.

Factors Influencing Spending On Higher-Poverty Schools Within Districts And Limitations Of The Analysis

This report shows that many districts did not spend more state and local dollars on their highest-poverty school in 2017 but the report does not include data sufficient to explain why some districts did not spend more money on their highest-poverty schools. It is possible that, as suggested by the survey data presented in Chapter

2, most districts may not want to consider school poverty in the allocation of state and local funds. As one superintendent of a district with varying levels of school poverty explained, there are political challenges to allocating funds based on school poverty:

We have been having this very conversation about the money following the student (with poverty being one of the weights). It makes perfect sense, but have had little success with the Board or with the principals from the less poor schools because it obviously involves taking some resources away from the wealthier schools.

In some districts, the data may reflect other factors. For example, a school that is not the district's highest-poverty school might have competed for and been awarded a state grant through the state Read to Achieve fund or a local philanthropy. Detailed analysis of spending differences, by specific source, among schools in individual districts was outside the scope of this study.

In addition, the analysis above does not take into account the degree of difference, either in per-pupil spending or in the percentage of FRPL students, among schools within a district. In some of the districts examined, differences in per-pupil expenditures and FRPL rates among schools were relatively small. In others, such as those shown in the examples in Table 3.7, differences were marked.

Overall Conclusion

Kentucky has used the current school allocation formula since 1990. As discussed in Chapter 2, one concern with the school allocation process is that districts first subtract all district level expenditures from the estimated revenues. The district's budgeted contingency amount is included in district level expenditures. Currently a district can budget any amount into the contingency fund. This allows districts to allocate less funds to schools through Section 7.

Since FY 2012, the fund balance in the General Fund has increased by an additional \$241 million dollars.^d The 2018 unaudited fund balance across all school districts is 20 percent of all district

^d Fund 1 balance is the sum of the annual financial report balance sheet balance for Fund 1 and Object codes 8770, 875*, and 874* by district. Total expenditures is the sum of the annual financial report year to date actual for funds 1 and 51 and function codes between 1000 and 5999 and objects less than 0900, excluding 0280, and project not 16MX by district.

expenditures from the General Fund and the food service fund. 702 KAR 3:246 sec. 7 requires any funds that are left over after districtwide expenses to be distributed to schools. In FY 2017 only 77 districts allocated Section 7 funds. Of those, only 40 districts provided OEA with the amount of Section 7 funds allocated to schools. In addition, 27 districts distributed Section 7 funds to schools based on average daily attendance. While permitted by 702 KAR 3:246 sec. 7, this manner of allocating Section 7 funds does not take student characteristics and needs into consideration.

Research suggests that children growing up in poverty have an increased chance of being chronically absent, do worse on standardized tests and require more educational resources to improve outcomes in school and later in life. 9,10 The current SBDM allocation model provides instructional and support staff based on student membership. This model does not take student poverty or other student characteristics into account in distributing funds to schools. Only 40 percent of districts are providing more funds to their higher poverty elementary schools and 39 percent of Kentucky districts spent more on their highest poverty middle schools. Other states are implementing school-based formulas at the district level to account for the needs of different student populations in schools across districts.

One school funding model that can be considered is the Weighted Student Formula (WSF), or the student-centered funding model. Most student-centered funding models include a base amount of funding for each student enrolled in a school. This base amount may be different based on grade level. Additional funds are available for

- Low-income students,
- special education students,
- limited English proficiency students,
- gifted and talented students, or
- vocational and technical education students.

In addition, some WSFs include additional funds for students who are not on track to score proficient in their state exams.

While Kentucky uses a WSF to fund districts, schools within districts are not funded in this manner. Districts across the United States have been moving toward a WSF distribution for their schools. In 2011, Boston Public Schools started funding their schools based on weights given to pupil characteristics. Baltimore,

 $^{^{\}rm e}$ ESSA refers to the Weighted Student Formula as the student-centered funding model.

Indianapolis, New Orleans, and Cincinnati have also started using a similar school funding mechanism. 11,12,13

Using a WSF, schools are able to use the additional resources for staffing and materials that best meet the needs of their students. Using a WSF at the school level also increases the likelihood of the highest need schools receiving more funds than the lower need schools in each district.

The intent of the SEEK funding formula is to equalize funding between high- and low-poverty districts. ¹⁴ Districts currently receive additional funds for students qualifying for free lunch, with different levels of disabilities, and for students who have limited English proficiency. While there is great variation in poverty between districts, there is also a great deal of variation within schools. If the intent of the SEEK formula is to ensure students from at-risk backgrounds receive more education funding, Kentucky may want to consider adopting a WSF model at the school level.

Recommendation 3.1

Recommendation 3.1

The General Assembly may wish to revisit how districts allocate funds to schools within districts and consider switching to a Weighted Student Formula at the school level that would provide funds based on the number of students enrolled and those students' needs. This may help equalize funding between the highest- and lowest poverty schools within districts.



Appendix A

Table A.1 shows persistent poverty percentages over the past 25 years in Kentucky school districts. Persistent Poverty Counties (PPCs) are defined by Public Law Number 115-31 (enacted May 5, 2017) for the CDFI Fund as counties where 20% or more of their population lives in poverty as measured by the U.S. Census Bureau (1990 and 2000 decennial censuses, and 2011-2015 American Community Survey). The first column after the list of Kentucky counties provides insight on poverty in Kentucky counties in the year 1990. The following column provides the same information but examines the year 2000. The final column provides insight on more recent persistent poverty percentages as it examines the years between 2011 and 2015.

Table A.1
Persistent Poverty Counties In Kentucky And
Historic Poverty Data, 2017

1	1990	2000	2011-2015
County	Poverty	Poverty	Poverty
Adair County	25.1%	24.0%	21.6%
Bath County	27.3	21.9	26.4
Bell County	36.2	31.1	38.0
Breathitt County	39.5	33.2	32.9
Casey County	29.4	25.5	25.5
Clay County	40.2	39.7	39.7
Clinton County	38.1	25.8	24.3
Cumberland County	31.6	23.8	25.1
Elliott County	38.0	25.9	31.3
Estill County	29.0	26.4	29.3
Floyd County	31.2	30.3	30.0
Fulton County	30.3	23.1	27.4
Harlan County	33.1	32.5	31.2
Hart County	27.1	22.4	24.9
Jackson County	38.2	30.2	31.4
Johnson County	28.7	26.6	26.3
Knott County	40.4	31.1	28.1
Knox County	38.9	34.8	32.6
Laurel County	24.8	21.3	23.1
Lawrence County	36.0	30.7	22.7
Lee County	37.4	30.4	32.0
Leslie County	35.6	32.7	28.5
Letcher County	31.8	27.1	28.4
Lewis County	30.7	28.5	30.8
Lincoln County	27.2	21.1	25.0
McCreary County	45.5	32.2	41.0
Magoffin County	42.5	36.6	28.6
Martin County	35.4	37.0	35.2
Menifee County	35.0	29.6	29.9
Metcalfe County	27.9	23.6	21.9
Monroe County	26.9	23.4	27.7

	1990	2000	2011-2015
County	Poverty	Poverty	Poverty
Morgan County	38.8	27.2	27.7
Owsley County	52.1	45.4	37.9
Perry County	32.1	29.1	25.4
Pike County	25.4	23.4	22.9
Powell County	26.2	23.5	28.1
Robertson County	24.8	22.2	22.0
Rockcastle County	30.7	23.1	24.7
Rowan County	28.9	21.3	26.0
Russell County	25.6	24.3	25.8
Wayne County	37.3	29.4	27.0
Whitley County	33.0	26.4	26.0
Wolfe County	44.3	35.9	43.0

Source: US. Dept. Of Agriculture.

Appendix B

Superintendent Survey

Introduction.

Dear Superintendent,

In November the Education Accountability and Assessment Review Subcommittee (EAARS) of the Kentucky General Assembly directed the Office of Education Accountability to study state and local funds distributed to higher poverty schools. The purpose of the study is to inform the legislature how student poverty is considered in distributing state and local funds to schools in Kentucky. It would focus on whether higher-poverty schools receive more state and local funding than lower-poverty schools across the state.

As part of this study, OEA is surveying superintendents. This survey will provide information for OEA staff to answer research questions and potential questions from members of the subcommittee. Please forward this e-mail to your finance officer if you would prefer them to fill this out. We have also attached a PDF copy of the survey.

The survey can be found at the following web address and should take less than 10 minutes to complete:

https://www.surveymonkey.com/r/OEApoverty

OEA asks that in addition to the survey, your district submit the following documents:

- 1. The staffing policy that was in effect for the 2016-2017 fiscal year and, if applicable:
 - A. a copy of schools' requests for section 7 funds
 - B. board approval of section 7 funds including how much was awarded to each school.

The documents should be emailed to OEAsurvey@LRC.KY.GOV

Please complete the survey and return all of the requested information by March 12, 2018. Thank you for providing the requested documents and survey. If you have any questions, please call Sabrina Olds at (502) 564-8167.

- 1. District name:
- 2. Name and title of individual completing survey:
- 3. Telephone number in case we would need to follow up for more information on a response.
- 4. Does your district staffing allocation provide funds to schools based on poverty? If yes, please explain.
 - Yes
 - No

5. Did your district provide Section 7 funds to any schools?

- Yes
- No
- My district is exempt from SBDM

6. If you provided Section 7 funds to any schools, how were the funds distributed?

- An amount per prior year final average daily attendance.
- Based on pupil needs identified by school councils in their adopted school improvement plans and designated by the local schoolboard.
- For specific instructional purposes based on student needs identified by the board from disaggregated student achievement data.
- A combination of the three mentioned above.
- 7. Did your district allocate any state grant(s) to schools based on poverty? If yes, please explain which state grant(s) and how funds were allocated.
 - Yes
 - No
- 8. Did your district allocate any local grant(s) to schools based on poverty? If yes, please explain which state grant(s) and how funds were allocated.
 - Yes
 - No
- 9. Does your district plan on applying to the U.S Department of Education for the Local Flexibility Demonstration Agreement for Equitable Per-pupil Funding pilot program?
 - Yes
 - No
- 10. Do you have any additional comments related to funds distributed to schools based on poverty?

Appendix C

Table C.1 shows the formula for funding 'at-risk' students from 34 different states. These formula include one or more of the following: how states identify 'at-risk' students, how the states fund their 'at-risk' programs, and how the states distribute their 'at-risk' funding.

Table C.1 Funding Formulas For At-Risk Children By State, 2018

State	Formula
Alabama	The formula for funding 'at-risk' students in Alabama is calculated based on the number of free and reduced price lunch and the number of students scoring at lower levels of required tests.
Arkansas	The state provides varying levels of support based on the percentage of students in each district who qualify for these meals. In 2013-2014, districts with less than 70 percent of students in poverty receive \$517 per student. Districts with at least 70 percent but less than 90 percent of their students in poverty receive \$1,033 per student, and those with 90 percent of students (or greater) in poverty receive \$1,549. Because funding is based on the prior-year percentage of students in poverty, districts receive funds from an additional allocation (\$512,943 in 2012-2013) if they have grown by at least 1 percent annually for the prior three years. A district also receives a transitional adjustment to ease the funding changes if the percentage of eligible students causes it to cross one of the percentage break points in the level of funding.
California	The Local Control Funding Formula (LCFF) provides supplemental and concentration grants for school districts and charter schools based on the percentage of targeted disadvantaged students, which include those classified as English learners, low income, foster youth, or any combination of these factors. During the LCFF transition, funding from previous categorical programs for low-income and at-risk students is a component of the LCFF transition entitlement.
Hawaii	Within the Hawaii statewide school district, the weighted student formula allocates state funding to schools for economically disadvantaged students, based on the Federal free and reduced lunch classifications, that are similarly used for Federal Title I grants. The economically disadvantaged weight is 0.10 per student at this time.
Illinois	Grants are based on a district's concentration ratio of low-income students. This ratio is the three-year average of students in the district who received services through Medicaid, the Supplemental Nutrition Assistance Program, the Children's Health Insurance Program or Temporary Assistance for Needy Families (TANF) divided by the Average Daily Attendance of the most recent school year.
lowa	Formula supplementary weighting is provided for at-risk programs and alternative schools and is determined partially on the percentage of pupils enrolled in grades one through six eligible for free and reduced price meals in a school district and partially on the budget enrollment of the school district.
Kansas	The formula is based on the number of students qualifying for free meals with the additional weight set at 0.456. Additional funds are available for high density at-risk percentages. High Density Weighting: Districts in which their students on free meals exceed 35% of their total enrollment.

State	Formula
Kentucky	Funding for the at-risk student population is based on the average daily membership of students in the district who are approved for free meals under the National School Lunch Program. The average daily membership is multiplied by 15% of the base funding amount.
Maine	The State provides additional subsidies for all children eligible for free or reduced lunches in each LEA based on a 1.15 pupil weighting.
Maryland	A Compensatory Education grant is provided annually based upon the number of students in the local school system eligible for free and reduced price meals. The grant is calculated by taking 97% of the per pupil amount established in the Foundation Program. The program is equalized on the basis of local wealth.
Massachusetts	Each low-income pupil generates an extra increment between \$2,767 to \$3,422 in foundation budget dollars.
Michigan	In 2015, the Michigan legislature appropriated approximately \$317 million for Low Income / At Risk). The Formula is 11.5% of the districts per pupil foundation allowance times the number of pupils eligible for free school meals. The appropriation is capped at \$317 million.
Minnesota	Compensatory education revenue is included in the general education revenue program. Funding is based on building-level concentration of students eligible for free and reduced priced lunches as of October 1 of the previous fiscal year. Students eligible for reduced price lunches are weighted at 0.5 and students eligible for free lunches are weighted at 1.0. If the adjusted free & reduced price lunch count is at least 80% of the building's enrollment, the compensatory revenue equals \$2,825 times the adjusted free & reduced price lunch count. The rate per adjusted count decreases proportionately as the concentration of eligible student's decreases (e.g., ½ of this amount for a school with an adjusted eligible count equal to 40% of building enrollment).
Mississippi	Mississippi has an at-risk component that is based on 5% of the Base Student Cost times the number free lunch participants on October 31 of the previous year.
Missouri	In Missouri when a district's count of students eligible for Free or Reduced Price Lunch exceeds the state threshold, currently at 38.8% of the district's ADA, the excess is weighted at .25 and added to the district's ADA calculation in the overall weighted average daily attendance.
Montana	An at-risk student payment is provided to schools for students who are affected by environmental conditions that negatively impact the student's education performance or threaten a student's likelihood of promotion or graduation. The at-risk student payment is distributed to public school districts in the same manner as Title I funding. Payments are prorated to districts based upon the available appropriation. District's deposit the at-risk student payment into the general fund.
Nebraska	Poverty Allowance is calculated by taking the lesser of the maximum poverty allowance designated by the district or by the calculated amount based on the number of low income students (progressive percentages between .05 and .30 multiplied by students qualified for free lunches/milk or low income children under 19 years of age living in a household having an annual adjusted gross income equal to or less than the maximum household income that would allow a student from a family of four people to be a free lunch or free mild student, whichever is greater).

State	Formula
New Hampshire	The base per pupil cost is \$3,498.30 per ADM-R, with an additional \$1,749.15 for a free and reduced-price meal eligible student. Free and reduced-price students are identified as any student enrolled in the Oct 1.
New Jersey	Aid for low-income students is primarily provided through equalization aid. As noted, low-income students generate an additional weight (ranging from 0.47 to 0.57) when determining the adequacy budget. In districts with a low-income concentration lower than 20%, each at-risk student receives a weight of 0.47. This weight gradually increases as the at-risk concentration increases to a maximum weight of 0.57 for districts with an at-risk concentration greater than or equal to 60%
New York	Districts are given the choice of the better of a state sharing ratio (percent equalizing formula) which most districts choose or a standard tax rate per \$1,000 of Full Value adjusted by the income per pupil relative to the State average.
North Carolina	North Carolina has two categories of funding specifically for remediation and students at risk of failing. These categories are as follow: 1. At-risk Student Services/Alternative Schools – This funding allocates 1 School Safety Officer per High School and the remaining funds are allocated 50% based on ADM and 50% based on poverty with a minimum of 2 teachers and 2 instructional support positions. 2. Disadvantaged Student Supplemental Funding Distribute resources based on a prescribed delivery option reduction of class size. Step 1: Use the average statewide (K-12) teacher-to-student classroom teacher allotment for the Fundable Disadvantaged Population which is 1:21. Step 2: The targeted allotment ratios for the Fundable Disadvantaged Population are: If low wealth % (per low wealth supplemental funding formula) is > or equal to 90%, one teacher per 20.5 students • If low wealth % is > 80% but < 90%, one teacher per 20 students. • If low wealth % is < 80%, one teacher per 19.5 students. • If an LEA received DSSF funds in FY 2005-06, one teacher per 16 students. These 16 LEAs will not receive less funding than they received in FY 2005-06. Step 3: Convert the teaching positions to dollars by using the state average teacher salary (including benefits).
North Dakota	The funding formula includes a factor of .025 for at-risk students. The factor is applied to the percentage of free and reduced price lunch students (grades 3-8) in ADM.
Ohio	Funding in support of the economic disadvantaged is provided to address poverty and its effects on educational outcomes. Its calculation is based on a per-pupil amount of \$269 equalized by the poverty index of the district. Poverty index is calculated by obtaining the square of the ratio of the individual district's poverty percentage to the statewide poverty percentage.
Oregon	Oregon funds students in poverty at .25 in addition to the students' general education ADM. These weights are not capped for an individual student. Further, there is no limit to the number of students in a district who can receive these weights.
Rhode Island	The formula includes one weight, called the student success factor that provides forty percent of the core instruction per pupil to all resident children eligible for USDA reimbursable school meals.

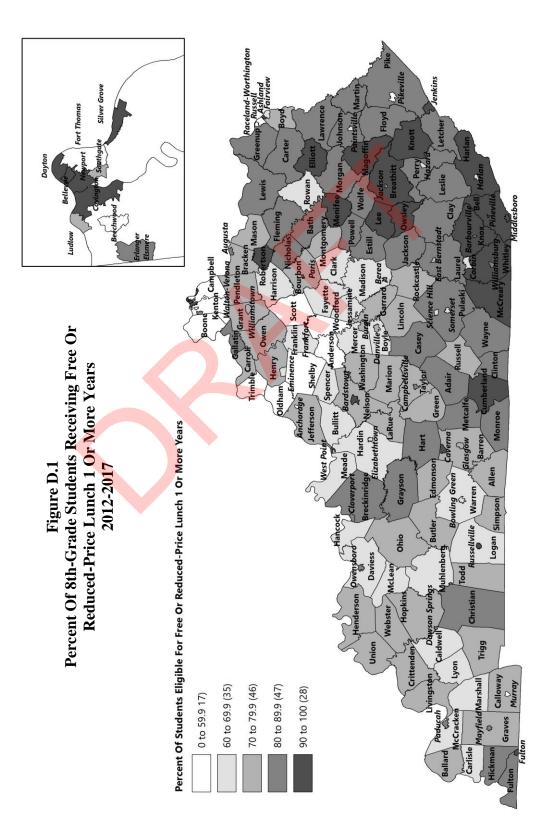
State	Formula
South Carolina	Students at Risk of School Failure allocates funds based on two factors, one of which is the poverty index of the district, which measures student eligibility for the federal meal program and Medicaid. The other involves students not in poverty or eligible for Medicaid but who are low performing in that they do not meet state standards in reading or mathematics. The actual formula is: ((A District's Poverty Index x Number of Students in the District) + (Students not in Poverty who do not Meet State Standards in Grades 3-8 + Students not in Poverty who do not Meet Standards on High School Equivalency Testing) / the State's total At-Risk Population) x total Appropriated Funding = the District's pro rata Share of At-Risk Funds.
Tennessee	For the formula calculation, the federal free and reduced-price meal program is used to define at-risk students Based on a 1:15 class size reduction for K-12, the estimated amount per identified at-risk ADM (average daily membership) was \$509.46 in 2012-2013. The basic formula provides a range of 20:1 to 25:1, depending on grade level, in the calculation of regular classroom needs.
Texas	Funding is provided for 20% of the adjusted allotment per pupil eligible to receive free or reduced-price lunches under the National School Lunch Program (NSLP). A funding weight of 2.41 is applied to each full-time equivalent student who is pregnant and is receiving low-income and at-risk services.
Utah	The State Board of Education shall appropriate \$1.2 million from the appropriation (FY15: \$24,376,400) for Enhancement for At-Risk Students for a gang prevention and intervention program designed to help students at-risk for gang involvement stay in school.
Vermont	Part of the student count weighting system provides an additional 25% for students from families receiving food stamps. Also, certain costs for students who need support services but are not eligible for special education are covered by the special education reimbursement system
Virginia	State payments for at-risk students are disbursed to school divisions based on the estimated number of federal free lunch participants in each division to support programs for students who are educationally at-risk. Funding is provided as a percentage add-on to Basic Aid to support the additional costs of educating at-risk students.
Washington	Allocations are based on the number of students in grades K-12 qualifying for free and reduced price lunch (FRPL). The allocation per each eligible student in the 2014-15 school year is approximately \$460.
Wisconsin	A school district is eligible for High Poverty Aid if, in the October preceding each biennium, the number of pupils eligible for free or reduced-price lunch divided by the district's September membership is equal to at least 50 percent.
Wyoming	At-risk resources are funded through other programs such as extended day, and Summer School programs. These programs are administered as state restricted grants.

Appendix D

Maps Of Number Of Years 8th-Grade Students Qualify for FRPL By District

Number Of Years Students Qualify For FRPL

Tables D.1-D.6 show the number of years 8^{th} -grade students qualify for FRPL by district. The maps show the degree to which districts have low-income students.



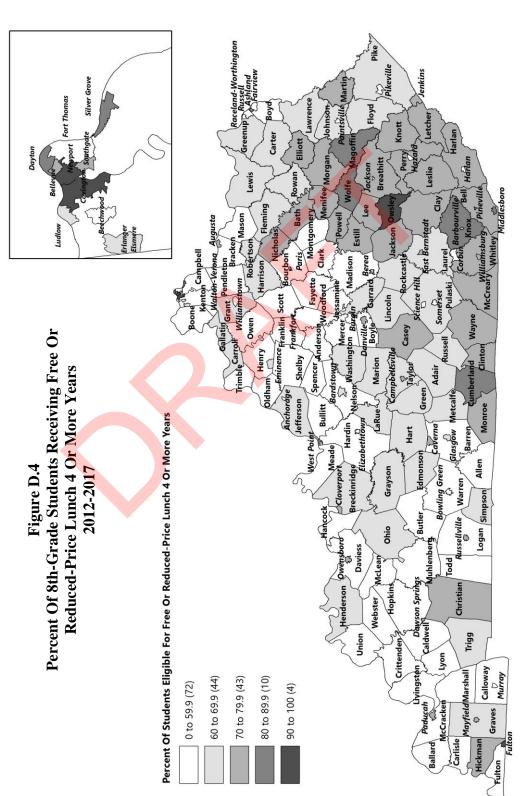
Source: Staff analysis of data from the Kentucky Department of Education.



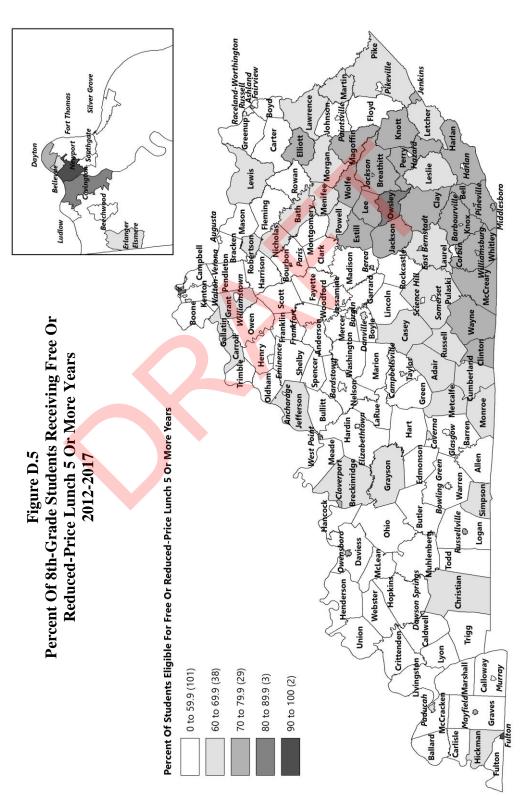
Source: Staff analysis of data from the Kentucky Department of Education.



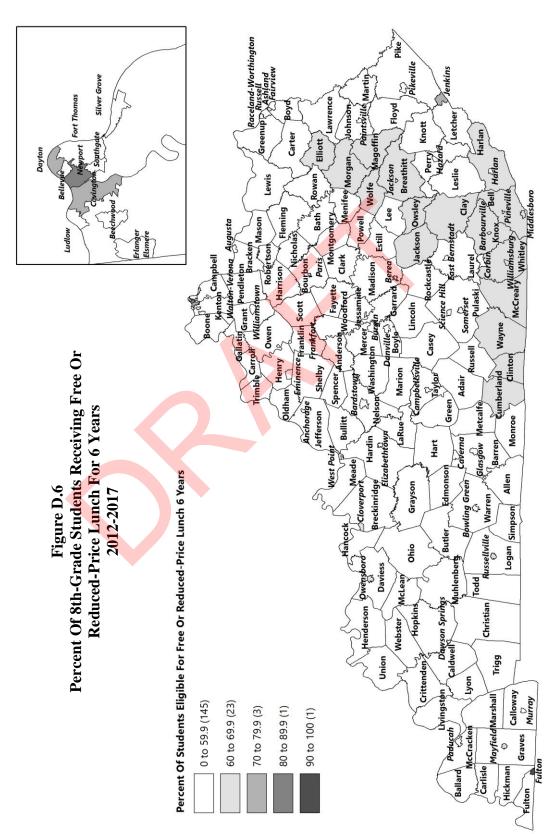
Source: Staff analysis of data from the Kentucky Department of Education.



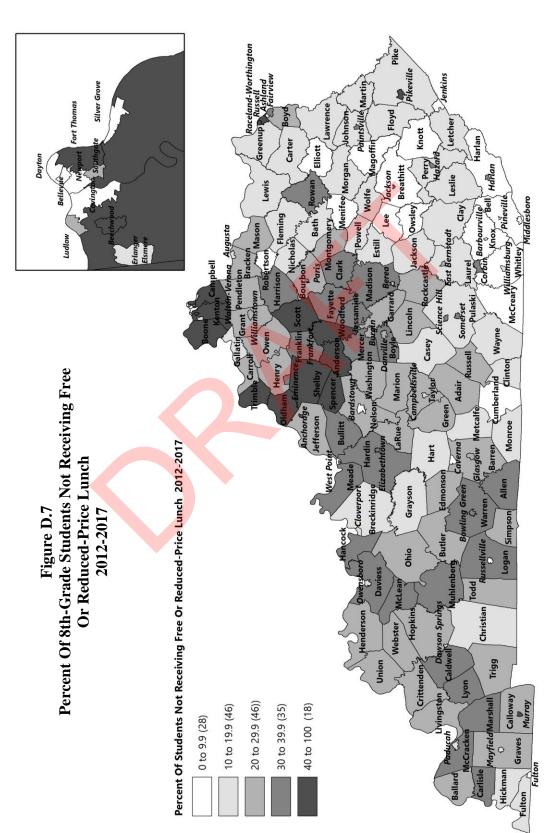
Source: Staff analysis of data from the Kentucky Department of Education.



Source: Staff analysis of data from the Kentucky Department of Education.



Source: Staff analysis of data from the Kentucky Department of Education



Source: Staff analysis of data from the Kentucky Department of Education.

Appendix E

Persistent Poverty And 8th-Grade K-PREP Proficiency

Statistical Modeling

Ordinary least squares regression models were used in order to gain further insight into the potential relationship between student proficiency on 8th-grade reading and math K-PREP exams and persistent poverty. Table E.1 shows the results of the regression models for the relationship between persistent poverty and 2017 8th-grade math K-PREP proficiency. Table E.2 shows the results of the regression models for the relationship between persistent poverty and 2017 8thgrade reading K-PREP proficiency. The full models are structured according to the Model 3 equation, with 2017 reading or math K-PREP scores as the dependent variable. The explanatory variables of note is the number of years a 2017 8th grade student received free or reduced-price lunch since 2012 (\(\beta YEARSFRPL\)). The subgroup categories for individualized education program, limited English proficiency, are represented (βGAP), as well as demographic group controls (βDEMO). Model 3 also includes β2012K-PREP, a variable that whether a student was proficient in either the 2012 math or reading K-PREP examination (whether math or reading was used as a covariate depended on whether 8th-grade math or reading is used as the dependent variable). β2012K-PREP was used as an explanatory variable to control for students' 3rd-grade K-PREP performance, a variable that is strongly associated with 8th-grade proficiency. The intercept of the equation line (α) and the residual error term (ϵ) complete the equation.

```
Model 1: K-PREP = \alpha + \beta YEARSFRPL + \varepsilon

Model 2: K-PREP = \alpha + \beta YEARSFRPL + \beta GAP + \beta DEMO + \varepsilon

Model 3: K-PREP = \alpha + \beta YEARSFRPL + \beta GAP + \beta DEMO + \beta 2012K-PREP+ \varepsilon
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Models 1 through 3 were constructed using a step-wise process to determine the percentage of the variance (R-squared in the table below) explained by the various categories of explanatory variables relative to the dependent variable for each model. The intercept (α) also represents the 2017 8th-grade reading or math score for the control groups within the models.^u

As shown in Table E.1, Model 3 suggests that the number of years a student was eligible for free or reduced-price lunch (FRPL) had a negative relationship with the control group mean. For each year receiving FRPL, students' likelihood of scoring proficient or distinguished in math decreased approximately 3 percent per year receiving FRPL.

^t The demographic group controls for models 2 and 3 include whether the student was African American, Hispanic, or some other race (which includes Asian, American Indian, Pacific Islander, or two or more races), and the models also control for gender.

^u For example, the control group for Model 3 is a white, female student who was not a member of an achievement gap group, had never qualified for free or reduced-price lunches, and did not earn a proficient or distinguished score on her 2012 reading K-PREP exam.

Table E.1
Regression Output For K-PREP Math, Grade 8
School Year 2017

	K-PREP Math Proficiency Models						
	Mod	el 1	Mode	el 2	Model 3		
	Beta	Standard	Beta	Standard	Beta	Standard	
Controls	Coefficient	Error	Coefficient	Error	Coefficient	Error	
Years FRPL	-0.060***	0.001	-0.050***	0.001	-0.030***	0.001	
Male			-0.049***	0.005	-0.058***	0.004	
Limited English proficiency			-0.262***	0.024	-0.169***	0.022	
Special education			-0.269***	0.007	-0.150***	0.007	
Black			-0.171***	0.008	-0.118***	0.007	
Hispanic			0.019	0.011	0.028**	0.010	
Other Race			0.050***	0.011	0.042***	0.010	
2012 K-PREP math							
proficiency					0.421***	0.004	
Intercept	0.7	13	0.75	51	0.4	78	
R-Squared	0.09	98	0.14	16	0.2	98	
Number of Observations	42,9	28	42,9	27	42,9	26	

Note: Beta coefficients and standard error have been rounded to the nearest one-thousandth. *= statistically significant at the p<0.05 level. **= statistically significant at the p<0.01 level. ***= statistically significant at the p<0.001 level. FRPL= free or reduced-price lunch. Table only includes students who took the K-PREP examinations each year 2012-2017. Other= Asian, American Indian, Alaska native, native Hawaiian, Pacific Islander, or two or more races.

Source: Staff analysis of data from the Kentucky Department of Education.

As shown in Table E.2, Model 3 suggests that the number of years a student was eligible for free or reduced-price lunches (FRPL) had a negative relationship with the control group mean. For each year receiving FRPL, students' likelihood of scoring proficient or distinguished in reading decreased approximately 2.8 percent per year receiving FRPL.

Table E.2 Regression Output For K-PREP Reading, Grade 8 School Year 2017

	K-PREP Math Proficiency Models					
	Mod	el 1	Mod	el 2	Model 3	
	Beta	Standard	Beta	Standard	Beta	Standard
Controls	Coefficient	Error	Coefficient	Error	Coefficient	Error
Years FRPL	-0.058**	0.001	-0.047***	0.001	-0.028***	0.001
Male			-0.097***	0.004	-0.075***	0.004
Limited English proficiency			-0.359***	0.023	-0.268***	0.021
Special education			-0.300***	0.007	-0.205***	0.007
Black			-0.200***	0.007	-0.130***	0.007
Hispanic			0.018	0.011	0.036**	0.010
Other Race			0.026*	0.011	0.033**	0.010
2012 K-PREP reading						
proficiency					0.400***	0.004
Intercept	0.78	37	0.82	53	0.5	52
R-Squared	0.09	94	0.16	57	0.3	10
Number of Observations	42,9	28	42,9	27	42,9	26

Note: Beta coefficients and standard error have been rounded to the nearest one-thousandth. *= statistically significant at the p<0.05 level. **= statistically significant at the p<0.01 level. ***= statistically significant at the p<0.001 level. FRPL= free or reduced-price lunch. Table only includes students who took the K-PREP examinations each year 2012-2017. Other= Asian, American Indian, Alaska native, native Hawaiian, Pacific Islander, or two or more races.

Source: Staff analysis of data from the Kentucky Department of Education.



Appendix F

Table F.1 shows the range of free and reduced price lunch as assessed by the Office of Education Accountability using data from the Kentucky Department of Education. The following information found below begins with the amount of A-1 schools per Kentucky school districts. The next column contains the percent of students receiving free and reduced price lunch at the district level. The following column represents the range for all A-1 schools including elementary, middle, and high per district. The final three columns are broken down to represent the range of free and reduced price lunch across elementary, middle, and high schools per district.

Table F.1
Range Of FRPL Percentages By District And School Levels,
SY 2017

	A-1 Schools	District	Range Of FRPL	Range Of FRPL For	Range Of FRPL For	Range Of FRPL For
D' (' (N	Per	Percent	For All	Elementary	Middle	High
District Name	District	of FRPL	Schools	Schools	Schools	Schools
Adair County	4	68.90%	10.30%	0.50%	N/A	N/A
Allen County	4	62.70	19.10	3.60	N/A	N/A
Anchorage Independent	1	4.40	N/A	N/A	N/A	
Anderson County	6	47.90	24.70	20.70	N/A	N/A
Ashland Independent	7	64.60	36.20	34.80	N/A	N/A
Augusta Independent	1	70.20	N/A	N/A	N/A	N/A
Ballard County	3	60.40	15.60	N/A	N/A	N/A
Barbourville Independent	1	66.50	N/A	N/A	N/A	N/A
Bardstown Independent	4	66.70	19.30	0.80	N/A	N/A
Barren County	9	58.10	29.40	29.40	N/A	N/A
Bath County	4	73.40	2.90	2.50	N/A	N/A
Beechwood Independent	2	19.50	11.50	N/A	N/A	N/A
Bell County	7	82.40	9.00	8.70	8.70%	N/A
Bellevue Independent	2	75.60	2.60	N/A	N/A	N/A
Berea Independent	3	67.80	12.60	N/A	N/A	N/A
Boone County	23	40.00	71.30	71.30	51.60	28.00%
Bourbon County	5	61.50	24.00	11.90	N/A	N/A
Bowling Green Independent	7	60.00	67.00	67.00	N/A	N/A
Boyd County	6	64.80	18.20	18.20	N/A	N/A
Boyle County	5	50.30	34.70	34.40	N/A	N/A
Bracken County	3	62.40	11.40	N/A	N/A	N/A
Breathitt County	5	78.50	7.50	6.10	N/A	N/A
Breckinridge County	6	60.50	15.10	7.90	N/A	N/A
Bullitt County	22	46.80	48.00	48.00	39.50	27.90

	A-1 Schools Per	District Percent	Range Of FRPL For All	Range Of FRPL For Elementary	Range Of FRPL For Middle	Range Of FRPL For High
District Name	District	of FRPL	Schools	Schools	Schools	Schools
Burgin Independent	1	47.70	N/A	N/A	N/A	N/A
Butler County	4	64.60	12.60	8.80	N/A	N/A
Caldwell County	4	62.80	17.20	5.40	N/A	N/A
Calloway County	5	60.90	25.50	25.50	N/A	N/A
Campbell County	7	46.80	26.60	26.60	N/A	N/A
Campbellsville Independent	3	74.10	25.40	11.70	N/A	N/A
Carlisle County	3	58.00	4.90	N/A	N/A	N/A
Carroll County	4	70.10	8.10	0.20	N/A	N/A
Carter County	10	67.60	17.70	13.60	5.40	12.30
Casey County	5	74.70	18.60	17.10	N/A	N/A
Caverna Independent	3	81.70	1.80	N/A	N/A	N/A
Christian County	12	72.50	32.90	32.90	9.80	9.80
Clark County	7	63.00	24.50	16.40	N/A	N/A
Clay County	9	78.40	21.80	21.80	N/A	N/A
Clinton County	4	77.10	13.70	9.20	N/A	N/A
Cloverport Independent	3	72.10	5.40	N/A	N/A	N/A
Corbin Independent	5	60.90	13.20	4.40	N/A	N/A
Covington Independent	7	88.50	12.40	9.10	N/A	N/A
Crittenden County	3	56.10	8.70	N/A	N/A	N/A
Cumberland County	3	79.50	5.40	N/A	N/A	N/A
Danville Independent	5	66.40	26.70	22.90	N/A	N/A
Daviess County	17	52.30	41.80	41.80	11.30	15.00
Dawson Springs Independent	2	70.20	19.20	N/A	N/A	N/A
Dayton Independent	2	75.50	1.00	N/A	N/A	N/A
East Bernstadt Independent	1	64.20	N/A	N/A	N/A	
Edmonson County	5	62.80	19.00	13.30	N/A	N/A
Elizabethtown Independent	5	53.00	20.50	11.00	N/A	N/A
Elliott County	4	77.70	10.90	8.00	N/A	N/A
Eminence Independent	2	55.80	5.30	N/A	N/A	N/A
Erlanger-Elsmere Independent	6	73.60	24.30	24.30	N/A	N/A
Estill County	5	71.00	11.00	2.60	N/A	N/A
Fairview Independent	2	67.70	14.30	N/A	N/A	N/A
Fayette County	53	53.80	86.90	86.90	71.10	22.40
Fleming County	6	67.80	11.90	10.40	N/A	N/A
Floyd County	14	78.40	30.00	16.70	28.40	18.50
Fort Thomas Independent	5	11.20	8.10	8.10	N/A	N/A
Frankfort Independent	2	64.40	15.30	N/A	N/A	N/A
Franklin County	11	56.90	35.60	17.60	12.70	8.30

	A-1 Schools Per	District Percent	Range Of FRPL For All	Range Of FRPL For Elementary	Range Of FRPL For Middle	Range Of FRPL For High
District Name	District	of FRPL	Schools	Schools	Schools	Schools
Fulton County	2	72.20	7.10	N/A	N/A	N/A
Fulton Independent	1	85.40	N/A	N/A	N/A	N/A
Gallatin County	4	72.80	15.10	4.10	N/A	N/A
Garrard County	5	64.10	20.60	20.60	N/A	N/A
Glasgow Independent	4	66.90	20.10	4.50	N/A	N/A
Grant County	6	70.10	18.10	9.60	N/A	N/A
Graves County	9	59.10	25.20	25.20	N/A	N/A
Grayson County	6	68.40	11.20	11.20	N/A	N/A
Green County	4	62.30	8.30	8.30	N/A	N/A
Greenup County	7	66.70	27.50	25.20	12.40	N/A
Hancock County	4	50.00	13.00	2.20	N/A	N/A
Hardin County	21	59.80	37.50	32.80	30.50	17.20
Harlan County	9	82.80	21.70	21.70	21.70	N/A
Harlan Independent	2	64.00	10.20	N/A	N/A	N/A
Harrison County	6	59.60	22.30	14.40	N/A	N/A
Hart County	6	67.70	12.40	12.40	12.40	N/A
Hazard Independent	3	65.00	1.00	0.20	N/A	N/A
Henderson County	11	61.60	42.90	42.90	0.30	N/A
Henry County	5	58.70	12.20	12.20	N/A	N/A
Hickman County	2	63.30	9.50	N/A	N/A	N/A
Hopkins County	13	61.50	34.00	34.00	23.30	12.20
Jackson County	5	74.30	7.20	5.20	N/A	N/A
Jackson Independent	1	55.00	N/A	N/A	N/A	N/A
Jefferson County	134	64.60	85.00	85.00	63.40	67.30
Jenkins Independent	1	84.70	N/A	N/A	N/A	N/A
Jessamine County	11	56.60	27.40	18.20	12.30	9.10
Johnson County	7	69.50	16.00	16.00	N/A	N/A
Kenton County	17	42.30	41.60	41.60	12.50	6.10
Knott County	7	81.80	16.90	16.90	16.90	11.50
Knox County	9	80.40	22.70	22.70	6.60	12.80
LaRue County	4	62.40	15.90	7.60	N/A	N/A
Laurel County	15	70.10	37.70	37.70	2.30	1.30
Lawrence County	6	71.10	12.60	9.00	12.50	N/A
Lee County	2	79.50	9.80	N/A	N/A	N/A
Leslie County	5	72.80	13.50	7.70	7.70	N/A
Letcher County	9	76.00	13.60	12.10	12.10	N/A
Lewis County	6	73.80	14.60	14.60	N/A	N/A
Lincoln County	8	64.90	28.40	22.20	N/A	N/A

	A-1 Schools Per	District Percent	Range Of FRPL For All	Range Of FRPL For Elementary	Range Of FRPL For Middle	Range Of FRPL For High
District Name	District	of FRPL	Schools	Schools	Schools	Schools
Livingston County	4	63.50	7.80	3.10	N/A	N/A
Logan County	6	54.90	17.00	12.70	12.70	N/A
Ludlow Independent	2	69.90	5.60	N/A	N/A	N/A
Lyon County	3	58.40	7.70	N/A	N/A	N/A
Madison County	17	53.80	25.60	25.60	17.10	3.70
Magoffin County	5	78.30	14.40	14.40	N/A	N/A
Marion County	7	64.20	27.80	27.80	11.20	N/A
Marshall County	9	52.50	25.40	22.50	4.10	N/A
Martin County	5	80.40	17.00	17.00	N/A	N/A
Mason County	4	62.50	12.90	3.90	N/A	N/A
Mayfield Independent	3	81.80	8.00	N/A	N/A	N/A
McCracken County	11	49.40	29.00	27.90	19.40	N/A
McCreary County	5	83.10	7.70	6.90	N/A	N/A
McLean County	5	56.70	22.60	17.90	N/A	N/A
Meade County	8	56.30	14.50	14.50	N/A	N/A
Menifee County	3	75.50	10.90	1.20	N/A	N/A
Mercer County	4	59.00	20.80	3.90	N/A	N/A
Metcalfe County	3	75.10	10.70	N/A	N/A	N/A
Middlesboro Independent	3	72.60	14.30	6.60	N/A	N/A
Monroe County	5	71.40	22.20	22.20	N/A	N/A
Montgomery County	6	64.30	18.00	9.30	N/A	N/A
Morgan County	6	73.30	11.40	9.60	N/A	N/A
Muhlenberg County	8	57.40	22.80	15.50	4.50	N/A
Murray Independent	3	43.90	9.20	2.30	N/A	N/A
Nelson County	9	55.00	21.40	19.70	12.10	4.90
Newport Independent	3	90.50	7.80	1.90	N/A	N/A
Nicholas County	2	67.90	9.40	N/A	N/A	N/A
Ohio County	8	66.90	20.70	17.50	N/A	N/A
Oldham County	16	21.70	53.00	52.70	28.40	17.30
Owen County	3	63.30	5.00	4.30	N/A	N/A
Owensboro Independent	8	76.80	49.40	49.40	N/A	N/A
Owsley County	2	89.40	2.80	N/A	N/A	N/A
Paducah Independent	5	76.10	34.30	34.30	N/A	N/A
Paintsville Independent	2	45.70	6.50	N/A	N/A	N/A
Paris Independent	3	73.70	13.60	N/A	N/A	N/A
Pendleton County	4	64.00	19.60	15.60	N/A	N/A
Perry County	10	77.70	20.20	20.20	20.20	14.00
Pike County	18	75.00	27.00	19.50	15.50	16.10

	A-1 Schools Per	District Percent	Range Of FRPL For All	Range Of FRPL For Elementary	Range Of FRPL For Middle	Range Of FRPL For High
District Name	District	of FRPL	Schools	Schools	Schools	Schools
Pikeville Independent	2	39.20	11.30	N/A	N/A	N/A
Pineville Independent	1	74.70	N/A	N/A	N/A	N/A
Powell County	5	75.70	20.40	20.40	N/A	N/A
Pulaski County	12	69.20	23.70	23.70	0.40	1.00
Raceland-Worthington	_					
Independent	3	51.00	19.90	6.00	N/A	N/A
Robertson County	1	72.80	N/A	N/A	N/A	N/A
Rockcastle County	5	70.40	9.30	4.70	N/A	N/A
Rowan County	6	64.40	26.10	24.70	N/A	N/A
Russell County	5	71.40	13.10	3.70	N/A	N/A
Russell Independent	4	47.40	14.40	1.70	N/A	N/A
Russellville Independent	2	74.20	8.20	N/A	N/A	N/A
Science Hill Independent	1	57.20	N/A	N/A	N/A	
Scott County	13	43.20	33.90	33.90	24.20	7.50
Shelby County	10	55.30	27.30	23.00	11.20	5.80
Silver Grove Independent	1	7 <mark>3.7</mark> 0	N/A	N/A	N/A	N/A
Simpson County	5	65.70	12.60	1.60	N/A	N/A
Somerset Independent	3	62.20	21.30	10.20	N/A	N/A
Southgate Independent	1	63.80	N/A	N/A	N/A	
Spencer County	4	45.40	24.50	24.40	N/A	N/A
Taylor County	4	60.30	9.90	0.90	N/A	N/A
Todd County	4	62.10	10.10	0.10	N/A	N/A
Trigg County	4	61.20	17.70	8.00	N/A	N/A
Trimble County	4	56.30	16.60	6.10	N/A	N/A
Union County	5	63.70	26.50	14.00	N/A	N/A
Walton-Verona Independent	3	40.50	8.90	7.20	N/A	N/A
Warren County	22	56.80	59.40	59.40	52.50	44.90
Washington County	4	64.60	13.40	3.70	6.90	N/A
Wayne County	5	77.10	14.60	5.10	N/A	N/A
Webster County	6	63.10	30.70	30.70	N/A	N/A
West Point Independent	1	75.70	N/A	N/A	N/A	
Whitley County	9	80.70	13.20	12.10	N/A	N/A
Williamsburg Independent	1	75.50	N/A	N/A	N/A	N/A
Williamstown Independent	3	55.80	7.50	N/A	N/A	N/A
Wolfe County	5	82.40	13.70	13.70	N/A	N/A
Woodford County	6	47.70	37.80	32.30	N/A	N/A

Note: An A1 school is under administrative control of a principal or head teacher and is eligible to establish a SBDM council. FRPL= free or reduced-price lunch.

Source: Staff analysis of data from the Kentucky Department of Education.



Appendix G

Table G.1
Examples Of Per-Pupil Expenditures In A
Higher- Versus Lower-Poverty Middle School
In Two Kentucky Districts

				Per-Pupil
	Percent		Per-Pupil	Expenditures
District/School	FRPL	Membership	Expenditures	Difference
District 1 Higher-poverty school	68%	314	\$6,985	\$1,931
District 1 Lower-poverty school	55	408	5,054	\$1,951
District 2 Higher-poverty school	91	693	8,134	(1,129)
District 2 Lower-poverty school	30	701	9,263	(1,129)

Source: Staff analysis of data from the Kentucky Department of Education

Table G.2
Examples Of Per-Pupil Expenditures In A
Higher-Versus Lower-Poverty High School
In Two Kentucky Districts

				Per-Pupil
	Percent		Per-Pupil	Expenditures
District/School	FRPL	Membership	Expenditures	Difference
District 1 Higher-poverty school	75%	868	\$7,491	¢ 210
District 1 Lower-poverty school	59	797	7,281	\$ 210
District 2 Higher-poverty school	61	1,533	4,902	¢ (EOO)
District 2 Lower-poverty school	43	1,716	5,411	\$ (509)

Source: Staff analysis of data from the Kentucky Department of Education.



Endnotes

- ¹ Kentucky. Legislative Research Commission. *Overview Of Achievement Gaps In Kentucky Schools*. Frankfort: LRC, 2016.
- ² Kentucky. Legislative Research Commission. School Attendance In Kentucky. Frankfort: LRC, 2017.
- ³ Emily Parker and Michael Griffith. *The Importance of At-Risk Funding*. Education Commission of the States. Web. Oct. 15, 2018. P. 3-7
- ⁴ Crystal Greene. *State Board of Education Updates Poverty Calculation*. Oregon Department Of Education. Web. Oct. 16, 2018.
- ⁵ Press Office, US Dept. of Educ.. *Secretary DeVos Announces New Student-Centered Funding Pilot Program.* Washington, D.C.: US Dept. of Educ. Press Office, Feb. 2, 2018. Web. Feb. 2, 2018. Web.
- ⁶ Katherine Michelmore and Susan Dynarski. *The Gap Within the Gap: Using Longitudinal Data to Understand Income Differences in Educational Outcomes.* AERA Open. January-March 2017, Vol. 3, No. 1, pp. 1–18. Web. October 30, 2018.
- ⁷ Katherine Michelmore and Susan Dynarski. *The Gap Within the Gap: Using Longitudinal Data to Understand Income Differences in Educational Outcomes.* AERA Open. January-March 2017, Vol. 3, No. 1, pp. 1–18. Web. October 30, 2018.
- ⁸ Katherine Michelmore and Susan Dynarski. *The Gap Within the Gap: Using Longitudinal Data to Understand Income Differences in Educational Outcomes.* AERA Open. January-March 2017, Vol. 3, No. 1, pp. 1–18. Web. October 30, 2018.
- ⁹ Kentucky. Legislative Research Commission. *Overview Of Achievement Gaps In Kentucky Schools*. Frankfort: LRC. 2016.
- ¹⁰ Kentucky. Legislative Research Commission. School Attendance In Kentucky. Frankfort: LRC, 2017.
- ¹¹ Weston Young. A School District's Journey Toward Student-Based Allocation. Allovue, Sept., 2017. Web. Nov. 2, 2018.
- ¹² Tyler Koteskey. *Weighted Student Formula Brings School Funding Into 21st Century*. Reason Foundation, Apr. 2016. Web. Nov. 2, 2018.
- ¹³ Lisa Snell and Katie Furtick. Weighted Student Formula Yearbook 2013. Reason Foundation, Dec. 2013. Web. Nov. 2, 2018.
- ¹⁴ KRS 157.310.